You always put accurate patient results first.
It is our common mission.

2015 Surveys and Anatomic Pathology Education Programs

We understand the many demands you face.

**ONLY THE CAP** can provide the comprehensive programs and services to help you consistently deliver accurate test results, monitor overall laboratory performance, and increase and sharpen your staff’s skills.

We can help you discover new ways to achieve your goals.
Welcome to the 2015 Surveys Catalog

The College of American Pathologists (CAP) dedicates itself to helping you achieve the highest quality standards in laboratory medicine for the patients you serve. The CAP’s laboratory improvement programs provide the means to reach those standards with a comprehensive offering, such as CAP Surveys and CAP accreditation, to guide the laboratory quality processes from the individual test to overall laboratory management.

For more than 65 years, the CAP has provided proficiency testing to the laboratory community. Our history and depth of experience cannot be matched. I could write volumes about why the CAP is your best partner for quality. However, I believe it’s more important for you to hear directly from your laboratory colleagues and CAP customers, and let your personal experience using CAP programs speak to the value CAP Surveys bring to you in the laboratory, medicine, and patient care.

In the following pages, you will read quotes your peers voluntarily shared. These comments directly align with what I would say about why I value the CAP and CAP Surveys:

ASSURANCE: The quality of the CAP Surveys and the confidence they give you and your staff in your daily testing and, ultimately, the results that impact a patient diagnosis

CONTINUOUS IMPROVEMENT: The comprehensive nature of the CAP Surveys offering, providing you with the range of proficiency testing you and your team need to meet the highest quality standards

VALIDATION: Peer comparison beyond compare—the CAP provides you benchmarks and comparisons with the laboratory community

GUIDANCE: Educational opportunities developed by scientific and laboratory leaders, which are included in the Surveys summaries for technical competence and professional growth

I do not like to play favorites, but there was one quote that stopped me in my tracks as far as thinking how I was going to personally explain why you should use CAP Surveys: “The last thing I want is for a clinician to doubt my results.” What more is there to say?

It’s your experience that matters most to us. As we listen and partner with you, we will continue to provide laboratory improvement programs to meet the demands you face while providing the highest quality laboratory medicine services. Thank you for sharing your experiences and for using CAP Surveys to ensure delivery of consistent, accurate patient results.

Sincerely,

R. Bruce Williams, MD, FCAP
Chair, CAP Council on Scientific Affairs
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You get more from this box.

Three more reasons to participate in the CAP Surveys/EXCEL® Programs:

1. Prepare staff with the insights and knowledge of more than 500 pathology experts
2. Gain more than 100 CE credits—five times more than any other program
3. Access education for every member of your team at no additional charge

Deliver excellence and value to your entire team with education by the experts!
“It’s about building the trust of the clinical staff in the quality of our laboratory results. CAP proficiency testing is more than what is in the box, it’s being on the cutting edge of laboratory practices.”
## New Developments

### Quality Management Tools

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**No CAP program for a test your laboratory performs?**

*We’ve got you covered with this unique, complimentary program—only from the CAP!*

Sign up for this unique and complimentary service for those rare analytes for which proficiency testing is not yet available. This service now includes all clinical laboratory disciplines.

- The CAP connects labs performing testing for which no formal proficiency testing is available.
- There is no charge for this service.
- Participate at any time, no contract required.
- A minimum of three labs performing the same analyte must participate before the CAP can facilitate the sample exchange.
- Each individual laboratory will receive its own results along with an anonymized summary report for all participants.

Visit [cap.org](http://cap.org) and choose the Laboratory Improvement Programs tab to register today!
Your Choice.

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Enhance your learning by adding notes, highlights, and bookmarks.

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“The educational part comes when you get the results and review them with the staff, especially if you have had issues—true issues. When each CAP Survey comes back, we go over it with the whole staff for their continuing education. We see if, and where, we went wrong or if we have more to learn. The educational part is when you get the results back...CAP encourages people to be current on their education and knowledge.”
Continuing Education Programs

Your laboratory demonstrates its commitment to quality by choosing CAP Surveys programs. You’ll find the same level of quality in the CAP Continuing Education Programs.

Legend

This activity is eligible for continuing medical education (CME) credit.

This activity is eligible for continuing education (CE) credit.

This activity is eligible for continuing medical education (CME) credit or continuing education (CE) credit.

Information for Courses Bearing the CME Icon

Accreditation

The College of American Pathologists (CAP) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CME Category 1

The College of American Pathologists designates these enduring materials educational activities for a maximum of the stated number of AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Note to CME participants of enduring* materials courses:

An AMA requirement mandates that all physicians wishing to claim CME credits must pass a scored assessment. All CAP enduring materials CME courses require participants to pass a scored assessment prior to claiming credit.

* Enduring courses are those courses that endure over time such as print or Internet courses.

CE (Continuing Education for Nonphysicians) for Courses Bearing the CE Icon

The College of American Pathologists designates these educational activities for a maximum of the stated number of credits of continuing education. Participants should claim only the credit commensurate with the extent of their participation in the activity.

The American Society for Clinical Pathology (ASCP) Board of Certification (BOC) Certification Maintenance Program (CMP) accepts this activity to meet its continuing education requirements. The states of California and Florida also approve these activities for continuing education credit.

Cytotechnologists may apply the credits from the PAPCE/PAPJE/PAPKE/PAPLE/PAPME Series 1 or 2, PAP PT, and NGC programs toward the required educational activities for the American Society of Cytopathology (ASC) Continuing Education Credit Program (CECC) and the International Academy of Cytology (IAC).
Surveys Continuing Education Activities

When your laboratory participates in CAP Surveys, every member of your team can enroll in education activities and earn continuing education (CE) credit at no additional charge. Simply follow these steps:

1. Establish a free Web account.
2. Complete a reading provided in the Participant Summary or Final Critique.
3. Answer online learning assessment questions.

Each member of your staff can access the Surveys education activities for a maximum of 12 months.

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Surveys Self-Reported Training Opportunities
When your laboratory participates in CAP Surveys, every member of your team can receive self-reported training opportunities.

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*Notes:
- CAP Self-Reported Training opportunities do not offer CE credit, but can be used towards fulfilling requirements for certification maintenance by agencies such as the American Society for Clinical Pathology (ASCP). Please verify with your certifying agency to determine your education requirements.
- These opportunities are subject to change. Refer to the Participant Summary/Final Critique for availability.
Maintenance of Certification (MOC)

Maintenance of Certification (MOC) is the board certification program that involves continuous professional development and ensures that an American Board of Pathology (ABP) board-certified pathologist is committed to lifelong learning and competency in a specialty and/or subspecialty.

There are six competency categories defined by the American Board of Medical Specialties (ABMS) and endorsed by the ABP to fulfill specific MOC requirements. They are listed below with their descriptions.

All CAP education activities providing CME credits meet the MOC Part II: Lifelong Learning requirements. Some programs will meet the requirements for Self-Assessment Module (SAM) and/or MOC Part IV at the laboratory or the individual levels. Programs that meet Part IV are identified within the description of the program. Visit the CAP website for the current list of programs that meet the requirements for MOC Part II and Part IV.

Interpersonal and Communication Skills
Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, patients’ families, and professional associates.

Medical Knowledge
Demonstrate knowledge of established and evolving biomedical, clinical, and cognate sciences and the application of this knowledge to pathology.

Practice-Based Learning and Improvement
Demonstrate ability to investigate and evaluate diagnostic and laboratory practices in your own lab, appraise and assimilate scientific evidence, and improve laboratory practices and patient care.

Patient Care
Demonstrate a satisfactory level of diagnostic competence and provide appropriate and effective consultation in the context of pathology services.

Professionalism
Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.

Systems-Based Practice
Demonstrate understanding of and contribution to local, regional, and national health care systems, and support health care in systems-based practice definition.

This activity fulfills the SAM credit requirements for MOC and is therefore eligible for SAM credit. Participants who successfully complete an online assessment may apply their earned credit(s) to the ABP’s SAM requirements.

Note to CME/CE participants: The AMA mandates that all education providers (such as the CAP) require participants pass assessment questions in an enduring* program in order to earn and claim CME credits. All participants in any activity granting CME/CE will be required to complete and pass assessment questions before claiming their credits.

For CME/CE activities: Participants will have unlimited attempts to pass the assessment.

For CME/SAM activities ONLY: Participants will have three attempts to pass the assessment, with feedback provided after each attempt. Participants may not claim CME/SAM if they do not pass on the third attempt.

*Enduring programs are those courses that endure over time such as print or online courses.
# Education Programs

<table>
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<tr>
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<th>Program Code</th>
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<th>Maximum CE Credits Annually</th>
<th>Format</th>
<th>Catalog Page</th>
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<td>NA</td>
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<td>240</td>
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<tr>
<td>Clinical Pathology Improvement Program*</td>
<td>CPIP/CPIP1</td>
<td>15</td>
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<td>16</td>
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<tr>
<td>Online Digital Slide Program in Dermatopathology*</td>
<td>DPATH/DPATH1</td>
<td>14****</td>
<td>NA</td>
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</tr>
<tr>
<td>Online Digital Slide Program in Fine-Needle Aspiration*</td>
<td>FNA/FNA1</td>
<td>10</td>
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<td>Online (DigitalScope)</td>
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<tr>
<td>Fine-Needle Aspiration Glass Slide</td>
<td>FNAG/FNAG1</td>
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<td>Glass Slides</td>
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<tr>
<td>Gynecologic Cytopathology – Fields of View</td>
<td>FOVK/FOVK1, FOVM/FOVM1</td>
<td>NA</td>
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<tr>
<td>Forensic Pathology</td>
<td>FR/FR1</td>
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<td>12</td>
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<tr>
<td>Hematopathology Online Education</td>
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<tr>
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<td>25</td>
<td>Glass Slides With Online Cases (DigitalScope)</td>
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<tr>
<td>Neuropathology Program</td>
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<td>NA</td>
<td>CD-ROM</td>
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</tr>
<tr>
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<td>8</td>
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<tr>
<td>Glass Slide Cytopathology PAP PT Program (with Glass Slide PAP Education)***</td>
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<tr>
<td>Practicum in Cancer Surgical Pathology*</td>
<td>PCSP/PCSP1</td>
<td>5****</td>
<td>NA</td>
<td>Online (DigitalScope)</td>
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<tr>
<td>Online PAP Education</td>
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<td>8</td>
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<td>Online (DigitalScope)</td>
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<tr>
<td>Performance Improvement Program in Surgical Pathology</td>
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<td>40</td>
<td>NA</td>
<td>Glass Slides</td>
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</tbody>
</table>

*Program is available for purchase online. Go to cap.org and choose the Learning tab.

**NGC provides up to 20 CME/CE credits for the glass slides and 5 CME/CE credits for the online slide portion of the program.

***PAP provides up to 8 CME/CE credits for glass slides.

****SAM credits are included in CME totals for the appropriate programs.
## Education Programs

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Maximum AMA PRA CME Category I Credits™ Annually</th>
<th>Maximum CE Credits Annually</th>
<th>Format</th>
<th>Catalog Page</th>
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</thead>
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<tr>
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<td>8</td>
<td>Glass Slides With Online Cases (DigitalScope)</td>
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<tr>
<td>Nongynecologic Cytopathology Intraoperative Touch Imprint/Crush Preparation Program*</td>
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<td>10</td>
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</tr>
<tr>
<td>Online Virtual Biopsy Program*</td>
<td>VBP/VBP1</td>
<td>23****</td>
<td>NA</td>
<td>Online (DigitalScope)</td>
<td>230</td>
</tr>
</tbody>
</table>

*Program is available for purchase online. Go to cap.org and choose the Learning tab.

**** SAM credits are included in CME totals for the appropriate programs.

### System Requirements

Many of our education programs utilize online whole slide images that simulate the use of a microscope. This allows you to scan and use multiple magnifications to view the image.

To best view these programs, we recommend the following.

- Operating System: Windows (XP, Vista, Windows 7). Mac OS X is not supported.
- Browser Version: Internet Explorer 7.x or newer. In IE versions 10 and 11, open in “Compatibility View.” Go to [http://windows.microsoft.com](http://windows.microsoft.com) for more information.
- Pop-up blockers must be turned off to access the activity. Also, cap.org must be added as a trusted website.

Note: Go to cap.org for the most up-to-date information on system requirements.

The download speed and the appearance of the activity will vary depending on the type and speed of your Internet connection, computer’s power, and browser. The use of a Macintosh is not recommended regardless of the browser version.

Programs using DigitalScope require a one-time download and installation of free software, Microsoft Silverlight. For additional details, go to cap.org and choose the Laboratory Improvement Programs tab.
Clinical Pathology Improvement Program (CPIP)

The Clinical Pathology Improvement Program (CPIP) delivers 12 online clinical laboratory cases to study—one per month—and an opportunity to earn up to 15 CME/SAM credits annually. Assess and improve clinical pathology skills and fulfill Maintenance of Certification (MOC) requirements.

CPIP cases feature real-life case scenarios, including images and clinical background. Participants work through sequentially-revealed information and a series of prompts to arrive at a resolution—just as in the laboratory.

Cases include thought-provoking questions with feedback and a multiple-choice post-test. Participants who earn passing scores on post-tests may apply their earned credits to the ABP’s MOC SAM requirements.

### Clinical Pathology Improvement Program

**CPIP/CPIP1**

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<th>Program Name</th>
<th>Program Code</th>
<th>Cases/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online cases in clinical pathology</td>
<td>CPIP/CPIP1</td>
<td>12</td>
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</table>

### Additional Information

Pathologists and residents can use CPIP online to assess and improve their skills in clinical pathology.

- Case topics may originate from the ABP’s general listing suggested for MOC including laboratory administration and operations, transfusion medicine, chemistry, coagulation, hematology, immunology, microbiology, and molecular genetic pathology.
- Cases may include patient history, case-related static images, and whole slide images.
- Monthly individual CPIP cases can also be purchased online. Go to cap.org and choose the Learning tab. To purchase both CPIP and CPIP1, please call 800-323-4040 or 847-832-7000 option 1.

### Program Information

- One online clinical laboratory case per month
- CPIP1 - Additional pathologist (within the same institution) reporting option with CME/SAM credit; must order in conjunction with CPIP
- Earn a maximum of 15 CME/SAM credits (AMA PRA Category 1 Credits™) per year
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Twelve cases per year; your CAP shipping contact will be notified via email when the activity is available
Competency Assessment Program

Program Adds Safety & Compliance Courses
Online Competency Assessment Program helps you meet CAP Laboratory Accreditation Program requirements and CLIA-mandated competency assessment regulations. Also available for 2015 are Safety & Compliance courses specific to the clinical laboratory.

Competency Assessment Program includes:
- Competency assessment courses with customized training and CE credit
- Reassessment courses
- A library of educational training courses (Pro Courses) with CE credit
- Instrument-specific observation checklists for competency and training
- Course-building and modifying tools
- Management tracking and reporting
- Individual transcripts

Safety & Compliance Courses for the Laboratory
The package includes all seven courses, which are appropriate for annual laboratory compliance training and for clinical laboratory science students prior to clinical rotations. Access Safety & Compliance courses throughout the subscription period; the CAP updates these courses when necessary to reflect changes in regulations or best practices.

- OSHA Bloodborne Pathogens
- OSHA Chemical Hygiene
- OSHA Electrical Safety
- OSHA Fire Safety
- OSHA Formaldehyde
- Tuberculosis Awareness
- Medical Errors and Patient Safety

Note: You must purchase the Safety & Compliance course package in conjunction with the Competency Assessment Program subscription; it is not available for purchase separately.

The Safety & Compliance courses listed above do not offer CE credit.

New for 2015!
- Two levels of assessment courses for Blood Bank/Transfusion Medicine and Microbiology modules—one for generalists and one for specialists!
- Competency Profiles. This new functionality will allow administrators to create profiles to document the six areas of competency as defined by CLIA and the CAP Laboratory Accreditation Program. Learn more about Competency Profile at cap.org.

Please see next pages for all course descriptions. For more information, visit cap.org and choose the Learning tab.
## Assessment Course Schedule

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<th>July 2015 Release</th>
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<tr>
<td>Blood Banking/Transfusion Medicine</td>
<td>Antibody screen and identification</td>
<td>Transfusion reactions</td>
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<tr>
<td>Chemistry</td>
<td>Liver and renal testing</td>
<td>Chemistry quality control, calibration, and reportable range</td>
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<tr>
<td>Hematology and Coagulation</td>
<td>Common coagulation tests</td>
<td>Platelet testing, morphology, and disorders</td>
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<tr>
<td>Histology</td>
<td>Safety issues in the histology laboratory</td>
<td>Special stains</td>
</tr>
<tr>
<td>Immunology</td>
<td>Qualitative HIV testing</td>
<td>Molecular amplification methods for detection of infectious diseases</td>
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<tr>
<td>Microbiology</td>
<td>Gram stain: organism detection and differentiation</td>
<td>Urine and body fluid cultures</td>
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<tr>
<td>Phlebotomy/Specimen Processing</td>
<td>Challenges of phlebotomy: pediatric blood collection, alternate sites, and difficult draws</td>
<td>Specimen collection for workplace urine drug testing programs and forensic drug and alcohol testing</td>
</tr>
<tr>
<td>Point-of-Care Testing</td>
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<tr>
<td>Quality Programs/Management</td>
<td>Monitoring the quality control program</td>
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<tr>
<td>Safety</td>
<td>Fire and electrical safety</td>
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<tr>
<td>Urinalysis/Body Fluids</td>
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## Pro Course Schedule

<table>
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<tr>
<th>Discipline</th>
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</thead>
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<tr>
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<td>Direct antiglobulin test</td>
<td>ABO typing discrepancies</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Clinical toxicology</td>
<td>Electrolytes, acid, base, and anion gap</td>
</tr>
<tr>
<td>Hematology and Coagulation</td>
<td>Erythrocyte morphology</td>
<td>White blood cell inclusions</td>
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<tr>
<td>Histology</td>
<td>Immunohistochemistry part 2</td>
<td>Histology specimen handling</td>
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<tr>
<td>Immunology</td>
<td>Monitoring the testing process in immunology</td>
<td>Human chorionic gonadotropin and fetal fibronectin</td>
</tr>
<tr>
<td>Microbiology</td>
<td>Genital cultures</td>
<td>The microbiology of wounds</td>
</tr>
<tr>
<td>Phlebotomy/Specimen Processing</td>
<td>Phlebotomy professionalism and ethics</td>
<td>Routine venipuncture performance</td>
</tr>
<tr>
<td>Point-of-Care Testing</td>
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<td>Point-of-care urine reagent strip testing</td>
</tr>
<tr>
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<td>Document control</td>
<td>New instrument method validation</td>
</tr>
<tr>
<td>Safety</td>
<td>Hazardous chemicals</td>
<td>Laboratory waste and spill management</td>
</tr>
<tr>
<td>Urinalysis/Body Fluids</td>
<td>Microscopic urinalysis part 2</td>
<td>Serous and synovial fluids</td>
</tr>
</tbody>
</table>
Safety & Compliance Courses

**OSHA Bloodborne Pathogens** Addresses the OSHA Bloodborne Pathogens standard as it applies to clinical and medical laboratories. Covers major bloodborne pathogens, including hepatitis B and HIV. Focuses on proper handling of sharps, personal protective equipment (PPE), engineering controls such as microbiological safety cabinets, and proper work practices like hand-washing.

**OSHA Chemical Hygiene** Describes the OSHA Chemical Hygiene Standard and helps satisfy OSHA requirements for annual training. Explains Haz-Com, the National Fire Protection Agency diamond, the Safety Data Sheet, and common-sense laboratory safety rules applied to clinical laboratory practice.

**OSHA Electrical Safety** Addresses electrical safety and electrical hazards commonly found in the clinical laboratory. Covers prevention and safety measures, fighting electrical fires, and treatment of electrical injuries.

**OSHA Fire Safety** Teaches the basics of fire safety in the clinical laboratory, including classes of fire and key acronyms such as PASS and RACE. Addresses fire prevention, drills, and firefighting techniques.

**OSHA Formaldehyde** Covers essentials for any laboratory that uses formaldehyde or formalin. Shares facts about formaldehyde, safety risks, proper handling procedure, monitoring, spill clean-up, and personal protective equipment.

**Tuberculosis Awareness** Provides background information about spread of TB, PPD testing procedures, CDC guidelines, and methods of control.

**Medical Errors and Patient Safety** Includes potential causes of medical errors in the clinical laboratory, important legislation and definitions, and steps laboratory professionals can take to reduce the impact of medical errors in their workplace. Serves as an ideal part of an effective medical error reduction program and is appropriate for both experienced and newer laboratory personnel.

Note: The Safety & Compliance courses are not available for purchase separately. The courses listed above do not offer CE credit.

---

CAP QMEd™ online educational courses—make quality your competitive position and patient care advantage

The seven QMEd courses can help you understand how to plan and resource your laboratory’s quality management system. Every course is highly interactive and delivered to your desktop. You can learn at your own location, on your own time, and at your own pace. Courses are available for one year. You may share the login with everyone in your laboratory.

**QMEd courses include:**

1. 15189 Walkthrough
2. QMS Implementation Roadmap
3. Root Cause Analysis
4. Internal Auditing
5. Document Control
6. Quality Manual Development
7. Management Review

Choose CAP QMEd courses on your 2015 Surveys order form.
QMEd™ Online Educational Courses

Learn quality tools and techniques with case examples from medical laboratories.

Program information
- CAP Quality Management Educational Resources (QMEd) courses help you improve your processes and eliminate waste.
- CAP QMEd courses help you build a quality management system—one piece at a time—that sustains your continuous improvement and Lean efforts.
- CAP QMEd courses are delivered online via a highly interactive user interface that allows you to learn at your own pace.
- All CAP QMEd courses are licensed for one year, allow sharing of logins, and include continuing education (CE) credit.

CAP online interactive QMEd courses will help you:
- Understand the concept of a quality management system
- Self-assess your current QMS against international quality standards
- Plan and resource for the development of your QMS
- Interpret ISO 15189 requirements
- Improve your document control system
- Perform internal audits using tracer audit and process audit methods
- Implement and refine occurrence management with root cause analysis
- Write an effective quality manual
- Measure, analyze, and set goals with senior management

About the Courses

15189 Walkthrough
Order ISOEDWT
Designed for lab quality managers (along with your medical and administrative decision makers) considering implementation of an ISO 15189 program. Summarizes each section of the standard, while clarifying its intent and key requirements. Hear directly from CAP 15189™ assessors who offer context and examples of how technical problems relate to more fundamental deficiencies in the quality management system.
2 CE credits available

QMS Implementation Roadmap
Order ISOEDRM
Outlines the practical steps necessary to build, implement, and maintain a quality management system that meets the ISO 15189 standard. Gain perspective on practices (and pitfalls) straight from CAP 15189 assessors, as well as CAP 15189-accredited labs. Designed for lab quality managers, plus your implementation team members.
2 CE credits available

Root Cause Analysis
Order ISOEDRC
Learn real-world methodology to conduct a root cause analysis, along with the tools necessary to implement it. Learn from actual examples of complete root cause analysis based on projects in labs like yours. You will even perform key steps based on a participant case study. The course is designed for laboratory quality managers and implementation team members.
6 CE credits available
Internal Auditing  
*Order ISOEDIA*  
Increase your capabilities for internal auditing with a proven methodology for process audits, tracer audits, and laser audits. Learn from CAP 15189 assessors how to prepare for interviews, communicate findings to your quality management team, and use audits to drive process improvements.  
3 CE credits available

Document Control  
*Order ISOEDDC*  
This “how-to” course on document control systems details how to control documents in a way that meets ISO 15189 requirements, how to accomplish document control even with minimal resources (such as spreadsheets), and how document control contributes to cost containment. All this from CAP 15189 assessors who give examples and commentary on common pitfalls and issues.  
2 CE credits available

Quality Manual Development  
*Order ISOEDQM*  
This course provides guidance on how to go beyond a quality plan to develop a manual that organizes and communicates your laboratory’s quality management system. You will see an example of an effectively structured and written manual so you can organize and create your own. Plus, CAP 15189 assessors show you approaches to link your quality policy to quality objectives and metrics.  
2 CE credits available

Management Review  
*Order ISOEDMR*  
This course interprets the ISO 15189 requirements for management review. The CAP 15189 assessors discuss how to structure the review meeting, communicate results of quality assessments, and prompt strategic decisions from management—all in the context of the overall health of your organization.  
2 CE credits available

Make sure your laboratory team is ready to meet the challenges ahead. Sign up now for this comprehensive set of learning tools. For more information, visit cap.org and choose the Laboratory Improvement Programs tab or call 800-323-4040 or 847-832-7000 option 1.
Multitasker.

Managing competency for your staff places demands on your resources.

Now there is a resource that multitasks for you!

The Competency Assessment Program makes it easy to:

- Develop and manage all six elements of competency assessment
- Create educational resources for all laboratory staff
- Provide valuable training for new hires
- Stay current with laboratory safety and compliance requirements
- Provide management with employee performance reports
- Enhance your continuing education program
- Be inspection ready

Competency Assessment Program gives you and your staff more time to focus on better patient results.
I like being associated with the CAP because it is an organization with a great reputation for helping laboratories improve.

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Use and Effectiveness of Delta Checks (QP144)
Laboratory Management Index Program (LMB)
CAP LINKS (IMR1-4, IMRPT, IMRLP, IMRLM)
Use the CAP’s Quality Management Tools (QMT) to **improve the Total Testing Process** by identifying quality improvement opportunities of selected key processes in the clinical and anatomic pathology laboratories, examining preanalytical, analytical and postanalytical phases:

- **Establish realistic goals** by comparing performance against similar institutions with comparable demographics
- **Monitor progress through** unique and robust quality indicators on a periodical basis
- **Make effective quality management decisions** based on practical and in-depth individual reports provided to participants
- **Improve efficiencies** to allow time for more patient-centric activities
- **Easily integrate quality management into your daily work processes** with predesigned monitoring tools developed by laboratory professionals and scientists

Q-PROBES™ A One-Time Opportunity to Perform In-Depth Quality Assessment

Q-TRACKS® A Program for Continuous Quality Monitoring

Q-MONITORS® Customized Quality Monitors Program

Q-PROBES, Q-TRACKS, and Q-MONITORS activities meet the American Board of Pathology MOC Part IV Practice Performance Assessment requirements.
**Q-PROBES, Q-TRACKS, and Q-MONITORS**

offer a comprehensive collection of tools to complement your quality management program needs.*

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<th>Select Q-PROBES, Q-TRACKS, and Q-MONITORS studies to support your quality improvement initiatives.</th>
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**Q-PROBES**

| Blood Bank Safety Practices (QP151) **NEW** | |||
| Clinical Test Utilization: Unnecessary Testing (QP152) **NEW** | |||
| Physician Satisfaction with Anatomic Pathology Services (QP153) **NEW** | |||
| Identification Errors (QP154) **NEW** | |||

**Q-TRACKS**

| Patient Identification Accuracy (QT1) | |||
| Blood Culture Contamination (QT2) | |||
| Laboratory Specimen Acceptability (QT3) | |||
| In-Date Blood Product Wastage (QT4) | |||
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| Outpatient Order Entry Errors (QT17) | |||
| Mislabeled Cases, Specimens, Blocks, and Slides in Surgical Pathology (QT19) | |||

**Q-MONITORS**

| Monitoring of Troponin Metrics for Suspected MI (QM1) | |||

*The CAP requires accredited laboratories to have a quality management plan that covers all areas of the laboratory and includes benchmarking key measures of laboratory performance (GEN.13806, GEN.20316, COM.04000). The Joint Commission requires accredited hospitals to regularly collect and analyze performance data (PI.01.01.01, PI.02.01.01). CLIA requires laboratories to monitor, assess, and correct problems identified in preanalytic, analytic, and postanalytic systems (§493.1249, §493.1289, §493.1299).*
Q-PROBES

A One-Time Opportunity to Perform In-Depth Quality Assessment

Pilot quality monitoring—Use Q-PROBES short-term comprehensive quality studies¹ to learn how to start monitoring and measuring key processes that you may not have followed in the past or that are not commonly monitored in most laboratories. Q-PROBES studies analyze hot topics and industry trends to keep the laboratory current.

Gain experience in data collection and analysis—Participants will collect data during predetermined dates. Based on submitted data, the CAP provides personalized reports with the individual participant’s performance compared against other participants.

Strengthen your quality assessment expertise—CAP’s pathologist experts provide in-depth discussion and identify best practices for laboratories to strive for. In addition, consolidated results of the studies are carefully reviewed and analyzed to be published in the form of scientific articles. Such articles give participants an extra layer of information to be utilized for further analysis.

Participants in the Q-PROBES program receive:

- Users guide
- Templates and instructions for data collection
- Individual report, how to interpret the results guide, overall aggregated data
- Data Analysis and Critique that includes data distributions and analysis of laboratory practices and commentaries from pathologist experts on improvement opportunities
- Access to the scientific articles that are published with the results of the studies

Q-PROBES activities meet the American Board of Pathology MOC Part IV Practice Performance Assessment requirements.

¹ Q-PROBES studies are available only one time annually and may not be repeated in the future.
Transfusion of ABO incompatible red blood cells can be a lethal error and is most commonly due to patient or specimen misidentification. Since the rate of incompatible ABO transfusions at any single institution is very low, this study will focus on the frequency of specimen identification errors that can lead to incompatible ABO transfusion.

Objectives
Determine the rates of mislabeled specimens submitted for ABO typing and of ABO result discrepancies (wrong-blood-in-tube); compare rates between laboratories.

Data Collection
From a 30-day review of all specimens submitted for ABO typing, participants will record the number of mislabeled specimens, the number of ABO typing results with a historical type on record, the number of current specimen results that are discrepant from the historical results, and the total number of RBC transfusions.

A mislabeled specimen will be defined as any specimen that does not meet the requirements of the institution’s labeling policy.

For the most recent calendar or fiscal year, the number of RBC units transfused, the total number of specimens submitted for ABO typing, and the number of ABO results that were discrepant from the historical results will also be recorded.

Performance Indicators
- **Primary:**
  - Percent of mislabeled ABO specimens
- **Secondary:**
  - Percent of ABO typing result discrepancies
  - Percent of correct historical ABO types
  - Percent of mislabeled ABO specimens that are rejected

This is a one-time study conducted in the first quarter.
Clinical Test Utilization: Unnecessary Testing  QP152

In spite of well-known concerns and costs associated with inappropriate laboratory testing, implementation of effective solutions is challenging. Educational interventions tend to be transient while use of automated testing algorithms, menu restrictions, feedback or other strategies that may effectively diminish inappropriate laboratory testing are not in widespread use. Collecting information about testing patterns is vital for evaluating inappropriate utilization and developing policies and procedures to improve testing practices.

Objectives
Assess laboratory testing utilization by evaluating results from previous tests that indicate additional testing may be unnecessary.

Data Collection
Participants will retrospectively collect data from the most recent 30 to 40 patients with completed orders for free PSA, factor V Leiden and positive anti-HAV testing. Current testing date and previous testing date and results (as applicable) will be recorded. Participants will also complete a questionnaire about their test utilization practices, policies, and procedures.

Performance Indicators
- Percent of inappropriate tests performed
- Percent of free PSA tests performed when recently tested total PSA is outside of the range for accurately interpreting free PSA results
- Percent of anti-HAV tests performed when previous test results were positive
- Percent of factor V Leiden mutation tests performed when the patient had already been tested

This is a one-time study conducted in the second quarter.
Physician Satisfaction with Anatomic Pathology Services  QP153

Although patients are the principle end-users of anatomic pathology services, clinicians enjoy a preferred customer status and their opinions are an essential component in developing a customer-oriented pathology department. Surveying clinicians will provide valuable information for anatomic pathology quality improvement activities.

Objectives
Assess clinician satisfaction with anatomic pathology services and correlate it with the laboratory workload, performance improvement activities, and customer support services.

Data Collection
Clinicians will be asked to complete a standardized questionnaire regarding their perception of anatomic pathology services. Questions on services will include timeliness of reporting, diagnostic accuracy, communication, educational activities, accessibility, responsiveness to problems, and courtesy of staff. Clinical questionnaires will be available by two modes of access: electronic distribution with direct return to the CAP, or by use of hard copy response forms. Data from the first 50 returned questionnaires will be submitted for analysis.

Performance Indicators
- Primary:
  - Overall mean satisfaction score
- Secondary:
  - Mean satisfaction score for anatomic pathology service categories

This is a one-time study conducted in the third quarter.
Identification Errors QP154

Identification errors in the laboratory have the potential to cause serious patient adverse events. These errors may involve misidentification of a patient or of a specimen. The laboratory’s ability to recognize these errors before results are released contributes to a culture of patient safety and minimizes the adverse consequences of identification errors.

Objectives
Examine how well your laboratory prevents identification errors by detecting them before results are released to caregivers. Participants will receive their overall identification error rate and their rates of error detection before and after results are released to primary caregivers. These rates will be compared to the error rates from all participating institutions. This study will also seek to identify institutional processes and factors more likely to be found in laboratories that detect a high proportion of identification errors before results are released.

Data Collection
Over five weeks, participants will collect data on all patient and specimen identification errors detected by their laboratory before results were released, and also on identification errors that come to their attention after results were released. Participants will record whether they know of any patient harm that resulted from any of the identification errors. In addition, laboratories will have the option of tracking the reason for the identification errors.

This study includes all types of testing, both clinical and anatomic pathology, and tests from all patient locations (e.g., inpatient, outpatient, outreach).

Performance Indicators
- **Primary:**
  - Overall identification error rate
  - Rate of identification errors detected before release of results
  - Rate of identification errors detected after release of results
- **Secondary:**
  - Breakdown of identification error detection time (before or after release of results)
  - Breakdown of reasons for identification error

This is a one-time study conducted in the fourth quarter.
Q-TRACKS
A Program for Continuous Quality Monitoring

Identify and monitor opportunities for quality improvement over time
Use established Q-TRACKS programs to identify opportunities to quantitate your quality improvement measures.

Evaluate quality improvements
Measure the effectiveness and impact of implemented changes in key processes. The individual reports include performance of quality indicators over time, benchmarking information, trends, and suggested areas for improvement.

Step 1:
Establish realistic benchmarks by comparing your laboratory to others like yours.

Step 2:
Identify improvement opportunities.

Step 3:
Monitor improvement over time to ensure accurate results, patient safety, and quality patient care.
Participants in the Q-TRACKS program receive:

- Users guide
- Templates and instructions for data collection
- Quarterly reports that include: fingerprint clusters, customer-defined groups, and all institution comparisons
- Peer directory
- Annual summary report

Q-TRACKS activities meet the American Board of Pathology MOC Part IV Practice Performance Assessment requirements.

Quality Management Resources from CAP Experts

Laboratory Administration for Pathologists
Elizabeth A. Wagar, MD, FCAP
Richard E. Horowitz, MD, FCAP, and
Gene P. Siegal, MD, PhD, FCAP, editors
**Item number:** PUB312
Hardcover; 300 pages; 100+ figures, tables, and photographs; 2011

Quality Management in Anatomic Pathology: Promoting Patient Safety through Systems Improvement and Error Reduction
Raouf E. Nakhleh, MD, FCAP, and
Patrick L. Fitzgibbons, MD, FCAP, editors
**Item number:** PUB118
Softcover; 198 pages; 70+ exhibits and tables; 2005

Quality Management in Clinical Laboratories: Promoting Patient Safety through Risk Reduction and Continuous Improvement
Paul Valenstein, MD, FCAP, editor
**Item number:** PUB214
Softcover; 265 pages; 80+ exhibits and tables; 2005

To order
Visit cap.org and choose the Shop tab or call the CAP Customer Contact Center at 800-323-4040 or 847-832-7000 option 1.
Q-TRACKS Clinical Pathology Monitors

### Patient Identification Accuracy QT1

In order to report accurate laboratory results and meet The Joint Commission National Patient Safety Goal #1: “Identify patients correctly,” institutions must properly identify patients. Since most laboratories perform testing away from the patient, patient identification, and labeling of specimens and coordination with test requisitions must be performed accurately and completely. By continuously monitoring for wristband errors, participants can promptly identify and correct problems that may interfere with patient care services.

**Objectives**

Assess the incidence of wristband errors within individual institutions, compare performance between participating institutions, and identify improvement opportunities.

**Data Collection**

On six predetermined days per month, participants will monitor patient wristband identification for all phlebotomies performed at their institution. Phlebotomists will tally the total number of wristbands checked, the number of errors found, and the types of wristband error. This monitor includes all routinely wristbanded patients. Include emergency department patients only if the emergency department routinely applies wristbands to these patients.

**Performance Indicator**

- Wristband error rate (%)

**Performance Breakdown**

- Breakdown of wristband error types (%)

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### Blood Culture Contamination QT2

Despite advances in blood culture practices and technology, false-positive blood culture results due to contaminants continue to be a critical problem. Blood culture contamination rate, the primary indicator of preanalytic performance in microbiology, is associated with increased length of hospital stay, additional expense, and the administration of unnecessary antibiotics. The CAP and other accrediting organizations require you to monitor and evaluate key indicators of quality for improvement opportunities. Use this monitor to help meet this requirement.

**Objective**

Determine the rate of blood culture contamination using standardized criteria for classifying contaminants.

**Data Collection**

On a monthly basis, participants will tabulate the total number of blood cultures processed and the total number of contaminated blood cultures. Blood cultures from neonatal patients are tabulated separately. For the purposes of this study, participants will consider a blood culture to be contaminated if they find one or more of the following organisms in only one of a series of blood culture specimens: Coagulase-negative Staphylococcus; Micrococcus; Alpha-hemolytic viridans group streptococci; Propionibacterium acnes; Corynebacterium sp. (diphtheroids); or Bacillus sp. Participants have the option to monitor institution-specific subgroups, for example, a specific department or patient population.

**Performance Indicators**

- Neonatal contamination rate (%)
- Other contamination rate (%)
- Overall contamination rate (%)

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Look for your input forms approximately three weeks prior to the quarter.
**Laboratory Specimen Acceptability QT3**

A substantial amount of rework, diagnostic and therapeutic delay, and patient inconvenience can result from specimen rejection. Patient redraws may result from unlabeled, mislabeled, and incompletely labeled specimens; clotted and/or hemolyzed specimens; or insufficient specimen quantity. By continuously monitoring specimen acceptability, collection, and transport, laboratories can promptly identify and correct problems.

**Objective**
Identify and characterize unacceptable blood specimens that are submitted to the chemistry and hematology/coagulation sections of the clinical laboratory for testing.

**Data Collection**
This monitor includes all blood specimens submitted for testing to the chemistry and hematology departments of the clinical laboratory. On a weekly basis, participants will record the total number of specimens received, the number of rejected specimens, and the primary reason each specimen was rejected.

**Performance Indicator**
- Specimen rejection rate (%)

**Performance Breakdown**
- Breakdown of reasons for rejection (%)

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**In-Date Blood Product Wastage QT4**

Blood for transfusion is a precious resource. At a minimum, wastage of blood that is not out-of-date represents a financial loss to the health care system. More ominously, systemic wastage of blood may reflect an environment of care that is out of control and could pose risks to patient safety.

**Objective**
Compare the rates of blood product wastage (ie, units discarded in-date) in participating hospitals and track rates of improvement over time.

**Data Collection**
On a monthly basis, participants will use blood bank records to obtain information on the total number of units transfused for each type of blood component. Participants will track the number and type of blood units that are wasted in-date and the circumstances of wastage. This monitor includes the following types of blood components: red blood cells (allogeneic), frozen plasma, platelet concentrates, single donor platelets, and cryoprecipitate.

**Performance Indicators**
- Overall blood wastage rate (%)
- Wastage rates by blood component type (%)

**Performance Breakdown**
- Breakdown of circumstances of wastage (%)

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Look for your input forms approximately three weeks prior to the quarter.
Satisfaction With Outpatient Specimen Collection  QT7

Specimen collection is one of the few areas of laboratory medicine that involves direct outpatient contact. As a result, patient satisfaction with this service is a vital indicator of quality laboratory performance. The CAP’s Laboratory Accreditation Program requires measurement of patient satisfaction with laboratory services (GEN.20335). Use this monitor to help meet this requirement.

Objective
Assess patient satisfaction with outpatient phlebotomy services by measuring patients’ assessment of waiting time, discomfort level, courteous treatment, and overall satisfaction.

Data Collection
On a monthly basis, participants will provide copies of a standardized questionnaire to a minimum of 25 outpatients (maximum of 99 outpatients) using predetermined data collection criteria. This monitor includes any outpatient undergoing venipuncture. This monitor excludes patients seen in the emergency department, ambulatory surgery area, urgent care facility, chest pain center, 23-hour short-stay facility, employee health department, outpatient health screening fair/promotion, dialysis center, nursing home, or extended care facility.

Performance Indicators
- Overall patient satisfaction score
- Patients “more than satisfied” (%)

Stat Test Turnaround Time Outliers  QT8

The stat test turnaround time (TAT) outlier rate, expressed as a percentage of tests missing target reporting times, is a measure of outcomes that evaluates how well the laboratory meets patient and clinician needs. This monitor helps meet CAP Checklist requirement GEN.20316, “The QM program includes monitoring key indicators of quality in the preanalytic, analytic, and postanalytic phases.”

Objective
Monitor the frequency that stat test TAT intervals exceed institutional stat test TAT expectations.

Data Collection
Before beginning data collection, participants will establish a specimen receipt-to-report deadline for emergency department (ED) stat potassium tests. On six predetermined days per month, participants will monitor the TAT of up to 10 randomly selected ED stat potassium tests on each of three, eight-hour shifts (up to 180 tests per month) and track the number of ED stat potassium results reported later than the established reporting deadline. This monitor includes stat potassium tests ordered as part of a panel and excludes stat potassium levels that are requested on body fluids other than blood, as part of timed or protocol studies, or after the specimen arrives in the laboratory.

Performance Indicator
- Stat test TAT outlier rate (%)

Performance Breakdowns
- Breakdown of outliers by shift (%)
- Breakdown of outliers by day of week (%)
Critical Values Reporting  QT10

Laboratories commonly refer to critical values as results requiring immediate notification to the physician or caregiver for necessary patient evaluation or treatment. Regulations from agencies and accreditors such as the CMS, The Joint Commission, and the CAP (GEN.20316, COM.30000) mandate that laboratories develop and implement an alert system for critical values. Use this monitor to document compliance with your laboratory’s alert plan.

**Objective**
Evaluate the documentation of successful critical values reporting in the general laboratory for inpatients (including discharged inpatients) and outpatients.

**Data Collection**
On a monthly basis, participants will evaluate 120 inpatient, 20 discharged inpatient, and 120 outpatient critical values. Data collection will include general chemistry, hematology, and coagulation analytes on the critical values list. Retrospectively, participants will record the total number of critical values monitored and the number with documentation of successful notification. In addition, participants will provide the number of critical values that were not communicated within three hours, the number of failed notifications due to laboratory oversight, and the number of successful notifications to licensed caregivers. This monitor will exclude critical values for cardiac markers, drugs of abuse, therapeutic drug levels, urinalysis, blood gases, point-of-care tests, and tests performed at reference laboratories.

**Performance Indicators**
- Total critical values reporting rate (%)
- Inpatient critical values reporting rate (%)
- Discharged inpatient critical values reporting rate (%)
- Outpatient critical values reporting rate (%)
- Failed notification (<3 hours) rate (%)

Look for your input forms approximately three weeks prior to the quarter.
### Turnaround Time of Troponin  QT15

The swiftness with which physicians establish diagnoses of acute myocardial infarction (AMI) in patients presenting to the emergency department (ED) with chest pain may determine the type and predict the outcome of therapy those patients will receive. Included in the total time consumed in establishing diagnoses of AMI are the component intervals required to measure biochemical markers of myocardial injury. One of the most critical biochemical markers is troponin. Use this monitor to help meet CAP Checklist requirement GEN.20316 QM Indicators of Quality.

**Objective**

Determine the median order-to-report turnaround time (TAT) of troponin (I or T) ordered to rule out myocardial infarction and the percent of troponin results reported by each institution’s established deadline.

**Data Collection**

On six predetermined days per month, participants will record TATs (in minutes) for three randomly selected troponin specimens obtained from ED patients on each of three traditional shifts, a total of nine measurements. Participants will measure TATs from the time of test order to the time results are available to ED personnel.

**Performance Indicators**

- Median troponin order-to-report TAT (minutes)
- Troponin TAT compliance rate (%)

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### Corrected Results  QT16

The CAP developed this Q-TRACKS monitor in recognition of the importance of timely detection and correction of erroneous laboratory results. Accuracy in laboratory results is critical to the effectiveness of a physician’s plan of care for a patient. An erroneous result can delay or alter patient treatment; therefore, detection of erroneous results should be a priority in every laboratory and should be monitored as a key quality indicator. Help measure your compliance with CLIA 493.1299, Postanalytic Systems Quality Assessment, with this monitor.

**Objective**

Monitor the number of corrected test results within individual institutions and compare performance with that of all institutions and those institutions similar to yours.

**Data Collection**

On a monthly basis, participants will monitor the number of corrected test results and the total number of billable tests for that month. Include test results for all patients in all care settings with the following exclusions: anatomic pathology tests, narrative physician-interpreted tests (eg, bone marrow biopsies and peripheral smear reports), and point-of-care tests.

**Performance Indicator**

- Test result correction rate (per 10,000 billable tests)

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Look for your input forms approximately three weeks prior to the quarter.
Outpatient Order Entry Errors  QT17

Order accuracy bears an obvious relationship to the quality of laboratory testing. When the laboratory fails to complete a requested test, it delays the diagnostic evaluation, potentially extending a patient’s hospital stay and prolonging therapy. When the laboratory completes a test that was not requested, the cost of care increases, patients may be subjected to unnecessary phlebotomy, and laboratory efficiency declines.

Objective
Measure the incidence of incorrectly interpreted and entered outpatient physician test orders into the laboratory information system, compare performance across institutions, and track performance over time.

Data Collection
On six preselected weekdays per month, participants will compare eight outpatient requisitions or order sheets to the orders entered into the laboratory’s information system to determine if any order entry errors occurred. Order entry error categories include requesting physician errors; incorrect, missing, and extra test errors; test priority errors; and copy or fax result errors. This monitor excludes tests performed in transfusion medicine or anatomic pathology. This monitor also excludes tests from the following patient care settings: inpatient, emergency department, ambulatory surgery, urgent care, chest pain center, 23-hour short-stay facility, employee health department, outpatient screening fair/promotion, and dialysis center.

Performance Indicators
- Overall outpatient order entry error rate (%)
- Order entry error rates by type (%)

Performance Breakdown
- Breakdown of error types (%)

Look for your input forms approximately three weeks prior to the quarter.
Gynecologic Cytology Outcomes: Biopsy Correlation Performance QT5

The correlation of cervicovaginal cytology (Pap test) findings with cervical biopsy results is a significant part of the cytopathology laboratory’s quality assurance program. By monitoring this correlation, the laboratory can identify and address potential problems requiring improvement, thereby ensuring better patient results.

Objective
Quantify the correlation between the findings of cervicovaginal cytology and corresponding histologic material.

Data Collection
On a monthly basis, participants will record the number of true-positive, false-positive, and false-negative cytology-biopsy correlations. The false-negative correlations will be classified into four error categories: screening errors, interpretive errors, screening and interpretive errors, and adequacy determination errors. Participants will also record the biopsy diagnoses for Pap tests with an interpretation of atypical squamous cells (ASC-US and ASC-H) or atypical glandular cells (AGC). This monitor includes cervical biopsy specimens submitted to the laboratory that have a corresponding satisfactory or satisfactory but limited Pap test within three months of the biopsy.

Performance Indicators
• Predictive value of positive cytology (%)
• Sensitivity (%)
• Screening/interpretation sensitivity (%)
• Sampling sensitivity (%)
• Percent positive for ASC-US interpretations
• Percent positive for ASC-H interpretations
• Percent positive for AGC interpretations

Look for your input forms approximately three weeks prior to the quarter.
Mislabeled Cases, Specimens, Blocks, and Slides in Surgical Pathology  QT19

Mislabelling of surgical pathology specimens has potential catastrophic consequences for patient care. By continuously monitoring the rate of mislabeled specimens, participants will be able to identify problems and variables associated with mislabeled specimens, blocks, and slides. This Q-TRACKS monitor will also help participating laboratories fulfill The Joint Commission National Patient Safety Goal #1: “Identify patients correctly” in the discipline of surgical pathology.

Objectives
Determine the rates of mislabeled cases, specimens, blocks, and slides and the rate at which mislabeling errors led to a corrected report and compare performance to other institutions.

Data Collection
Prospectively track each time a specimen container, block or slide is relabeled or renumbered due to an identification error; and if, as a result, a corrected report is issued. Participants will also report the number of cases processed each month and the number of blocks and slides (including special stains) that are processed during the same time period. Data will be collected monthly.

This Q-TRACKS monitor is limited to routine histology processing.

Performance Indicators
• Rate of mislabeled events (mislabeled cases, specimens, blocks, and slides) per case
• Percent of errors that resulted in a corrected report
• Rate of mislabeled cases
• Rate of mislabeled specimens
• Rate of mislabeled blocks
• Rate of mislabeled slides

Look for your input forms approximately three weeks prior to the quarter.
Q-MONITORS

A Program for a Customized Comprehensive Assessment

Evaluate quality improvements in your laboratory

With today’s focus on reducing medical errors, achieving and maintaining excellence is key to success. Using continuous monitoring, Q-MONITORS provide a comprehensive assessment of key processes in your institution.

Structure your data collection and analysis for success

Use Q-MONITORS to help build and improve data collection and analyze processes that contribute to quality of care, patient safety, and outcomes. Observe performance trends over time to identify and monitor opportunities for quality improvement through quantitative quality measures.

Establish realistic laboratory benchmarks and performance goals

Q-MONITORS are customized programs that address process-, outcome-, and structure-oriented quality assurance issues. Establish benchmarks through external database comparisons and compare your performance to establish goals for performance improvement.
Monitoring of Troponin Metrics for Suspected MI QM1

Patients presenting to the emergency department (ED) with chest pain must be evaluated quickly. Rapid serum troponin measurement is an important part of ED practice that can provide decisive information for patient management. Reducing delays in troponin testing has been reported to result in shorter length of stay in the ED and more rapid initiation of anti-ischemic treatment. Emergency departments and chest pain centers should, therefore, have effective procedures for ensuring optimal turnaround time (TAT) for troponin and a process for ongoing monitoring to ensure that performance meets expectations.

Objective

Determine and monitor troponin TATs for patient arrival to result availability and/or up to six time intervals within the total testing process for patients presenting to the ED with chest pain.

Data Collection

Six days per month, collect data from nine patients presenting to the ED with chest pain and tested for troponin level. Data includes time of patient arrival, troponin test order, specimen collection, laboratory receipt, and result availability. It is not necessary to provide data from each TAT component. Participants select which TAT metrics to monitor, with the option to monitor all metrics.

Participants will also complete a questionnaire about clinical and laboratory practices related to troponin testing.

Metrics

Depending on the data submitted, the following metrics will be provided. In addition, TAT benchmarking, as compared to all institutions, will be provided for both point-of-care and clinical laboratory testing for patient arrival to result availability and specimen collection to result availability.

- Patient arrival to result availability
- Specimen collection to result availability
- Test order to result availability
- Patient arrival to test order
- Test order to specimen collection
- Specimen collection to laboratory receipt
- Laboratory receipt to result availability

Performance indicators

- Median TAT for troponin testing intervals (monthly)
- Test order to result availability compliance rate (if applicable)
- Specimen collection to result availability compliance rate (if applicable)

Look for your input forms approximately three weeks prior to the quarter.
"I think the CAP is fantastic and I’m proud to be associated with an organization that is so interested in high quality patient care. The CAP is not just a proficiency testing provider—the CAP is so much more."

Point-of-Care Programs

Discontinued Programs

POC H. pylori Antibody Competency (POC13)
Point-of-Care Programs

POC Competency Challenges are designed to improve waived test results. These programs will evaluate instrument and method performance, troubleshoot, assess staff competency, and provide information to train staff. Expected results will be provided. These programs are not proficiency testing programs and participants will not return results to the CAP.

POC Competency Challenges may have limited availability and stability.

### POC Competency Challenges

**POC Competency Challenges**

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<td>POC1, POC2</td>
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<td>POC Glucose Competency</td>
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<td>POC Urine Dipstick Competency</td>
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<td>POC Influenza A/B Antigen Detect</td>
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<td>Competency</td>
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<tr>
<td>POC Fecal Occult Blood Competency</td>
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**Program Information**

- POC1 - One positive 10.0-mL liquid urine specimen
- POC2 - One abnormal 2.5-mL whole blood specimen
- POC3 - One abnormal 10.0-mL liquid urine specimen
- POC4 - One 1.0-mL positive liquid specimen
- Each program will provide material to test up to 10 staff
- Shipments available upon request

- POC5 - Five abnormal 1.0-mL lyophilized plasma specimens
- POC6 - Five abnormal 0.3-mL lyophilized plasma specimens and five corresponding diluents
- POC7 - One abnormal 1.0-mL whole blood specimen. For use with the HemoCue®, HemoCue 201, and Stanbio HemoPoint® H2 instruments
- POC8 - One 1.5-mL vial positive for influenza A; One 1.5-mL vial positive for influenza B
- POC9 - One positive 2.0-mL fecal specimen
- Each program will provide material to test up to 10 staff
- Shipments available upon request

College of American Pathologists
2015 Surveys & Anatomic Pathology Education Programs
### POC Competency Challenges
**POC10, POC11, POC12**

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>POC Blood Gases Competency</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>POC Blood Gases, i-STAT Competency</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>POC Plasma Cardiac Markers Competency</td>
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<td>10</td>
</tr>
</tbody>
</table>

### POC Competency Challenges
**POC14, POC15, POC16**

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>POC Medtronic ACT/ACT, i-STAT Competency</td>
<td></td>
<td>5</td>
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<tr>
<td>POC Hemochron Jr IL GEM ACT-LR Competency</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>POC Hemochron Jr Signature IL GEM PCL ACT Competency</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

### Program Information
- **POC10** - Ten abnormal 2.5-mL aqueous blood gas specimens and ten 2.5-mL hematocrit/hemoglobin specimens
- **POC11** - Ten abnormal 2.5-mL aqueous specimens for blood gas and hematocrit/hemoglobin testing
- **POC12** - One abnormal 1.5-mL plasma specimen; compatible with plasma based tests, such as Alere Triage and i-STAT instruments
- Shipments available upon request

- **POC14** - Five abnormal 1.7-mL lyophilized whole blood specimens with five corresponding diluents and one calcium chloride diluent vial; compatible with Medtronic HemoTec ACT/ACT, Medtronic Hepcon HMS, i-STAT Celite ACT, i-STAT Kaolin ACT
- **POC15** - Five abnormal 0.5-mL unitized specimens; compatible with IL GEM PCL Plus ACT-LR and ITC Hemochron Jr./Signature ACT-LR
- **POC16** - Five abnormal 0.5-mL unitized specimens; compatible with IL GEM PCL Plus ACT and ITC Hemochron Jr./Signature ACT+
- Shipments available upon request
In many hospitals today, laboratory testing has shifted from the central main laboratory to inpatient rooms, emergency departments, and intensive care units. We have developed this section in response to this shift and the increased use of point-of-care instruments in the hospital. This section will help you select the most appropriate proficiency testing programs for staff members who work near patient and bedside testing in the hospital setting. For additional information about selecting the right programs for your institution, contact the CAP at 800-323-4040 or 847-832-7000 option 1.

Use the charts to select the proficiency testing programs that meet your testing needs.

### Critical Care Aqueous Blood Gas and Oximetry

<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Care Aqueous Blood Gas</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>82</td>
</tr>
<tr>
<td>Blood Oximetry</td>
<td>SO</td>
<td>84</td>
</tr>
</tbody>
</table>

### Chemistry

<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-Type Natriuretic Peptides</td>
<td>BNP, BNP5</td>
<td>55</td>
</tr>
<tr>
<td>Hemoglobin A1c</td>
<td>GH2, GH5, GH5I</td>
<td>57</td>
</tr>
<tr>
<td>Limited Chemistry, Waived</td>
<td>LCW</td>
<td>58</td>
</tr>
<tr>
<td>Neonatal Bilirubin</td>
<td>NB, NB2</td>
<td>58</td>
</tr>
<tr>
<td>Plasma Cardiac Markers</td>
<td>PCARM</td>
<td>59</td>
</tr>
<tr>
<td>Whole Blood Glucose</td>
<td>WBG, WB2</td>
<td>59</td>
</tr>
</tbody>
</table>

### Coagulation

<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated Clotting Time</td>
<td>CT, CT1, CT2, CT3, CT5</td>
<td>146</td>
</tr>
<tr>
<td>Platelet Function</td>
<td>PF1</td>
<td>147</td>
</tr>
<tr>
<td>Drug-Specific Platelet Aggregation</td>
<td>PIA</td>
<td>149</td>
</tr>
<tr>
<td>Thromboelastogram</td>
<td>TEG</td>
<td>147</td>
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<tr>
<td>Whole Blood D-Dimer</td>
<td>WBDD</td>
<td>149</td>
</tr>
<tr>
<td>Whole Blood Prothrombin Time/INR</td>
<td>WP3, WP4, WP6, WP9, WP10</td>
<td>148</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amniotic Fluid Leakage (Nitrazine test)</td>
<td>AFL</td>
<td>134</td>
</tr>
<tr>
<td>Blood Cell Counts</td>
<td>HE, HEP, FH series</td>
<td>124, 125</td>
</tr>
<tr>
<td>Clinical Microscopy</td>
<td>CMP, CMMP</td>
<td>133</td>
</tr>
<tr>
<td>Erythrocyte Sedimentation Rate</td>
<td>ESR, ESR1</td>
<td>124</td>
</tr>
<tr>
<td>Gastric Occult Blood</td>
<td>GOCB</td>
<td>136</td>
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<tr>
<td>Occult Blood</td>
<td>OCB</td>
<td>137</td>
</tr>
<tr>
<td>Rapid Total White Blood Cell Count</td>
<td>RWBC</td>
<td>130</td>
</tr>
<tr>
<td>Reticulocytes</td>
<td>RT, RT2, RT3, RT4</td>
<td>129</td>
</tr>
<tr>
<td>Rupture of Fetal Membranes Testing</td>
<td>ROM1</td>
<td>137</td>
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<tr>
<td>Waived Combination</td>
<td>HCC</td>
<td>59</td>
</tr>
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</table>

### Immunology

<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HCV, Waived</td>
<td>RHCVW</td>
<td>202</td>
</tr>
<tr>
<td>Anti-HIV-1, Anti-HIV-1/2, Waived</td>
<td>AHIVW</td>
<td>202</td>
</tr>
<tr>
<td>Infectious Mononucleosis, Waived</td>
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<td>181</td>
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</table>

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<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Program Code</th>
<th>Page Number</th>
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</thead>
<tbody>
<tr>
<td>Group A Strep Antigen Detection</td>
<td>D6, D9</td>
<td>156</td>
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</tbody>
</table>

### Toxicology

<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Drug Screen</td>
<td>UDS6</td>
<td>88</td>
</tr>
</tbody>
</table>
We created the following charts to help you select the most appropriate CAP Surveys to meet your testing needs. These charts are not intended to be construed as approval or disapproval of any commercial product or instrument. Please contact a CAP Customer Contact representative at 800-323-4040 or 847-832-7000 option 1 or your instrument manufacturer for other compatibility questions. Select the compatible Survey for your instrument and cartridge from the charts.

### Abbott Point-of-Care i-STAT®

<table>
<thead>
<tr>
<th>Abbott i-STAT Cartridge</th>
<th>Recommended CAP Survey</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blood Gas</strong></td>
<td>Critical Care Aqueous Blood Gas</td>
<td>AQ3</td>
<td>82</td>
</tr>
<tr>
<td>G</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>CG4+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>EG6+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>EG7+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>CG8+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td><strong>Chemistry</strong></td>
<td>Critical Care Aqueous Blood Gas</td>
<td>AQ4</td>
<td>82</td>
</tr>
<tr>
<td>G</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Crea</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>E3+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>EC4+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>6+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>EC8+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>CHEM8+</td>
<td>AQ4</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td><strong>Coagulation</strong></td>
<td>Activated Clotting Time</td>
<td>CT5</td>
<td>146</td>
</tr>
<tr>
<td>Celite ACT</td>
<td>CT5</td>
<td>146</td>
<td></td>
</tr>
<tr>
<td>Kaolin ACT</td>
<td>WP3</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>PT/INR</td>
<td>WP3</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td><strong>Cardiac Markers</strong></td>
<td>Plasma Cardiac Markers</td>
<td>PCARM, PCARMX</td>
<td>59</td>
</tr>
<tr>
<td>CKMB</td>
<td>PCARM, PCARMX</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>BNP</td>
<td>PCARM, PCARMX</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>cTnl</td>
<td>PCARM, PCARMX</td>
<td>59</td>
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</tbody>
</table>

### Alere Triage®

<table>
<thead>
<tr>
<th>Alere Triage Cartridge</th>
<th>Recommended CAP Survey</th>
<th>Program Code</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triage® Cardiac Panel</td>
<td>Plasma Cardiac Markers</td>
<td>PCARM, PCARMX</td>
<td>59</td>
</tr>
<tr>
<td>Triage BNP</td>
<td>BNP, BNP5, PCARM, PCARMX</td>
<td>55, 59</td>
<td></td>
</tr>
<tr>
<td>Triage CardioProfilER®</td>
<td>BNP, BNP5, PCARM, PCARMX</td>
<td>55, 59</td>
<td></td>
</tr>
<tr>
<td>Triage Profiller Shortness of Breath</td>
<td>Urine Drug Screen</td>
<td>UDS, UDS6</td>
<td>88</td>
</tr>
<tr>
<td>Triage TOX Drug Screen</td>
<td>UDS, UDS6</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Triage Drugs of Abuse Panel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
“The CAP’s proficiency testing quality is everything to us. The last thing I want is for a clinician to doubt my results.”

General Chemistry and Therapeutic Drug Monitoring

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### General Chemistry and Therapeutic Drugs Surveys

**C1, C3/C3X, CZ/CZX/CZ2X, Z**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alanine aminotransferase (ALT/SGPT)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Albumin</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Amylase</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Aspartate aminotransferase (AST/SGOT)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Bilirubin, direct</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Bilirubin, total</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Calcium</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Chloride</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Cortisol</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Creatine kinase (CK)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Creatinine</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Glucose</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG), quantitative</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Iron</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Lipoprotein (a)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Magnesium</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Pancreatic amylase</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Potassium</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Protein, total</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Sodium</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>T3, free (triiodothyronine, free)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>T3, total (triiodothyronine, total)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>T3, uptake and related tests</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>T4, free (thyroxine, free)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
</tbody>
</table>

Continued on the next page

Program Information
- Five 5.0-mL liquid serum specimens
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year

Additional volume options
- C3X - General Chemistry with ten 5.0-mL specimens
- CZX - General Chemistry and TDM with ten 5.0-mL specimens
- CZ2X - General Chemistry and TDM with fifteen 5.0-mL specimens

For second instrument reporting options, see the Quality Cross Check program, CZQ, on page 53.

General Chemistry and Therapeutic Drugs Surveys do not fulfill the CAP accreditation requirements for neonatal bilirubin proficiency testing. See Surveys NB, NB2 on page 58.
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<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4, total (thyroxine, total)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Triglycerides</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Uric acid</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Acid phosphatase</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Ammonia</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
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<tr>
<td>Apolipoprotein A1</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Apolipoprotein B</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Carbon dioxide</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Ferritin</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Gamma glutamyl transferase (GGT)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Iron binding capacity, total</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Iron binding capacity, unsaturated</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Iron saturation (%)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Lactate</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Lipase</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
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<tr>
<td>Osmolality</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Phosphorus (inorganic)</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Prealbumin</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Transferrin</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Lithium</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Amikacin</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Caffeine</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Carbamazepine, free</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Digoxin</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Digoxin, free</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Disopyramide</td>
<td>C1 C3/C3X CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
</tbody>
</table>

Continued on the next page

General Chemistry and Therapeutic Drugs Surveys do not fulfill the CAP accreditation requirements for neonatal bilirubin proficiency testing. See Surveys NB, NB2 on page 58.
### General Chemistry and Therapeutic Drugs

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethosuximide</td>
<td>C1, C3/C3X, CZ/CZX/CZ2X, Z</td>
<td>5</td>
</tr>
<tr>
<td>Gentamicin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Lidocaine</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Methotrexate</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Phenytoin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Phenytoin, free</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Primidone</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Procainamide</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Quinidine</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Salicylate</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Theophylline</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Tobramycin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Valproic acid</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Valproic acid, free</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Vancomycin</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Program Information

- Five 5.0-mL liquid serum specimens
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year

Additional volume options

- C3X - General Chemistry with ten 5.0-mL specimens
- CZX - General Chemistry and TDM with ten 5.0-mL specimens
- CZ2X - General Chemistry and TDM with fifteen 5.0-mL specimens

For second instrument reporting options, see the Quality Cross Check program, CZQ, on page 53.

General Chemistry and Therapeutic Drugs Surveys do not fulfill the CAP accreditation requirements for neonatal bilirubin proficiency testing. See Surveys NB, NB2 on page 58.
### Quality Cross Check—General Chemistry and Therapeutic Drug Monitoring  CZQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Survey CZ analytes on pages 50-52</td>
<td>CZQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing. See Survey CZ on pages 50-52.

**Additional Information**

As a trusted partner, you can rely on the CAP to provide the insight, knowledge and peer-based educational coaching to protect your laboratory from regulatory sanctions.

- The CAP Quality Cross Check program complements CAP PT by offering more opportunities to monitor and proactively identify instrument problems before they impact patient test results.
- This new offering will help you improve quality processes, reduce stress, raise competency of staff, and verify the performance of your instrument results.

### CAP/AACC Immunosuppressive Drugs  CS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclosporine</td>
<td>CS</td>
<td>3</td>
</tr>
<tr>
<td>Sirolimus (rapamycin)</td>
<td>CS</td>
<td>3</td>
</tr>
<tr>
<td>Tacrolimus</td>
<td>CS</td>
<td>3</td>
</tr>
</tbody>
</table>

### Everolimus  EV

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everolimus</td>
<td>EV</td>
<td>3</td>
</tr>
</tbody>
</table>

### Mycophenolic Acid  MPA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycophenolic acid</td>
<td>MPA</td>
<td>3</td>
</tr>
</tbody>
</table>
### Therapeutic Drug Monitoring, Extended ZE

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clozapine</td>
<td>ZE</td>
<td>3</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>NEW</td>
<td>3</td>
</tr>
<tr>
<td>Lamotrigine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Levetiracetam</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Oxcarbazepine metabolite</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Teriflunomide</td>
<td>NEW</td>
<td>3</td>
</tr>
<tr>
<td>Zonisamide</td>
<td>NEW</td>
<td>3</td>
</tr>
</tbody>
</table>

### Therapeutic Drug Monitoring, Special ZT, ZZT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitriptyline</td>
<td>ZT, ZZT</td>
<td>3</td>
</tr>
<tr>
<td>Desipramine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Imipramine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Tricyclics, total (qualitative/quantitative)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Accuracy-Based Lipids ABL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apolipoprotein A1</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Apolipoprotein B</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cholesterol*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HDL cholesterol*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lipoprotein (a)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*This analyte will be evaluated against the Centers for Disease Control and Prevention (CDC) reference method.

### Program Information

- **Therapeutic Drug Monitoring, Extended ZE**
  - Three 5.0-mL serum specimens
  - Two shipments per year

- **Therapeutic Drug Monitoring, Special ZT, ZZT**
  - ZT - Three 5.0-mL lyophilized serum specimens
  - ZZT - Six 5.0-mL lyophilized serum specimens
  - Two shipments per year

- **Accuracy-Based Lipids ABL**
  - Three 1.0-mL human serum specimens
  - Two shipments per year
### B-Type Natriuretic Peptides  **BNP, BNP5**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>BNP</td>
<td>2</td>
</tr>
<tr>
<td>NT-pro BNP</td>
<td>BNP5 NEW</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**
- Beginning with the 2015 proficiency testing (PT) program year, the College of American Pathologists Accreditation Program will require all accredited laboratories performing non-waived testing for BNP and NT-pro BNP to complete 15 PT challenges per year.
- For second instrument reporting options, see the Quality Cross Check program, BNPQ below.

### Quality Cross Check—B-Type Natriuretic Peptides  **BNPQ**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>BNPQ</td>
<td>3</td>
</tr>
<tr>
<td>NT-pro BNP</td>
<td>BNPQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing. See Surveys BNP or BNP5 above.

**Additional Information**
As a trusted partner, you can rely on the CAP to provide the insight, knowledge and peer-based educational coaching to protect your laboratory from regulatory sanctions.
- The CAP Quality Cross Check program complements CAP PT by offering more opportunities to monitor and proactively identify instrument problems before they impact patient test results.
- This new offering will help you improve quality processes, reduce stress, raise competency of staff, and verify the performance of your instrument results.

### Program Information
- **BNP** - Two 1.0-mL liquid plasma specimens; Conventional and International System of Units (SI) reporting offered; two shipments per year
- **BNP5** - Five 1.0 mL liquid plasma specimens; Conventional and International System of Units (SI) reporting offered; three shipments per year

### Program Information
- Three liquid specimens in duplicate
- Report up to three instruments
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
## Harmonized Thyroid ABTH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3, free (triiodothyronine, free)</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>T3, total (triiodothyronine, total)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>T4, free (thyroxine, free)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>T4, total (thyroxine, total)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Analytes will be evaluated using harmonization.
- Specimens are collected by a modified application of Clinical Laboratory and Standards Institute Guideline CLSI C37-A, Preparation and Validation of Commutable Frozen Human Serum Pools as Secondary Reference Materials for Cholesterol Measurement Procedures; Approved Guideline.

## Cardiac Markers CRT, CRI, TNT, TNT5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>CRT Code</th>
<th>CRI Code</th>
<th>TNT Code</th>
<th>TNT Code NEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK-MB, immunochemical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CK isoenzymes (CK-BB, CK-MB, CK-MM), electrophoretic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD1, LD2, LD3, LD4, LD5, electrophoretic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD1/LD2 ratio, calculation and interpretation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myoglobin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troponin I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troponin T, two challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troponin T, five challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**

- CRT - Five 2.0-mL liquid serum specimens
- CRI - Ten 2.0-mL liquid serum specimens
- TNT - Two 2.0-mL liquid serum specimens
- TNT5 - Five 2.0-mL liquid serum specimens
- Three shipments per year

Beginning with the 2015 proficiency testing (PT) program year, the College of American Pathologists Accreditation Program will require all accredited laboratories performing non-waived testing for Troponin I and Troponin T to complete 15 PT challenges per year.
### Hemoglobin A\textsubscript{1c} GH2, GH5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges/Shipments</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A\textsubscript{1c}</td>
<td></td>
<td>GH2, GH5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Information**

- Beginning with the 2015 proficiency testing (PT) program year, the College of American Pathologists Accreditation Program will require all accredited laboratories performing non-waived testing for Hemoglobin A\textsubscript{1c} to complete 15 PT challenges per year.
- These Surveys will be evaluated against the National Glycohemoglobin Standardization Program (NGSP) reference method.

### Hemoglobin A\textsubscript{1c} GH5I

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A\textsubscript{1c}</td>
<td>GH5I</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**

- This program meets the CAP’s Accreditation Program requirements for proficiency testing.
- This Survey will not be evaluated against the National Glycohemoglobin Standardization Program (NGSP) reference method. See Survey GH5 to be evaluated against the NGSP reference method.

### Glycated Serum Albumin GSA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycated serum albumin</td>
<td>GSA</td>
<td>3</td>
</tr>
</tbody>
</table>

### High-Sensitivity/Cardiac C-Reactive Protein HSCRP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity/Cardiac C-reactive protein</td>
<td>HSCRP</td>
<td>3</td>
</tr>
</tbody>
</table>
### Homocysteine HMS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homocysteine</td>
<td>HMS</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL serum specimens
- Two shipments per year

### Ketones KET

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-hydroxybutyrate</td>
<td>KET</td>
<td>2</td>
</tr>
<tr>
<td>Total ketones</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 2.0-mL serum specimens
- For use with Acetest® and other qualitative/semi-quantitative methods using the nitroprusside reaction for total ketones testing
- Two shipments per year

### Limited Chemistry, Waived LCW

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>LCW</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL liquid serum specimens
- For use with waived methods such as the Cholestech LDX® and Roche ACCU-CHEK® Instant Plus
- The glucose specimens are not appropriate for use on other whole blood glucose meters
- Two shipments per year

### Neonatal Bilirubin NB, NB2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>NB</td>
</tr>
<tr>
<td></td>
<td>NB2</td>
</tr>
<tr>
<td>Bilirubin, direct</td>
<td>2</td>
</tr>
<tr>
<td>Bilirubin, total</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- NB - Five 1.0-mL human serum specimens; three shipments per year
- NB2 - Two 1.0-mL human serum specimens; must order in conjunction with a five-challenge total bilirubin proficiency testing program to meet regulatory requirements; two shipments per year

One human-based serum specimen will offer the value assigned using the reference method procedure (Clin Chem. 1985;31:1779-1789).
Plasma Cardiac Markers  PCARM, PCARMX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PCARM</td>
<td>PCARMX</td>
</tr>
<tr>
<td>BNP</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>CK-MB</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>D-dimer</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Myoglobin</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Troponin I</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Beginning with the 2015 proficiency testing (PT) program year, the College of American Pathologists Accreditation Program will require all accredited laboratories performing non-waived testing for BNP and Troponin I to complete 15 PT challenges per year.

Waived Combination  HCC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>HCC</td>
<td>2</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Program Information
- PCARM - Five 1.5-mL liquid EDTA plasma specimens
- PCARMX - All Survey PCARM specimens in duplicate
- Three shipments per year

Whole Blood Glucose  WBG, WB2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>WBG</td>
</tr>
<tr>
<td>Glucose</td>
<td>5</td>
</tr>
</tbody>
</table>

Program Information
- WBG - Five 2.5-mL whole blood specimens; three shipments per year
- WB2 - Three 2.5-mL whole blood specimens; two shipments per year
- Report up to 20 different ancillary testing sites or instruments
Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

### General Chemistry and TDM, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry/TDM VM</td>
<td>CZVM</td>
<td>CZ</td>
<td>50-52</td>
</tr>
</tbody>
</table>

### Program Information
- Five 5.0-mL liquid serum specimens

---

**Less is MORE**

With the CAP’s e-LAB Solutions Connect™ automated proficiency testing (PT) service, you’ll spend less time doing clerical work, giving you more time to focus on what matters most, accurate patient results.

**LESS**
- Clerical errors
- Time spent inputting PT results
- Checking and double-checking data entry
- Delays between testing and releasing results
- Proficiency Testing Compliance Notices
- Missed submission deadlines.

**MORE**
- Time for patient-centric activities
- Cost savings in staff time
- Quality assurance
- Ability to receive, reformat, and resend data
- Time for managers to spend on management responsibilities

Now you can run PT more like a patient specimen.

Available in the US and Canada only.

To order, choose e-LAB Solutions Connect Service (3572LM) in the New Programs section of the 2015 PT order form.
Urine Chemistry

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Urine Chemistry, General U

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylease</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Calcium</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Chloride</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Magnesium</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Nitrogen, total</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Osmolality</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Potassium</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Uric acid</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin (quantitative)</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin:creatinine ratio</td>
<td>U</td>
<td>3</td>
</tr>
</tbody>
</table>

### Accuracy-Based Urine ABU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin (quantitative)</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin:creatinine ratio</td>
<td>U</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Six 15.0-mL urine specimens
- One mailing per year will include an additional specimen for uric acid testing for a total of seven challenges per year
- Two shipments per year

**Program Information**
- Three 5.0-mL human urine specimens
- Two shipments per year

Analytes may be evaluated against the reference method or by using harmonization.
### Kidney Stone Risk Assessment (KSA)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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</thead>
<tbody>
<tr>
<td>Citrate</td>
<td>KSA</td>
<td>3</td>
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<tr>
<td>Cystine</td>
<td></td>
<td>3</td>
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<tr>
<td>Oxalate</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sulfate</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 15.0-mL liquid urine specimens
- Two shipments per year

### Urine Chemistry, Special (N, NX)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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</thead>
<tbody>
<tr>
<td>3-methoxytyramines</td>
<td>N, NX</td>
<td>3</td>
</tr>
<tr>
<td>5-hydroxyindoleacetic acid</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>17-hydroxycorticosteroids</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>17-ketosteroids</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Aldosterone</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Coproporphyrins</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cortisol, urinary free</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Dopamine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Epinephrine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Homovanillic acid</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Metanephrine</td>
<td></td>
<td>3</td>
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<tr>
<td>Norepinephrine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Normetanephrine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Uroporphyrin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Vanillylmandelic acid</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- N - Six 10.0-mL lyophilized urine specimens and three 10.0-mL liquid urine specimens
- NX - All lyophilized Survey N specimens in duplicate and three 10.0-mL liquid urine specimens
- Two shipments per year

### Myoglobin, Urine (MYG)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myoglobin, urine (qualitative and quantitative)</td>
<td>MYG</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.0-mL urine specimens
- Two shipments per year
Porphobilinogen, Urine UPBG

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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</thead>
<tbody>
<tr>
<td>Porphobilinogen</td>
<td>UPBG</td>
<td>3</td>
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</tbody>
</table>

**Program Information**
- Three 5-mL urine specimens
- Two shipments per year
- For use with qualitative and quantitative methods

**Urine Chemistry, Validated Materials**

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Chemistry (Special) VM</td>
<td>NVM</td>
<td>N, NX</td>
<td>62</td>
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<tr>
<td>Urine Chemistry (General) VM</td>
<td>UVM</td>
<td>U</td>
<td>61</td>
</tr>
</tbody>
</table>

**Program Information**
- NVM - Six 10.0-mL lyophilized and three 10.0-mL liquid urine specimens
- UVM - Six 15.0-mL urine specimens

*Knowing that I have been able to solve a customer’s problem inspires me, especially since they are doing such vital work.*

— Debbie

CAP Customer Contact Center representatives understand the importance of what you do.
## 1,5-Anhydroglucitol AG

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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</thead>
<tbody>
<tr>
<td>1,5-anhydroglucitol</td>
<td>AG</td>
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</table>

### Program Information
- Three 1.0-mL liquid serum specimens
- Two shipments per year

## Aldolase ADL

<table>
<thead>
<tr>
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<th>Program Code</th>
<th>Challenges/Shipments</th>
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<tr>
<td>Aldolase</td>
<td>ADL</td>
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### Program Information
- Two 1.5-mL liquid serum specimens
- Two shipments per year

## Angiotensin-Converting Enzyme ACE

<table>
<thead>
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<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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</thead>
<tbody>
<tr>
<td>Angiotensin-converting enzyme (quantitative)</td>
<td>ACE</td>
<td>2</td>
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</tbody>
</table>

### Program Information
- Two 2.0-mL lyophilized serum specimens
- Two shipments per year
### Body Fluid Chemistry  FLD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
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<tr>
<td>Amylase</td>
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<td>3</td>
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<tr>
<td>CA19-9</td>
<td>FLD</td>
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<tr>
<td>CEA</td>
<td>FLD</td>
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<tr>
<td>Cholesterol</td>
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<tr>
<td>Creatinine</td>
<td>FLD</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>FLD</td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td>FLD</td>
<td>3</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td>FLD</td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td>FLD</td>
<td>3</td>
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<tr>
<td>Protein, total</td>
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<tr>
<td>Triglycerides</td>
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<td>3</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td>FLD</td>
<td>1 per year</td>
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</tbody>
</table>

### Body Fluid Chemistry 2  FLD2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
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</thead>
<tbody>
<tr>
<td>Alkaline phosphatase</td>
<td>FLD2</td>
<td>3</td>
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<tr>
<td>Bilirubin</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Calcium</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Chloride</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Lipase</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Potassium</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Uric acid</td>
<td>FLD2</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Three 3.0-mL simulated liquid body fluid specimens
- Two shipments per year
This Survey meets the Occupational Safety and Health Administration (OSHA) guidelines for proficiency testing (OSHA standard-29 CFR 1910.1027AppF).

### Cadmium CD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-2-microglobulin, urine</td>
<td>CD</td>
<td>3</td>
</tr>
<tr>
<td>Cadmium, urine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cadmium, whole blood</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Cerebrospinal Fluid Chemistry and Oligoclonal Bands M, OLI

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin, quantitative</td>
<td>M</td>
<td>3</td>
</tr>
<tr>
<td>Electrophoresis (albumin and gamma globulin)</td>
<td>OLI</td>
<td>3</td>
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<tr>
<td>Glucose</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IgG, quantitative</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
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<td>3</td>
</tr>
<tr>
<td>Oligoclonal bands</td>
<td></td>
<td>3</td>
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</tbody>
</table>

### Cystatin C CYS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cystatin C</td>
<td>CYS</td>
<td>2</td>
</tr>
</tbody>
</table>

Program Information
- M - Three 5.0-mL simulated liquid spinal fluid specimens
- OLI - Three 5.0-mL simulated liquid spinal fluid specimens and three paired serum specimens
- Two shipments per year

Program Information
- Three 5.0-mL whole blood specimens and three 15.0-mL urine specimens
- Conventional and International System of Units (SI) reporting offered
- Six shipments per year

Program Information
- Two 1.0-mL liquid serum specimens
- Two shipments per year
### Fecal Fat FCFS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- Two 10.0-g simulated fecal fat specimens
- For microscopic detection of neutral fats (triglycerides) and/or split fats (total free fatty acids)
- Two shipments per year

### Fructosamine FT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fructosamine</td>
<td>FT</td>
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</tbody>
</table>

**Program Information**
- Two 1.0-mL liquid serum specimens
- Two shipments per year

### Glucose-6-Phosphate Dehydrogenase G6PDS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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</thead>
<tbody>
<tr>
<td>G6PD (qualitative and quantitative)</td>
<td>G6PDS</td>
<td></td>
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</tbody>
</table>

**Program Information**
- Two 0.5-mL lyophilized hemolysate samples
- Two shipments per year

### Lipoprotein-Associated Phospholipase A₂ PLA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipoprotein-associated phospholipase (Lp-PLA₂)</td>
<td>PLA</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- Two 0.5-mL liquid specimens
- Two shipments per year
### Lipoprotein and Protein Electrophoresis

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipoprotein electrophoresis</td>
<td>LPE</td>
<td>2</td>
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<tr>
<td>IgA, quantitation</td>
<td>SPE</td>
<td>2</td>
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<tr>
<td>IgG, quantitation</td>
<td>SPE</td>
<td>2</td>
</tr>
<tr>
<td>IgM, quantitation</td>
<td>SPE</td>
<td>2</td>
</tr>
<tr>
<td>M-protein (Paraprotein) identification</td>
<td>LPE</td>
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<tr>
<td>Protein, total</td>
<td>LPE</td>
<td>2</td>
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<tr>
<td>Protein electrophoresis</td>
<td>LPE</td>
<td>2</td>
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<td>Protein electrophoresis pattern</td>
<td>LPE</td>
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<tr>
<td>interpretation</td>
<td>LPE</td>
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<tr>
<td>Urine Bence Jones proteins</td>
<td>SPE</td>
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</table>

### Lamellar Body Count LBC

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<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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<tbody>
<tr>
<td>Lamellar body count</td>
<td>LBC</td>
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### Lung Maturity LM, LM1

<table>
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<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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</thead>
<tbody>
<tr>
<td>Bilirubin (ΔOD450)</td>
<td>LM</td>
<td>1</td>
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<tr>
<td>Fluorescent polarization assay</td>
<td>LM</td>
<td>3</td>
</tr>
<tr>
<td>Lecithin:sphingomyelin (L:S) ratio</td>
<td>LM</td>
<td>3</td>
</tr>
<tr>
<td>Phosphatidylglycerol (PG)</td>
<td>LM</td>
<td>3</td>
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<tr>
<td>Analyte</td>
<td>Program Code</td>
<td>Challenges/Shipments</td>
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<tr>
<td>------------------</td>
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<td>----------------------</td>
</tr>
<tr>
<td>Plasma Hemoglobin</td>
<td>PHG</td>
<td>2</td>
</tr>
<tr>
<td>Procalcitonin</td>
<td>PCT</td>
<td>3</td>
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<tr>
<td>Pseudocholinesterase</td>
<td>C7</td>
<td>1</td>
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<tr>
<td>Salivary Cortisol</td>
<td>SALC</td>
<td>3</td>
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</tbody>
</table>
### Testosterone and Estradiol Accuracy Survey  ABS

<table>
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<tbody>
<tr>
<td>Calcium</td>
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<tr>
<td>Cortisol</td>
<td>4</td>
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</tr>
<tr>
<td>Estradiol</td>
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</tr>
<tr>
<td>Testosterone</td>
<td>4</td>
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</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

#### Additional Information
- The Centers for Disease Control and Prevention (CDC) will set target values for testosterone and estradiol using the established reference methods.
- Calcium, cortisol, and TSH data will be provided by peer groups to determine the degree of harmonization in the field.

### Total Bile Acids  TBLA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bile acids</td>
<td>3</td>
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</tbody>
</table>

#### Program Information
- Three 2.0-mL liquid serum specimens
- Two shipments per year

### Trace Metals  R

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Chromium</td>
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<tr>
<td>Copper</td>
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<td>Manganese</td>
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<td>Selenium</td>
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<tr>
<td>Zinc</td>
<td>3</td>
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</tbody>
</table>

#### Program Information
- Three 5.0-mL liquid serum specimens
- Two shipments per year
## Trace Metals, Urine TMU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
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<td>Arsenic</td>
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<td>3</td>
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<tr>
<td>Chromium</td>
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<td>3</td>
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<tr>
<td>Cobalt</td>
<td>NEW</td>
<td>3</td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Manganese</td>
<td>NEW</td>
<td>3</td>
</tr>
<tr>
<td>Mercury</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Thallium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Zinc</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

## Sweat Analysis Series SW1, SW2, SW3, SW4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride</td>
<td>SW1, SW2, SW3, SW4</td>
<td>3</td>
</tr>
<tr>
<td>Conductivity</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Osmolality</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

For method compatibility, see chart below.

## Compatibility Matrix for Sweat Analysis Series

<table>
<thead>
<tr>
<th>Method/Procedure</th>
<th>Program Code</th>
<th>Materials Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orion direct electrode</td>
<td>SW1, SW2, SW3, SW4</td>
<td>Precut 2-cm diameter Whatman filter papers</td>
</tr>
<tr>
<td>Wescor Macroduct™ &amp; Nanoduct® Systems</td>
<td></td>
<td>22-gauge blunt-tipped needles</td>
</tr>
<tr>
<td>CF Indicator System®</td>
<td></td>
<td>Polystyrene boats and chloride-free sponges</td>
</tr>
<tr>
<td>All other methodologies</td>
<td></td>
<td>No additional materials provided</td>
</tr>
</tbody>
</table>

### Program Information
- Three 10.0-mL urine specimens
- Two shipments per year

### Program Information
- Three 5.0-mL simulated liquid human sweat specimens
- Two shipments per year
### Viscosity V

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td>V</td>
<td>2</td>
</tr>
</tbody>
</table>

### Soluble Transferrin Receptor STFR

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble transferrin receptor (sTfR)</td>
<td>STFR</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 10.0-mL serum specimens
- Two shipments per year

**Program Information**
- Three 2.5-mL liquid human serum specimens
- Two shipments per year

---

**Improve the reliability of your patient results with CAP Survey Validated Materials**

Use the same material that is sent in the Surveys program to:
- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

**Special Chemistry, Validated Materials**

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebrospinal Fluid VM</td>
<td>MVM</td>
<td>M</td>
<td>66</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 5.0-mL simulated liquid spinal fluid specimens
“The CAP proficiency testing allows us as a laboratory to look at how we compare with our peers and it also builds the trust of the clinical staff that we are reporting good quality results.”
**Endocrinology**

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Ligand Assay, General  K, KK

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K</strong>, <strong>KK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha-fetoprotein (AFP)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>CEA</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Cortisol</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Ferritin</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Folate, serum</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>hCG, quantitative</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>IgE</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Prostate-specific antigen (PSA)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Prostate-specific antigen, complexed (cPSA)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Prostate-specific antigen, free</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Prostatic acid phosphatase (PAP)</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>T3, free (triiodothyronine, free)</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>T3, total (triiodothyronine, total)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>T3 uptake and related tests</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>T4, free (thyroxine, free)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>T4, total (thyroxine, total)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Vitamin B₁₂</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### B-Type Natriuretic Peptides  BNP, BNP5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BNP</strong></td>
<td></td>
</tr>
<tr>
<td><strong>BNP5</strong></td>
<td>NEW</td>
</tr>
<tr>
<td>BNP</td>
<td>2</td>
</tr>
<tr>
<td>NT-pro BNP</td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**
- Beginning with the 2015 proficiency testing (PT) program year, the College of American Pathologists Accreditation Program will require all accredited laboratories performing non-waived testing for BNP and NT-pro BNP to enroll in Survey BNP5.
- For second instrument reporting options, see the Quality Cross Check program, BNPQ, on page 75.
Quality Cross Check—B-Type Natriuretic Peptides  BNPQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>NT-pro BNP</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing. See Surveys BNP or BNPS on page 74.

Additional Information

As a trusted partner, you can rely on the CAP to provide the insight, knowledge and peer-based educational coaching to protect your laboratory from regulatory sanctions.

- The CAP Quality Cross Check program complements CAP PT by offering more opportunities to monitor and proactively identify instrument problems before they impact patient test results.
- This new offering will help you improve quality processes, reduce stress, raise competency of staff, and verify the performance of your instrument results.

Program Information

- Three liquid specimens in duplicate
- Report up to three instruments
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

Ligand Assay, Special  Y, YY, DY

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-deoxycortisol</td>
<td>Y, YY DY</td>
<td>3</td>
</tr>
<tr>
<td>17-hydroxyprogesterone</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Androstenedione</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>DHEA sulfate</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Estradiol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Estradiol, unconjugated (uE3)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Growth hormone (GH)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IGF-1 (somatomedin C)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Progesterone</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Prolactin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Testosterone</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, bioavailable</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, free</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sex hormone-binding globulin (SHBG)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information

- Y - Six 5.0-mL liquid serum specimens (two duplicate sets)
- YY - Nine 5.0-mL liquid serum specimens (three duplicate sets)
- DY - Must order in conjunction with Survey Y or YY
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
### Antimüllerian Hormone AMH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimüllerian hormone (AMH)</td>
<td>AMH</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL lyophilized serum specimens
- Two shipments per year

### 25-OH Vitamin D VITD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D, total</td>
<td>VITD</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL serum specimens
- Two shipments per year

### Bone and Growth BGS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGF-1 (somatomedin C)</td>
<td>BGS</td>
<td>3</td>
</tr>
<tr>
<td>Osteocalcin</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL liquid serum specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Accuracy-Based Vitamin D ABVD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D (D2 and D3)</td>
<td>ABVD</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL human liquid serum specimens
- Serum is from multidonor endogenous pools
- Two shipments per year

**Additional Information**
- The Centers for Disease Control and Prevention (CDC) will establish reference targets using isotope-dilution LC-MS/MS method.
### Bone and Mineral Metabolism, Urine BU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-telopeptide (CTx)</td>
<td>BU</td>
<td>2</td>
</tr>
<tr>
<td>Creatinine</td>
<td>BU</td>
<td>2</td>
</tr>
<tr>
<td>Deoxypyridinoline (DPD)</td>
<td>BU</td>
<td>2</td>
</tr>
<tr>
<td>N-telopeptide (NTx)</td>
<td>BU</td>
<td>2</td>
</tr>
<tr>
<td>Pyridinoline (PYD)</td>
<td>BU</td>
<td>2</td>
</tr>
</tbody>
</table>

### Bone Markers and Vitamins BMV1, BMV2, BMV3, BMV4, BMV5, BMV6

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,25 dihydroxy vitamin D</td>
<td>BMV1 BMV2</td>
<td>3</td>
</tr>
<tr>
<td>Bone specific alkaline phosphatase</td>
<td>BMV3 BMV4</td>
<td>3</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>BMV5 BMV6</td>
<td>3</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>BMV5 BMV6</td>
<td>3</td>
</tr>
<tr>
<td>C-telopeptide (CTx)</td>
<td>BMV5 BMV6</td>
<td>3</td>
</tr>
<tr>
<td>N-telopeptide (NTx)</td>
<td>BMV5 BMV6</td>
<td>3</td>
</tr>
</tbody>
</table>

### Erythropoietin EPO

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythropoietin</td>
<td>EPO</td>
<td>2</td>
</tr>
</tbody>
</table>

### Fetal Fibronectin FF

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal fibronectin</td>
<td>FF</td>
<td>2</td>
</tr>
</tbody>
</table>
## C-Peptide, Gastrin, Insulin, and PTH Assays

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-peptide</td>
<td>ING</td>
<td>3</td>
</tr>
<tr>
<td>Gastrin</td>
<td>z</td>
<td>3</td>
</tr>
<tr>
<td>Insulin</td>
<td>z</td>
<td>3</td>
</tr>
<tr>
<td>Parathyroid hormone (PTH)</td>
<td>z</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Three 5.0-mL lyophilized serum specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

## Maternal Screening FP, FPX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-fetoprotein (AFP), amniotic fluid</td>
<td>FP, FPX</td>
<td>2</td>
</tr>
<tr>
<td>Alpha-fetoprotein (AFP), serum</td>
<td>z</td>
<td>5</td>
</tr>
<tr>
<td>Dimeric inhibin A (DIA)</td>
<td>z</td>
<td>5</td>
</tr>
<tr>
<td>Estriol, unconjugated (uE3)</td>
<td>z</td>
<td>5</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG), quantitative</td>
<td>z</td>
<td>5</td>
</tr>
</tbody>
</table>

### Program Information
- FP - Five 1.0-mL liquid serum specimens; two 1.0-mL simulated amniotic fluid specimens
- FPX - All Survey FP serum specimens in duplicate; two 1.0-mL simulated amniotic fluid specimens
- Three shipments per year

## First Trimester Maternal Screening FP1T, FP1B

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total hCG</td>
<td>FP1T</td>
<td>5</td>
</tr>
<tr>
<td>Free beta hCG</td>
<td>FP1B</td>
<td>5</td>
</tr>
<tr>
<td>PAPP-A</td>
<td>z</td>
<td>5</td>
</tr>
</tbody>
</table>

### Program Information
- FP1T - Five 1.0-mL serum specimens
- FP1B - Five 1.0-mL serum specimens
- Three shipments per year

The CAP designed this Survey for laboratories using AFP and hCG for prenatal screening purposes only. For all other applications, see Survey K or KK on page 74.
### Pharmacogenetics  PGX, PGX1, PGX2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PGX</td>
<td>PGX1</td>
</tr>
<tr>
<td>CYP2C19</td>
<td>i</td>
<td></td>
</tr>
<tr>
<td>CYP2C9</td>
<td>i</td>
<td></td>
</tr>
<tr>
<td>CYP2D6</td>
<td>i</td>
<td></td>
</tr>
<tr>
<td>UGT1A1</td>
<td>i</td>
<td></td>
</tr>
<tr>
<td>VKORC1</td>
<td>i</td>
<td></td>
</tr>
<tr>
<td>IL28B (rs12979860)</td>
<td></td>
<td>i</td>
</tr>
<tr>
<td>HLA-B*5701</td>
<td></td>
<td>i</td>
</tr>
</tbody>
</table>

**Additional Information**

Survey PGX2 is designed for laboratories that provide HLA-B*5701 testing to identify risk of hypersensitivity to abacavir. The intended response is qualitative (presence/absence of the allele). This Survey is not appropriate for laboratories that perform molecular HLA typing. For HLA typing proficiency testing, please consult the HLA Molecular Typing (ML, DML) Surveys.

### RBC Folate  FOL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBC folate</td>
<td>FOL</td>
<td>2</td>
</tr>
</tbody>
</table>

### Renin and Aldosterone  RAP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldosterone</td>
<td>RAP</td>
<td>3</td>
</tr>
<tr>
<td>Renin</td>
<td>i</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**

- PGX - Two 25.0-μg extracted DNA specimens
- PGX1, PGX2 - Three 25.0-μg extracted DNA specimens
- Includes allele detection (genotyping) and/or interpretive challenges
- Two shipments per year

**Program Information**

- Two 2.0-mL whole blood specimens
- Three shipments per year

**Program Information**

- Three 2.0-mL lyophilized plasma specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
**Tumor Markers**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adrenocorticotropic hormone (ACTH)</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>Beta-2-microglobulin</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>CA 15-3</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>CA 19-9</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>CA 27.29</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>CA 72-4</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>CA 125</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>Calcitonin</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
<tr>
<td>Thyroglobulin</td>
<td>TM, TMX</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**

- TM - Three 2.0-mL liquid serum specimens
- TMX - All Survey TM specimens in duplicate
- Two shipments per year

---

**Improve the reliability of your patient results with CAP Survey Validated Materials**

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

---

**Endocrinology, Validated Materials**

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligands (General) VM</td>
<td>KVM</td>
<td>K</td>
<td>74</td>
</tr>
<tr>
<td>Ligands (Special) VM</td>
<td>YVM</td>
<td>Y</td>
<td>75</td>
</tr>
</tbody>
</table>

**Program Information**

- KVM - Five 5.0-mL liquid serum specimens; two 5.0-mL lyophilized serum specimens for PSA assays; three shipments per year
- YVM - Six 5.0-mL liquid serum specimens (two duplicate sets); two shipments per year
“If you’re talking to a physician, and they’re questioning things, CAP Surveys results are one of the tools you have to go to and say, ‘Here’s why we feel we’re putting out good results, and here’s the data to back that up.’ Using the CAP Surveys gives me the confidence to have that discussion.”

Blood Gas, Critical Care, and Oximetry

New Programs

Quality Cross Check—Critical Care Aqueous Blood Gas Series (AQQ, AQ2Q, AQ3Q, AQ4Q) .............83
Quality Cross Check—Blood Oximetry (SOQ) ...........................................................................................84

Program Changes

Second instrument reporting no longer offered
- Critical Care Aqueous Blood Gas (AQ, AQ2, AQ3, AQ4)
- Blood Oximetry (SO)
- See programs AQQ, AQ2Q, AQ3Q, AQ4Q and SOQ .................................................................83, 84
Blood Gas, Critical Care, and Oximetry

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium, ionized</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>2</td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Hemoglobin, estimated</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Lactate</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Magnesium, ionized</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>PCO₂</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>PO₂</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>tCO₂</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

For second instrument reporting options, see the Quality Cross Check programs, AQQ, AQ2Q, AQ3Q, and AQ4Q, on page 83.

**Program Information**

- AQ, AQ2 - Ten 2.5-mL aqueous specimens (two duplicate sets) and ten 2.5-mL specimens for hematocrit testing (two duplicate sets); appropriate for all methods except i-STAT®
- AQ3, AQ4 - Ten 2.5-mL specimens (two duplicate sets) for i-STAT methods only
- Three shipments per year

**Flowchart**

- **Do you use an i-STAT instrument?**
  - **Yes** → Order Survey AQ3 or AQ4
  - **No** → Order Survey AQ or AQ2
Quality Cross Check—Critical Care
Aqueous Blood Gas  AQQ, AQ2Q, AQ3Q, AQ4Q

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium, ionized</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
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<tr>
<td>Chloride</td>
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<tr>
<td>Hematocrit</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
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<tr>
<td>Hemoglobin, estimated</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Magnesium, ionized</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>PCO₂</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
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</tr>
<tr>
<td>pH</td>
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<tr>
<td>PO₂</td>
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<td>Potassium</td>
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<tr>
<td>Sodium</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>tCO₂</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing. See Surveys AQ, AQ2, AQ3, or AQ4 on page 82.

Additional Information
As a trusted partner, you can rely on the CAP to provide the insight, knowledge, and peer-based educational coaching to protect your laboratory from regulatory sanctions.

- The CAP Quality Cross Check program complements CAP PT by offering more opportunities to monitor and proactively identify instrument problems before they impact patient test results.
- This new offering will help you improve quality processes, reduce stress, raise competency of staff, and verify the performance of your instrument results.

Program Information
- AQQ, AQ2Q - Nine 2.5-mL specimens (three duplicate sets) and nine 2.5-mL specimens for hematocrit testing (three duplicate sets); appropriate for all methods except i-STAT®
- AQ3Q, AQ4Q - Nine 1.7-mL specimens (three duplicate sets) for i-STAT methods only
- Report up to three instruments
- Two shipments per year
### Blood Oximetry SO

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboxyhemoglobin</td>
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</tr>
<tr>
<td>Hematocrit, estimated</td>
<td>SO</td>
<td>5</td>
</tr>
<tr>
<td>Hemoglobin, total</td>
<td>SO</td>
<td>5</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td>SO</td>
<td>5</td>
</tr>
<tr>
<td>Oxyhemoglobin</td>
<td>SO</td>
<td>5</td>
</tr>
</tbody>
</table>

#### Additional Information
- This Survey is not compatible with Oxicom-2000, -2100, or -3000 whole blood oximeters.
- For second instrument reporting options, see the Quality Cross Check program, SOQ, on page 84.

### Quality Cross Check—Blood Oximetry SOQ

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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<tbody>
<tr>
<td>Carboxyhemoglobin</td>
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<tr>
<td>Hematocrit, estimated</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Hemoglobin, total</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Oxyhemoglobin</td>
<td>SOQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing. See Survey SO above.

#### Additional Information
As a trusted partner, you can rely on the CAP to provide the insight, knowledge, and peer-based educational coaching to protect your laboratory from regulatory sanctions.
- The CAP Quality Cross Check program complements CAP PT by offering more opportunities to monitor and proactively identify instrument problems before they impact patient test results.
- This new offering will help you improve quality processes, reduce stress, raise competency of staff, and verify the performance of your instrument results.

### Program Information
- Nine liquid specimens (three duplicate sets)
- Report up to three instruments
- Two shipments per year
We use CAP Surveys for continuing education. Why? Because not every staff member works on every proficiency test and it’s a chance to get everybody together to see if we have everything right or wrong—just a chance to stop and take a few minutes to go over what we’re doing."
## Toxicology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Analytes

<table>
<thead>
<tr>
<th>Toxicology</th>
<th>T</th>
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<tbody>
<tr>
<td><strong>Analyte</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>See drug listing on next page</td>
<td>T</td>
</tr>
</tbody>
</table>

### Urine Toxicology

<table>
<thead>
<tr>
<th>Urine Toxicology</th>
<th>UT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyte</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>See drug listing on next page</td>
<td>UT</td>
</tr>
</tbody>
</table>

### Program Information

- **Toxicology**
  - A total of five specimens consisting of 20.0-mL lyophilized serum and 50.0-mL liquid urine specimens
  - For laboratories performing qualitative and quantitative drug analysis with confirmation testing
  - Three shipments per year

- **Urine Toxicology**
  - Five 50.0-mL liquid urine specimens
  - For laboratories performing qualitative drug analysis with confirmation testing
  - Three shipments per year
T, UT Drug Listing

Challenges will include a mix of drugs from the list below.

- 6-acetylmorphine (6-AM)
- 7-aminochlorazepam
- 7-amino-flunitrazepam
- Acetaminophen
- Alpha-hydroxyalprazolam
- Alprazolam
- Amitriptyline
- Amphetamine
- Amphetamine group
- Atenolol
- Atropine
- Barbiturate group
- Benzodiazepine group
- Benzoylchlorogonine
- Brompheniramine
- Buprenorphine
- Bupropion
- Butalbital
- Cannabinoids
- Carbamazepine
- Carbamazepine-10, 11-epoxide
- Carisoprodol
- Chlordiazepoxide
- Chlorpheniramine
- Chlorpromazine
- Citalopram
- Clomipramine
- Clozapine
- Cocaethylene
- Cocaine
- Codeine
- Cotinine
- Cyclobenzaprine
- Delta-9-THC (serum only)
- Delta-9-THC-COOH
- Desalkylflurazepam
- Desipramine
- Desmethylclomipramine
- Dextromethorphan
- Diazepam
- Dihydrocodeine
- Diliazem
- Diphenhydramine
- Doxepin
- Doxylamine
- Duloxetine
- Ecgonine ethyl ester
- Ecgonine methyl ester
- Ephedrine
- Fentanyl
- Flunitrazepam
- Fluoxetine
- Flurazepam
- Hydrocodone
- Hydromorphone
- Hydroxyzine
- Ibuprofen
- Imipramine
- Ketamine
- Lamotrigine
- Lidocaine
- Lorazepam
- Lysergic acid diethylamide (LSD)
- Maprotiline
- Meperidine
- Mephedrone
- Meprobamate
- Methadone
- Methadone metabolite (EDDP)
- Methamphetamine
- Methotrimeprazine
- Methylenedioxy-amphetamine (MDA)
- Methylenedioxy-methamphetamine (MDMA)
- Methylenedioxy-pyrovalerone (MDPV)
- Methylenedioxymethamphetamine (MDMA)
- Metazolam
- Metolazone
- Metoprolol
- Mirtazapine
- Morphine
- N-desmethytramadol
- Naproxen
- Nicotine
- Norbuprenorphine
- Norchloralazine
- Norcodeine
- Norcyclobenzaprine
- Nordiazepam
- Nortriptyline
- Norvacemol
- O-desmethyltramadol
- Olanzapine
- Opiate group
- Oxazepam
- Oxycodone
- Oxydone
- Paroxetine
- Phencyclidine
- Phenethylenamine
- Pheniramine
- Phenobarbital
- Phentermine
- Phenylephrine
- Phenylpropanolamine
- Phenytoin
- Pseudoephedrine
- Quetiapine
- Quinidine
- Quinine
- Ranitidine
- Salicylates
- Sertraline
- Strychnine
- Temazepam
- Tramadol
- Trazodone
- Tricyclic group
- Trimipramine
- Valproic acid
- Venlafaxine
- Verapamil
- Zolpidem

800-323-4040 | 847-832-7000 Option 1 | cap.org
### Toxicology

#### CAP/AACC Urine Drug Testing, Screening UDS, UDS6

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>UDS</th>
<th>UDS6 Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Amphetamine</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Amphetamine/methamphetamine group</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Barbiturate group</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Benzodiazepine group</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Benzylecgonine/cocaine metabolites</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Lysergic acid diethylamide (LSD)</td>
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<td>3</td>
<td></td>
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<tr>
<td>Methadone</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Methadone metabolite (EDDP)</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Methaqualone</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Methyleneoxyxymethamphetamine (MDMA)</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Oxycodone</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Tricyclic group</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

#### Program Information
- **UDS** - Five 10.0-mL liquid urine specimens; three shipments per year
- **UDS6** - Three 10.0-mL liquid urine specimens; two shipments per year
- For laboratories performing immunoassay or other nonconfirmation methods
- Participants will have access to the AACC quarterly newsletter, *Clinical & Forensic Toxicology News*

#### Urine Drug Adulterant/Integrity Testing DAI

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>DAI</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>DAI</td>
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<td></td>
</tr>
<tr>
<td>Glutaraldehyde</td>
<td>DAI</td>
<td>3</td>
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<tr>
<td>Nitrite</td>
<td>DAI</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Oxidants</td>
<td>DAI</td>
<td>3</td>
<td></td>
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<tr>
<td>pH</td>
<td>DAI</td>
<td>3</td>
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<tr>
<td>Specific gravity</td>
<td>DAI</td>
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</table>

#### Program Information
- Three 25.0-mL urine specimens
- Two shipments per year
<table>
<thead>
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<th>Program Code</th>
<th>Challenges/Shipments</th>
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<tbody>
<tr>
<td>6-acetylmorphine (6-AM)</td>
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<td>Alpha-hydroxyalprazolam</td>
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<td>10</td>
</tr>
<tr>
<td>Amphetamine</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Butalbital</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Codeine</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td></td>
<td>10</td>
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<tr>
<td>Hydromorphone</td>
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<tr>
<td>Lorazepam</td>
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<tr>
<td>Methadone</td>
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</tr>
<tr>
<td>Methadone metabolite (EDDP)</td>
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<td>10</td>
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<tr>
<td>Methamphetamine</td>
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<td>Methaqualone</td>
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<td>10</td>
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<tr>
<td>Methyleneoxyamphetamine (MDA)</td>
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<tr>
<td>Methyleneoxyethylamphetamine (MDEA)</td>
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<tr>
<td>Methyleneoxymethamphetamine (MDMA)</td>
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<tr>
<td>Morphine</td>
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<td>10</td>
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<tr>
<td>Nortropoxyphene (NEW)</td>
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<td>10</td>
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<tr>
<td>Nordiazepam</td>
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<tr>
<td>Norpropoxyphene</td>
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<tr>
<td>Oxazepam</td>
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<tr>
<td>Oxycodone</td>
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<td>10</td>
</tr>
<tr>
<td>Oxymorphone</td>
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<td>Phencyclidine</td>
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<td>Secobarbital</td>
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<td>Temazepam</td>
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</tr>
<tr>
<td>Adulterant/Integrity Indicator</td>
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<td>10</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>10</td>
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<tr>
<td>pH</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Specific gravity</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Program Information**
- Ten 50.0-mL liquid urine specimens
- For laboratories performing drug screening, confirmation, quantitation, and adulteration testing
- Participants will have access to the AACC quarterly newsletter, *Clinical & Forensic Toxicology News*
- Four shipments per year
### Oral Fluid for Drugs of Abuse (OFD)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamine Group</td>
<td></td>
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<tr>
<td>Amphetamine</td>
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<tr>
<td>Methamphetamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyleneoxyamphetamine (MDA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyleneoxymethamphetamine (MDMA)</td>
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<td></td>
</tr>
<tr>
<td>Cocaine and/or metabolite</td>
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<td></td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabinoids</td>
<td></td>
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<tr>
<td>Delta-9-THC</td>
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<td>Delta-9-THC-COOH (NEW)</td>
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<td>Methadone</td>
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<tr>
<td>Opiate Group</td>
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<td>6-acetylmorphine (6-AM)</td>
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<td>Codeine</td>
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<td>Hydrocodone</td>
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<td>Oxymorphone</td>
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<td>Phencyclidine (PCP)</td>
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### Vitreous Fluid, Postmortem (VF)

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<td>Sodium</td>
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<tr>
<td>Vitreous urea nitrogen</td>
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### Program Information
- Five 2.0-mL oral fluid specimens
- For laboratories performing drug screening, confirmation, and quantitation
- Four shipments per year

- Three 5.0-mL synthetic vitreous fluid specimens
- Two shipments per year
### Serum Drug Screening SDS

<table>
<thead>
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<td>Acetaminophen (quantitative)</td>
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<tr>
<td>Acetone (semiquantitative and qualitative)</td>
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<tr>
<td>Barbiturate group (qualitative)</td>
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<tr>
<td>Benzodiazepine group (qualitative)</td>
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<td>Salicylate (quantitative)</td>
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<tr>
<td>Total tricyclic antidepressants (qualitative)</td>
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### CAP/AACC Alcohol/Ethylene Glycol/Volatiles AL1*, AL2

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<td>Isopropanol</td>
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*The American Society of Crime Laboratory Directors/Laboratory Accreditation Board Proficiency Review Committee (ASCLD/LAB PRC) has approved Survey AL1.*

### Ethanol Biomarkers ETB

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<tr>
<td>Ethyl sulfate (EtS)</td>
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</table>

**Program Information**

- Three 2.0-mL serum specimens
- For laboratories performing immunoassay or other nonconfirmatory methods
- Two shipments per year

**Program Information**

- AL1 - Five 5.0-mL liquid whole blood specimens; conventional reporting
- AL2 - Five 2.0-mL liquid serum specimens; conventional and International System of Units (SI) reporting offered
- For quantitative methods only
- Three shipments per year

**AACC**

**Program Information**

- Three 10.0-mL synthetic urine specimens
- Two shipments per year
Toxicology

CAP/AACC Blood Lead | BL
---|---
**Analyte** | **Program Code** | **Challenges/Shipment**
---|---|---
Lead | BL | 5

This Survey meets the Occupational Safety and Health Administration (OSHA) requirements for proficiency testing [OSHA lead standards-29 CFR 1910.1025(j)(2)(iii)].

Cadmium | CD
---|---
**Analyte** | **Program Code** | **Challenges/Shipment**
---|---|---
Beta-2-microglobulin, urine | CD | 3
Cadmium, urine | CD | 3
Cadmium, whole blood | CD | 3
Creatinine, urine | CD | 3

This Survey meets the Occupational Safety and Health Administration (OSHA) guidelines for proficiency testing (OSHA standard-29 CFR 1910.1027AppF).

Trace Metals, Urine | TMU
---|---
**Analyte** | **Program Code** | **Challenges/Shipment**
---|---|---
Aluminum | TMU | 3
Arsenic | TMU | 3
Chromium | TMU | 3
Cobalt | TMU | 3
Copper | TMU | 3
Lead | TMU | 3
Manganese | TMU | 3
Mercury | TMU | 3
Selenium | TMU | 3
Thallium | TMU | 3
Zinc | TMU | 3

Program Information
- Five 6.0-mL liquid nonhuman whole blood specimens
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year

Program Information
- Three 6.0-mL whole blood specimens and three 11.0-mL urine specimens
- Conventional and International System of Units (SI) reporting offered
- Six shipments per year

Program Information
- Three 10.0-mL urine specimens
- Two shipments per year
Toxicology

Forensic Toxicology, Criminalistics FTC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>See drug listing below</td>
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</tbody>
</table>

The American Society of Crime Laboratory Directors/Laboratory Accreditation Board Proficiency Review Committee (ASCLD/LAB PRC) has approved Survey FTC.

FTC Drug Listing
Challenges will include a mix of drugs from the list below.

- 6-acetylmorphine (6-AM)
- 7-aminoclonazepam
- 7-aminoflunitrazepam
- Acetaminophen
- Alpha-hydroxyalprazolam
- Alprazolam
- Amitriptyline
- Amphetamine
- Benzylecgonine
- Butalbital
- Carisoprodol
- Chlorpheniramine
- Clonazepam
- Cocaethylene
- Cocaine
- Codeine
- Cyclclozapine
- Delta-9-THC
- Delta-9-THC-COOH
- Desipramine
- Desmethylcyclobenzaprine
- Diazepam
- Diphenhydramine
- Doxepin
- Ecgonine ethyl ester
- Ecgonine methyl ester
- Ephedrine
- Fentanyl*
- Flurazepam*
- Flurazepam (GHB)
- Gamma-hydroxybutyrate
- Hydrocodone
- Hydromorphone
- Imipramine
- Ketamine
- Lorazepam
- Lysergic acid diethylamide (LSD)
- Meperidine*
- Meprobamate
- Methadone
- Methadone metabolite (EDDP)
- Methamphetamine
- Methylenedioxyamphetamine (MDA)
- Methylenedioxyamphetamine (MDMA)
- Morphine*
- N-desethyltramadol
- Nortriptyline
- Norpropoxyphene
- Norsertraline
- Oxazepam
- Oxycodone
- Oxymorphone
- Paroxetine
- Phencyclidine
- Phenethyamine
- Phenobarbital
- Phentermine
- Phenytoin
- Propoxyphene
- Pseudoephedrine
- Secobarbital
- Sertraline
- Temazepam
- Tramadol*
- Trazodone
- Zolpidem

*and/or metabolite(s)
Synthetic Cannabinoid/Designer Drugs  SCDD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
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<tbody>
<tr>
<td>Synthetic Cannabinoid/Designer Drugs</td>
<td>SCDD</td>
<td>3</td>
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</tbody>
</table>

Additional Information
Synthetic cannabinoids and designer drug stimulants are widespread and constantly changing in respect to the available chemical moieties. In order to stay contemporary, the CAP has decided to modify the compounds in this program in accordance with the appearance and prevalence of new compounds.

SCDD Drug Listing
Challenges will include a mix of drugs from the list below.
For the most current list of drugs, please go to cap.org and select Laboratory Improvement.

- **NEW** 4-methylethcathinone (4-MEC)
- **NEW** 5F-PB-22 3-carboxyindole metabolite
- **NEW** AB CHMINACA pentanoic acid metabolite
- **NEW** AB FUBINACA oxobutanoic acid metabolite
- **NEW** AB-PINACA N-pentanoic acid metabolite
- **NEW** ADBICA N-pentanoic acid metabolite
- **NEW** ADB-PINACA N-pentanoic acid metabolite
- **NEW** AKB-48 N-pentanoic acid metabolite
  - Alpha-PVP (α-Pyrrolidinopentiophenone)
  - AM-2201 N-(4-hydroxypentyl) metabolite
- **NEW** BB-22 3-carboxyindole metabolite
- **NEW** Butylone
- **NEW** Ethylene
- **NEW** JWH-018 N-Pentanoic Acid
- **NEW** MAM 2201 pentanoic acid metabolite
  - Mephedrone
  - Methylenedioxypyrovalerone (MDPV)
  - Methylone
- **NEW** PB-22 3-carboxyindole metabolite
- **NEW** UR-144 N-pentanoic acid metabolite
- **NEW** XLR-11 4-hydroxypentyl metabolite

Program Information
- Three 10.0-mL urine specimens
- For laboratories that perform screening and confirmatory testing for the compounds found in this program
- Two shipments per year
Drug Monitoring for Pain Management  DMPM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>See drug listing below</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 40.0-mL urine specimens
- For laboratories offering screening and/or confirmatory testing for pain management
- Includes clinical cases and questions along with detailed descriptions of how to interpret test results
- Two shipments per year

DMPM Drug Listing
Challenges will include a mix of drugs from the list below.

- Amphetamine Group
  - 6-acetylmorphine (6-AM)
  - 7-amino-2-cyclohexene-1-carboxaldehyde
  - Alpha-hydroxymeprobamate
  - Alprazolam
  - Amphetamine
  - Barbiturate Group
  - Benzodiazepine Group
  - Benzoylalanine
  - Buprenorphine
  - Buprenorphine and/or metabolites
  - Butalbital
  - Cannabinoids
  - Carisoprodol
  - Carisoprodol and/or metabolites
  - Clonazepam
  - Cocaine
  - Cocaine and/or metabolites
- Codeine
- Delta-9-THC-COOH
- Diazepam
- Fentanyl
- Fentanyl and/or metabolites
- Hydrocodone
- Hydromorphone
- Lorazepam
- Lorazepam glucuronide
- Meperidine
- Meperidine and/or metabolites
- Mepropramate
- Methadone
- Methadone metabolite (EDDP)
- Methamphetamine
- Methylenedioxymethamphetamine (MDA)
- Morphine
- N-desmethyltramadol
- Norbuprenorphine
- Nortriptyline
- Norfentanyl
- Norpropoxyphene
- Oxazepam
- Oxycodone
- Oxymorphone
- Propoxyphene
- Propoxyphene and/or metabolites
- Temazepam
- Tranquilizers
- Tramadol
- Tramadol and/or metabolites
Drug-Facilitated Crime  DFC

<table>
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<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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See drug listing below

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<th>Challenges/Shipments</th>
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<td>11-carboxy-THC</td>
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<tr>
<td>4-hydroxytriazolam</td>
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<td>7-aminoaclonazolam</td>
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<td>7-aminoflunitazolam</td>
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<td>alpha-hydroxyalprazolam</td>
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<td>Amitriptyline</td>
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<tr>
<td>Amobarbital</td>
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<tr>
<td>Amphetamine</td>
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<tr>
<td>Benzoylecgonine</td>
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<td>Brompheniramine</td>
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<tr>
<td>Citalopram/escitalopram</td>
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<tr>
<td>Clonidine</td>
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<td>Fluoxetine</td>
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<td>Gamma hydroxybutyrate (GHB)</td>
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<td>Methadone Metabolite (EDDP)</td>
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<td>Methamphetamine</td>
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<td>Methylenedioxyamphetamine (MDA)</td>
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<td>Zolpidem</td>
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<tr>
<td>Zopiclone/Eszopiclone</td>
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</tbody>
</table>

DFC Drug Listing
Challenges will include a mix of drugs from the list below.

- 11-carboxy-THC
- 4-hydroxytriazolam
- 7-aminoaclonazolam
- 7-aminoflunitazolam
- alpha-hydroxyalprazolam
- Amitriptyline
- Amobarbital
- Amphetamine
- Benzoylecgonine
- Brompheniramine
- Butalbital
- Carisoprodol
- Chlorpheniramine
- Citalopram/escitalopram
- Clonidine
- Codeine
- Cyclobenzaprine
- Desipramine
- Dextromethorphan
- Diphenhydramine
- Doxepin
- Doxylamine
- Fentanyl
- Fluoxetine
- Gamma hydroxybutyrate (GHB)
- Hydrocodone
- Hydromorphone
- Imipramine
- Ketamine
- Lorazepam
- Meperidine
- Meprobamate
- Methadone
- Methadone Metabolite (EDDP)
- Methamphetamine
- Methylenedioxyamphetamine (MDA)
- Methylenedioxymethamphetamine (MDMA)
- Morphine
- Nordoxepin
- Norfluoxetine
- Nortryptiline
- Oxazepam
- Oxycodone
- Oxymorphone
- Paroxetine
- Pentobarbital
- Phencyclidine (PCP)
- Phenobarbital
- Phenytoin
- Propoxyphene
- Scopolamine
- Secobarbital
- Sertraline
- Temazepam
- Tetrahydrozoline
- Tramadol
- Valproic Acid
- Zaleplon
- Ziprasidone
- Zolpidem
- Zopiclone/Eszopiclone

Program Information
- Three 25.0-mL urine specimens
- For laboratories performing qualitative urine drug analysis with confirmation testing
- Designed for laboratories performing testing for drugs associated with drug-facilitated crimes, which target drugs at much lower concentrations than in other toxicology Surveys
- Two shipments per year
Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

**Toxicology, Validated Materials**

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
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<tbody>
<tr>
<td>Serum Alcohol/Ethylene Glycol/Volatiles VM</td>
<td>AL2M</td>
<td>AL2</td>
<td>91</td>
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<tr>
<td>Blood Lead VM</td>
<td>BLM</td>
<td>BL</td>
<td>92</td>
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<tr>
<td>Urine Drug Testing (Screening) VM</td>
<td>UDSM</td>
<td>UDS</td>
<td>88</td>
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</tbody>
</table>

**Program Information**

- **AL2M** - Five 2.0-mL liquid serum specimens
- **BLM** - Five 6.0-mL liquid nonhuman whole blood specimens
- **UDSM** - Five 10.0-mL liquid urine specimens
- Three shipments per year

---

Find a practical guide to toxicology laboratory operations with this resource

*Clinical Toxicology Testing: A Guide for Laboratory Professionals*

Complex issues face the laboratory director or pathologist who offers toxicology services. This thorough reference book will guide both experienced physicians and those in training through the pharmacological principles, testing menus, and methodologies for toxicology testing.

**To order**

Visit cap.org and choose the Shop tab; or call the CAP Customer Contact Center at 800-323-4040 or 847-832-7000 option 1.

Item number: PUB220
ISBN: 978-0-9837068-1-6
Softcover; 304 pages; 2012
“What we do is so exact that we want to know it’s correct. CAP proficiency testing validates our laboratory process so we feel confident that we are sending out the correct results.”
# Accuracy-Based Programs

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

## Accuracy-Based Lipids ABL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apolipoprotein A1</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Apolipoprotein B</td>
<td>ABL</td>
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<tr>
<td>Cholesterol*</td>
<td>ABL</td>
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</tr>
<tr>
<td>HDL cholesterol*</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Lipoprotein (a)</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides*</td>
<td>ABL</td>
<td>3</td>
</tr>
</tbody>
</table>

*This analyte will be evaluated against the Centers for Disease Control and Prevention (CDC) reference method.

### Program Information
- Three 1.0-mL human serum specimens
- Two shipments per year

## Accuracy-Based Vitamin D ABVD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D (D2 and D3)</td>
<td>ABVD</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Three 1.0-mL human liquid serum specimens
- Serum is from multidonor endogenous pools
- Two shipments per year

### Additional Information
- The Centers for Disease Control and Prevention (CDC) will establish reference targets using isotope-dilution LC-MS/MS method.
### Testosterone and Estradiol Accuracy Survey  ABS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>ABS</td>
<td>4</td>
</tr>
<tr>
<td>Cortisol</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Estradiol</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Testosterone</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

**Additional Information**

- The Centers for Disease Control and Prevention (CDC) will set target values for testosterone and estradiol using the established reference methods.
- Calcium, cortisol, and TSH data will be provided by peer groups to determine the degree of harmonization in the field.

### Accuracy-Based Urine  ABU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>ABU</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin (quantitative)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin:creatinine ratio</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Analytes may be evaluated against the reference method or by using harmonization.

### Creatinine Accuracy Calibration Verification/Linearity  LN24

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN24 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>LN24</td>
<td>0.6–4.0 mg/dL</td>
</tr>
<tr>
<td>Estimated glomerular filtration rate (eGFR)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LN Express service is available.

**Additional Information**

The College of American Pathologists (CAP) and the National Kidney Disease Education Program (NKDEP) have an initiative to harmonize clinically reported creatinine values. This initiative is analogous to what the federal health agencies and the clinical laboratory community did to improve the accuracy of cholesterol and glycohemoglobin testing.
### Harmonized Thyroid ABTH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3, free (triiodothyronine, free)</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>T3, total (triiodothyronine, total)</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>T4, free (thyroxine, free)</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>T4, total (thyroxine, total)</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>ABTH</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Analytes will be evaluated using harmonization.
- Specimens are collected by a modified application of Clinical Laboratory and Standards Institute Guideline CLSI C37-A, Preparation and Validation of Commutable Frozen Human Serum Pools as Secondary Reference Materials for Cholesterol Measurement Procedures; Approved Guideline.

### Hemoglobin A$_{1c}$ Accuracy Calibration Verification/Linearity LN15

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN15 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A$_{1c}$</td>
<td>LN15</td>
<td>5%-12%</td>
</tr>
</tbody>
</table>

CAP-assigned target values derived from Hemoglobin A$_{1c}$ measurements assayed by National Glycohemoglobin Standardization Program (NGSP) secondary reference laboratories. LN Express service is available.

### Hemoglobin A$_{1c}$ GH2, GH5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>GH2</td>
</tr>
<tr>
<td>Hemoglobin A$_{1c}$</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Beginning with the 2015 proficiency testing (PT) program year, the College of American Pathologists Accreditation Program will require all accredited laboratories performing non-waived testing for Hemoglobin A$_{1c}$ to enroll in Survey GH5.
- These Surveys will be evaluated against the National Glycohemoglobin Standardization Program (NGSP) reference method.
Validated Materials

Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

### Chemistry, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry/TDM VM</td>
<td>CZVM</td>
<td>CZ</td>
<td>50</td>
</tr>
<tr>
<td>Cerebrospinal Fluid VM</td>
<td>MVM</td>
<td>M</td>
<td>66</td>
</tr>
<tr>
<td>Urine Chemistry (Special) VM</td>
<td>NVM</td>
<td>N, NX</td>
<td>62</td>
</tr>
<tr>
<td>Urine Chemistry (General) VM</td>
<td>UVM</td>
<td>U</td>
<td>61</td>
</tr>
</tbody>
</table>

### Coagulation, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coagulation (Limited) VM</td>
<td>CGM</td>
<td>CGL</td>
<td>144</td>
</tr>
</tbody>
</table>

### Calibration Verification/Linearity, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry, Lipid, Enzyme Calibration Verification/Linearity VM</td>
<td>LN2VM</td>
<td>LN2</td>
<td>106</td>
</tr>
<tr>
<td>Chemistry, Lipid, Enzyme Calibration Verification/Linearity; All Beckman (except AU) and Vitros VM</td>
<td>LN2VM1</td>
<td>LN2BV</td>
<td>106</td>
</tr>
<tr>
<td>TDM Calibration Verification/Linearity VM</td>
<td>LDM</td>
<td>LN3</td>
<td>107</td>
</tr>
<tr>
<td>Ligand Assay Calibration Verification/Linearity VM</td>
<td>LLM</td>
<td>LN5</td>
<td>108</td>
</tr>
<tr>
<td>Urine Chemistry Calibration Verification/Linearity VM</td>
<td>LUM</td>
<td>LN6</td>
<td>108</td>
</tr>
</tbody>
</table>
### Cytogenetics, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenetics VM</td>
<td>CYM</td>
<td>CY</td>
<td>212</td>
</tr>
</tbody>
</table>

### Endocrinology, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligands (General) VM</td>
<td>KVM</td>
<td>K</td>
<td>74</td>
</tr>
<tr>
<td>Ligands (Special) VM</td>
<td>YVM</td>
<td>Y</td>
<td>75</td>
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</tbody>
</table>

### Toxicology, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Alcohol/Ethylene Glycol/Volatiles VM</td>
<td>AL2M</td>
<td>AL2</td>
<td>91</td>
</tr>
<tr>
<td>Blood Lead VM</td>
<td>BLM</td>
<td>BL</td>
<td>92</td>
</tr>
<tr>
<td>Urine Drug Testing (Screening) VM</td>
<td>UDSM</td>
<td>UDS</td>
<td>88</td>
</tr>
</tbody>
</table>
“The CAP has proficiency testing available for just about every test we do and I really like using their linearity and calibration verification programs. Everything blends well together.”

Instrumentation Validation Tools

Calibration Verification/Linearity .......................................................... 104
Instrumentation Quality Management Programs .................................. 118

Program Changes

International System of Units (SI) reporting now available. See specific program for availability
Calibration Verification/Linearity

The CAP CVL program

Our program will help you meet CLIA regulations and CAP Laboratory Accreditation Program requirements for calibration verification and analytical measurement range (AMR) validation under 42 CFR493.1255(b)(3) for most analytes. In addition, you will receive a linearity assessment to help identify instrument/method performance issues before they can affect your patient results.

With your enrollment in the CAP CVL program you will receive:

- **Testing Kit**
  - Kit instructions—Contain important information to help you complete testing and accurately report your results
  - Result form
  - Specimens—The majority of CAP CVL programs offer human-based materials to closely mimic your patient results

- **Customized Report Package**
  - Executive Summary—A quick overview of both your calibration verification and linearity results for all reported analytes
  - Calibration Verification evaluation
  - Linearity evaluation
    - Receive your linearity evaluations through LN Express™, our expedited delivery service, within two business days for select CVL programs by logging in to e-LAB Solutions™
  - Linearity Troubleshooting Report
  - Participant Summary—A summary of laboratory performance that includes peer group statistics and enhanced diagnostic information for early insight into potential problems

- **Additional Tools**
  - Calibration Verification/Linearity Program User’s Guide—Get assistance in interpreting your evaluations and reports as well as helpful troubleshooting information with suggested actions. Also available online by logging in to e-LAB Solutions
  - Calibration Verification Troubleshooting Guide—The guide provides suggested actions if you receive a calibration verification result of Different, or if your evaluation result is Verified over a range that does not include all of your reported results
  - Calibration Verification/Linearity Surveys Investigation Checklist for Problematic Results—Interpretative checklists are included to help with troubleshooting and documentation
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LN2 - Chemistry, Lipid, Enzyme CVL</td>
<td>106</td>
<td>C1, C3/C3X, C3/C3X, C3/C3X/C3X</td>
<td>50</td>
<td>LN2VM</td>
<td>121</td>
</tr>
<tr>
<td>LN2BV - Chemistry, Lipid, Enzyme all Beckman (except AU), Vitros CVL</td>
<td>106</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN3 - TDM CVL</td>
<td>107</td>
<td>CZ/CZX/CZX/CZ2X/Z</td>
<td>50</td>
<td>LDM</td>
<td>121</td>
</tr>
<tr>
<td>LN5 - Ligand Assay CVL</td>
<td>108</td>
<td>K/KK</td>
<td>74</td>
<td>LLM</td>
<td>121</td>
</tr>
<tr>
<td>LN5S - Ligand Assay all Siemens ADVIA (Centaur, CP, and XP) CVL</td>
<td>108</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN6 - Urine Chemistry CVL</td>
<td>108</td>
<td>U</td>
<td>61</td>
<td>LUM</td>
<td>121</td>
</tr>
<tr>
<td>LN7 - Immunology CVL</td>
<td>109</td>
<td>IG/IGX</td>
<td>180</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN8 - Reproductive Endocrinology CVL</td>
<td>109</td>
<td>Y/YY</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN9 - Hematology CVL</td>
<td>110</td>
<td>FH series, HE series</td>
<td>125,124</td>
<td></td>
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</tr>
<tr>
<td>LN11 - Serum Ethanol CVL</td>
<td>110</td>
<td>AL2</td>
<td>91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN12 - C-Reactive Protein CVL</td>
<td>110</td>
<td>CRP</td>
<td>180</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN13, LN13C - Blood Gas/Critical Care CVL</td>
<td>111</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN14 - Whole Blood Ethanol CVL</td>
<td>111</td>
<td>AL1</td>
<td>91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN15 - Hemoglobin A1c Accuracy CVL</td>
<td>111</td>
<td>GH2</td>
<td>57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN16 - Homocysteine CVL</td>
<td>112</td>
<td>HMS</td>
<td>58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN17 - Whole Blood Glucose CVL</td>
<td>112</td>
<td>WBG, WB2</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN18 - LN19 Reticulocyte CVL</td>
<td>112</td>
<td>RT, RT2, RT3, RT4</td>
<td>129</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN20 - Urine Albumin CVL</td>
<td>112</td>
<td>U</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN21 - High-Sensitivity C-Reactive Protein CVL</td>
<td>113</td>
<td>HSCRP</td>
<td>57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN22 - Flow Cytometry CVL</td>
<td>113</td>
<td>FL</td>
<td>188</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN23 - Prostate-Specific Antigen CVL</td>
<td>113</td>
<td>K/KK</td>
<td>74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN24 - Creatinine Accuracy CVL</td>
<td>114</td>
<td>C1, C3/C3X, C3/C3X, C3/C3X/C3X</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN25, LN27 - Troponin I and T CVL</td>
<td>114</td>
<td>CRT, CRTI, TNT</td>
<td>56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN30 - B-Type Natriuretic Peptides CVL</td>
<td>114</td>
<td>BNP</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN31 - Immunosuppressive Drugs CVL</td>
<td>115</td>
<td>CS</td>
<td>53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN32 - Ammonia CVL</td>
<td>115</td>
<td>C1, C3/C3X, C3/C3X, C3/C3X/C3X</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN33 - Serum Myoglobin CVL</td>
<td>115</td>
<td>CRT, CRTI</td>
<td>56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN34 - Tumor Markers CVL</td>
<td>115</td>
<td>TM/TMX</td>
<td>80</td>
<td></td>
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</tr>
<tr>
<td>LN35 - Thrombophilia CVL</td>
<td>116</td>
<td>CGS2</td>
<td>145</td>
<td></td>
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</tr>
<tr>
<td>LN36 - Heparin CVL</td>
<td>116</td>
<td>CGS4</td>
<td>145</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN37 - von Willebrand Factor Antigen CVL</td>
<td>116</td>
<td>CGS3</td>
<td>145</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN38 - CMV Viral Load CVL</td>
<td>116</td>
<td>VLS, VLS2</td>
<td>173</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN39 - HIV Viral Load CVL</td>
<td>116</td>
<td>HIV, HV2</td>
<td>173</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN40 - Vitamin D CVL</td>
<td>116</td>
<td>BGS</td>
<td>76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN41 - Procalcitonin CVL</td>
<td>117</td>
<td>PCT</td>
<td>69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN42 - D-Dimer CVL</td>
<td>117</td>
<td>CGL, CGDF</td>
<td>144</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All CVL Surveys provide individual evaluation reports by analytes, an Executive Summary, and graphical plots for linearity and calibration verification.
## Chemistry, Lipid, Enzyme Calibration Verification/Linearity LN2, LN2BV

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN2</th>
<th>LN2BV</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reactant</td>
<td>All</td>
<td>All Beckman (except AU)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Requirements</td>
<td>Instruments</td>
<td></td>
<td>Units</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(All</td>
<td>Beckman</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Instruments</td>
<td>(except AU)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vitros</td>
<td></td>
</tr>
<tr>
<td>Albumin</td>
<td>LN2, LN2BV</td>
<td>1.5–9.0</td>
<td>4.0–18.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>Calcium</td>
<td>LN2, LN2BV</td>
<td>60–180</td>
<td>7–40</td>
<td>mg/dL</td>
</tr>
<tr>
<td>Chloride</td>
<td>LN2, LN2BV</td>
<td>0.3–10.0</td>
<td>0.3–32.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>CO₂</td>
<td>LN2, LN2BV</td>
<td>20–780</td>
<td>20–780</td>
<td>mmol/L</td>
</tr>
<tr>
<td>Creatinine</td>
<td>LN2, LN2BV</td>
<td>10–950</td>
<td>10–950</td>
<td>µg/dL</td>
</tr>
<tr>
<td>Glucose</td>
<td>LN2, LN2BV</td>
<td>1.5–10.0</td>
<td>1.5–10.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>Iron</td>
<td>LN2, LN2BV</td>
<td>90–215</td>
<td>90–215</td>
<td>mmol/L</td>
</tr>
<tr>
<td>Magnesium</td>
<td>LN2, LN2BV</td>
<td>3–190</td>
<td>3–190</td>
<td>mg/dL</td>
</tr>
<tr>
<td>Osmolality</td>
<td>LN2, LN2BV</td>
<td>1–25</td>
<td>1–25</td>
<td>mg/dL</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>LN2, LN2BV</td>
<td>25–1,800</td>
<td>25–1,000</td>
<td>U/L</td>
</tr>
<tr>
<td>Potassium</td>
<td>LN2, LN2BV</td>
<td>10–900</td>
<td>10–900</td>
<td>U/L</td>
</tr>
<tr>
<td>Protein</td>
<td>LN2, LN2BV</td>
<td>30–1,800</td>
<td>30–900</td>
<td>U/L</td>
</tr>
<tr>
<td>Sodium</td>
<td>LN2, LN2BV</td>
<td>10–900</td>
<td>10–900</td>
<td>U/L</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td>LN2, LN2BV</td>
<td>25–2,000</td>
<td>25–1,200</td>
<td>U/L</td>
</tr>
<tr>
<td>Uric acid</td>
<td>LN2, LN2BV</td>
<td>25–2,000</td>
<td>25–1,200</td>
<td>U/L</td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td>LN2, LN2BV</td>
<td>50–1,800</td>
<td>50–700</td>
<td>U/L</td>
</tr>
<tr>
<td>ALT (SGPT)</td>
<td>LN2, LN2BV</td>
<td>10–1,400</td>
<td>10–900</td>
<td>U/L</td>
</tr>
<tr>
<td>Amylase</td>
<td>LN2, LN2BV</td>
<td>20–1,400</td>
<td>20–190</td>
<td>U/L</td>
</tr>
<tr>
<td>AST (SGOT)</td>
<td>LN2, LN2BV</td>
<td>50–1,800</td>
<td>50–700</td>
<td>U/L</td>
</tr>
<tr>
<td>Creatine kinase</td>
<td>LN2, LN2BV</td>
<td>20–1,400</td>
<td>20–190</td>
<td>U/L</td>
</tr>
<tr>
<td>CK-2 (MB) Mass</td>
<td>LN2, LN2BV</td>
<td>1–250</td>
<td>1–300</td>
<td>ng/mL</td>
</tr>
<tr>
<td>Gamma glutamyl</td>
<td>LN2, LN2BV</td>
<td>10–1,400</td>
<td>10–900</td>
<td>U/L</td>
</tr>
<tr>
<td>Lipase</td>
<td>LN2, LN2BV</td>
<td>50–1,800</td>
<td>50–700</td>
<td>U/L</td>
</tr>
<tr>
<td>Bilirubin, direct</td>
<td>LN2, LN2BV</td>
<td>20–1,400</td>
<td>20–190</td>
<td>U/L</td>
</tr>
<tr>
<td>Bilirubin, total</td>
<td>LN2, LN2BV</td>
<td>50–1,800</td>
<td>50–700</td>
<td>U/L</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>LN2, LN2BV</td>
<td>20–1,400</td>
<td>20–190</td>
<td>U/L</td>
</tr>
<tr>
<td>HDL</td>
<td>LN2, LN2BV</td>
<td>50–1,800</td>
<td>50–700</td>
<td>U/L</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>LN2, LN2BV</td>
<td>20–1,400</td>
<td>20–190</td>
<td>U/L</td>
</tr>
</tbody>
</table>

**Program Information**
- Seven 5.0-mL liquid serum specimens for basic chemistry, six 3.0-mL liquid serum specimens for direct and total bilirubin, seven 2.0-mL liquid serum specimens for lipids, and seven 5.0-mL liquid serum specimens for enzymes
- LN2 – Appropriate for most major instruments
- LN2BV – Appropriate for Beckman (except AU) and Vitros instruments only
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

LN Express service is available.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
## Therapeutic Drug Monitoring
### Calibration Verification/Linearity LN3

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN3 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>LN3</td>
<td>20–450 µg/mL</td>
</tr>
<tr>
<td>Amikacin</td>
<td>LN3</td>
<td>2–45 µg/mL</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>LN3</td>
<td>2–18 µg/mL</td>
</tr>
<tr>
<td>Digoxin</td>
<td>LN3</td>
<td>0.5–4.4 µg/mL</td>
</tr>
<tr>
<td>Gentamicin</td>
<td>LN3</td>
<td>1–11 µg/mL</td>
</tr>
<tr>
<td>Lidocaine</td>
<td>LN3</td>
<td>1–10 µg/mL</td>
</tr>
<tr>
<td>Lithium</td>
<td>LN3</td>
<td>0.3–4.0 mmol/L</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td>LN3</td>
<td>2–25 µg/mL</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>LN3</td>
<td>8–70 µg/mL</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>LN3</td>
<td>5–35 µg/mL</td>
</tr>
<tr>
<td>Primidone</td>
<td>LN3</td>
<td>1–22 µg/mL</td>
</tr>
<tr>
<td>Procainamide</td>
<td>LN3</td>
<td>2–18 µg/mL</td>
</tr>
<tr>
<td>Quinidine</td>
<td>LN3</td>
<td>0.4–7.0 µg/mL</td>
</tr>
<tr>
<td>Salicylates</td>
<td>LN3</td>
<td>7–90 mg/mL</td>
</tr>
<tr>
<td>Theophylline</td>
<td>LN3</td>
<td>5–35 µg/mL</td>
</tr>
<tr>
<td>Tobramycin</td>
<td>LN3</td>
<td>1–12 µg/mL</td>
</tr>
<tr>
<td>Valproic acid</td>
<td>LN3</td>
<td>15–140 µg/mL</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>LN3</td>
<td>7–90 µg/mL</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

---

### Program Information
- Six 4.0-mL liquid serum specimens
- A seventh 4.0-mL liquid serum specimen for acetaminophen and vancomycin
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

---

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Ligand Calibration Verification/Linearity LN5, LN5S

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LN5, LN5S</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFP</td>
<td></td>
<td>0.5–900.0 ng/mL</td>
</tr>
<tr>
<td>CEA</td>
<td></td>
<td>0.5–750.0 ng/mL</td>
</tr>
<tr>
<td>Cortisol</td>
<td></td>
<td>1–65 µg/dL</td>
</tr>
<tr>
<td>Ferritin</td>
<td></td>
<td>2–1,000 ng/mL</td>
</tr>
<tr>
<td>Folate</td>
<td></td>
<td>1.3–20 ng/mL</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG)</td>
<td></td>
<td>5–14,000 mIU/mL</td>
</tr>
<tr>
<td>T3, total (triiodothyronine)</td>
<td></td>
<td>0.5–7.0 ng/mL</td>
</tr>
<tr>
<td>T4, total (thyroxine)</td>
<td></td>
<td>1–24 ng/mL</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td></td>
<td>0.01–100 µU/mL</td>
</tr>
<tr>
<td>Vitamin B₁₂</td>
<td></td>
<td>100–2,200 pg/mL</td>
</tr>
</tbody>
</table>

*The LN5S CVL will allow Siemens ADVIA Centaur users to report other major instruments if needed. LN Express service is available.

### Urine Chemistry Calibration Verification/Linearity LN6

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LN6</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amylase</td>
<td></td>
<td>40–1,500 U/L</td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
<td>5–30 mg/dL</td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
<td>20–330 mmol/L</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>20–460 mg/dL</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>25–640 mg/dL</td>
</tr>
<tr>
<td>Osmolality</td>
<td></td>
<td>30–1,800 mOsm/kg H₂O</td>
</tr>
<tr>
<td>Phosphorus</td>
<td></td>
<td>15–200 mg/dL</td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
<td>7–225 mmol/L</td>
</tr>
<tr>
<td>Protein, total</td>
<td></td>
<td>10–235 mg/dL</td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
<td>20–340 mmol/L</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td></td>
<td>20–2,000 mg/dL</td>
</tr>
<tr>
<td>Uric acid</td>
<td></td>
<td>6–150 mg/dL</td>
</tr>
</tbody>
</table>

LN Express service is available.

Program Information
- **LN5** - Eight 4.0-mL liquid serum specimens; appropriate for most major instruments except Siemens ADVIA Centaur
- **LN5S** - Thirteen 4.0-mL liquid serum specimens; appropriate for Siemens ADVIA Centaur, XP, and CP users
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Immunology Calibration Verification/Linearity

**LN7**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN7 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-1-antitrypsin</td>
<td>LN7</td>
<td>25–616 mg/dL</td>
</tr>
<tr>
<td>Complement C3</td>
<td>LN7</td>
<td>21–420 mg/dL</td>
</tr>
<tr>
<td>Complement C4</td>
<td>LN7</td>
<td>5–100 mg/dL</td>
</tr>
<tr>
<td>IgA</td>
<td>LN7</td>
<td>32–650 mg/dL</td>
</tr>
<tr>
<td>IgG</td>
<td>LN7</td>
<td>150–3,000 mg/dL</td>
</tr>
<tr>
<td>IgM</td>
<td>LN7</td>
<td>25–450 mg/dL</td>
</tr>
<tr>
<td>Transferrin</td>
<td>LN7</td>
<td>38–950 mg/dL</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

### Reproductive Endocrinology Calibration Verification/Linearity

**LN8**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN8 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol</td>
<td>LN8</td>
<td>25–4,500 pg/mL</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td>LN8</td>
<td>3–190 mIU/mL</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG)</td>
<td>LN8</td>
<td>5–8,000 mIU/mL</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td>LN8</td>
<td>2–190 mIU/mL</td>
</tr>
<tr>
<td>Progesterone</td>
<td>LN8</td>
<td>1–50 ng/mL</td>
</tr>
<tr>
<td>Prolactin</td>
<td>LN8</td>
<td>3–315 ng/mL</td>
</tr>
<tr>
<td>Testosterone</td>
<td>LN8</td>
<td>20–1,500 ng/dL</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Hematology Calibration Verification/Linearity

**Analyte** | **Program Code** | **LN9 Target Ranges**  
--- | --- | ---  
Hemoglobin | LN9 | 1.5–24.0 g/dL  
Platelet count | LN9 | 10–2,500 x 10⁹/L  
RBC count | LN9 | 0.5–8.00 x 10¹²/L  
WBC count | LN9 | 0.5–350.0 x 10⁹/L  

**Program Information**  
- Twenty 3.0-mL liquid specimens  
- Two shipments per year  

*LN Express service is available.*

### Serum Ethanol Calibration Verification/Linearity

**Analyte** | **Program Code** | **LN11 Target Range**  
--- | --- | ---  
Serum ethanol | LN11 | 15–550 mg/dL  

**Program Information**  
- Seven 3.0-mL liquid serum specimens  
- Conventional and International System of Units (SI) reporting offered  
- Two shipments per year  

*LN Express service is available.*

### C-Reactive Protein Calibration Verification/Linearity

**Analyte** | **Program Code** | **LN12 Target Range**  
--- | --- | ---  
C-reactive protein | LN12 | 7–280 mg/L  

**Program Information**  
- Seven 1.0-mL liquid serum specimens  
- Not appropriate for reporting high-sensitivity C-reactive protein (hsCRP)  
- Two shipments per year  

*LN Express service is available.*

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Blood Gas/Critical Care
#### Calibration Verification/Linearity  LN13, LN13C

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Program Code</th>
<th>Program Code</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LN13</td>
<td>LN13</td>
<td>LN13C</td>
<td>LN13C</td>
</tr>
<tr>
<td></td>
<td>Target Ranges</td>
<td>Target Ranges</td>
<td>Target Ranges</td>
<td>Target Ranges</td>
</tr>
<tr>
<td>$P_{CO_2}$</td>
<td>12–91 mm Hg</td>
<td>12–91 mm Hg</td>
<td>6.83–7.82</td>
<td>6.83–7.82</td>
</tr>
<tr>
<td>pH</td>
<td>6.83–7.82</td>
<td>6.83–7.82</td>
<td>18–490 mm Hg</td>
<td>18–490 mm Hg</td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>18–490 mm Hg</td>
<td>18–490 mm Hg</td>
<td>0.15–3.3 mmol/L</td>
<td>0.15–3.3 mmol/L</td>
</tr>
<tr>
<td>Chloride</td>
<td>0.15–3.3 mmol/L</td>
<td>0.15–3.3 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
</tr>
<tr>
<td>Glucose</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
</tr>
<tr>
<td>Lactate</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
</tr>
<tr>
<td>Magnesium, ionized</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
</tr>
<tr>
<td>Potassium</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
</tr>
<tr>
<td>Sodium</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
<td>0.1–2.4 mmol/L</td>
</tr>
</tbody>
</table>

### Whole Blood Ethanol
#### Calibration Verification/Linearity  LN14

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>LN14</td>
<td>LN14 Target Range</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15–400 mg/dL</td>
</tr>
</tbody>
</table>

**LN Express service is available.**

### Hemoglobin A$_{1c}$ Accuracy
#### Calibration Verification/Linearity  LN15

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A$_{1c}$</td>
<td>LN15</td>
<td>LN15 Target Range</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%–12%</td>
</tr>
</tbody>
</table>

CAP-assigned target values derived from Hemoglobin A$_{1c}$ measurements assayed by National Glycohemoglobin Standardization Program (NGSP) secondary reference laboratories. **LN Express service is available.**
### Homocysteine Calibration Verification/Linearity LN16

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN16 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homocysteine</td>
<td>LN16</td>
<td>5–65 µmol/L</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

### Whole Blood Glucose Calibration Verification/Linearity LN17

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN17 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood glucose</td>
<td>LN17</td>
<td>50–400 mg/dL</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

### Reticulocyte Calibration Verification/Linearity LN18, LN19

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>LN18 Target Ranges</th>
<th>LN19 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coulter Gen•S™, LH 500, LH 700 series, and UniCel DxH</td>
<td>LN18</td>
<td></td>
<td>0.3%–27.0%</td>
</tr>
<tr>
<td>All other instruments</td>
<td>LN18</td>
<td>0.3%–24.0%</td>
<td></td>
</tr>
<tr>
<td>Pierceable caps</td>
<td>LN19</td>
<td></td>
<td>0.3%–27.0%</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

### Urine Albumin Calibration Verification/Linearity LN20

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN20 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine albumin</td>
<td>LN20</td>
<td>10–350 mg/L</td>
</tr>
<tr>
<td>Urine creatinine</td>
<td>LN20</td>
<td>20–500 mg/dL</td>
</tr>
</tbody>
</table>

*Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.*
### High-Sensitivity C-Reactive Protein

**Calibration Verification/Linearity LN21**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN21 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity C-reactive protein</td>
<td>LN21</td>
<td>0.5–6.0 mg/L</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

### Flow Cytometry Calibration Verification/Linearity LN22

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN22 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD3+</td>
<td>LN22</td>
<td>50%–70% positive</td>
</tr>
<tr>
<td>CD3+ T lymphocytes absolute</td>
<td>LN22</td>
<td>350–4,000 cells/µL</td>
</tr>
<tr>
<td>CD3+/CD4+</td>
<td>LN22</td>
<td>1%–40% positive</td>
</tr>
<tr>
<td>CD3+/CD4+ T lymphocytes absolute</td>
<td>LN22</td>
<td>6–2,000 cells/µL</td>
</tr>
<tr>
<td>CD3+/CD8+</td>
<td>LN22</td>
<td>25%–40% positive</td>
</tr>
<tr>
<td>CD3+/CD8+ T lymphocytes absolute</td>
<td>LN22</td>
<td>250–1,600 cells/µL</td>
</tr>
</tbody>
</table>

*Program Information*
- Seven 1.0-mL liquid whole blood specimens
- Two shipments per year

### Prostate-Specific Antigen

**Calibration Verification/Linearity LN23**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN23 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate-specific antigen</td>
<td>LN23</td>
<td>0.1–90.0 ng/mL</td>
</tr>
</tbody>
</table>

*Program Information*
- Twelve 1.0-mL liquid serum specimens
- Two shipments per year

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
Calibration Verification/Linearity

### Creatinine Accuracy
Calibration Verification/Linearity  LN24

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN24 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>LN24</td>
<td>0.6–4.0 mg/dL</td>
</tr>
<tr>
<td>Estimated glomerular filtration rate (eGFR)</td>
<td>LN24</td>
<td></td>
</tr>
</tbody>
</table>

**LN Express service is available.**

### Additional Information
The College of American Pathologists (CAP) and the National Kidney Disease Education Program (NKDEP) have an initiative to harmonize clinically reported creatinine values. This initiative is analogous to what the federal health agencies and the clinical laboratory community did to improve the accuracy of cholesterol and glycohemoglobin testing.

### Troponin Calibration Verification/Linearity
LN25, LN27

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN25 Target Ranges</th>
<th>Program Code</th>
<th>LN27 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troponin I</td>
<td>LN25</td>
<td>0.05–60.00 ng/mL</td>
<td>LN27</td>
<td>0.1–27.00 ng/mL</td>
</tr>
<tr>
<td>Troponin T</td>
<td>LN25</td>
<td></td>
<td>LN27</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- LN25 - Seven 2.0-mL liquid serum specimens
- LN27 - Six 2.0-mL liquid serum specimens
- Two shipments per year

### B-Type Natriuretic Peptides
Calibration Verification/Linearity  LN30

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN30 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>LN30</td>
<td>30–3,500 pg/mL</td>
</tr>
<tr>
<td>NT-pro BNP</td>
<td>LN30</td>
<td>50–30,000 pg/mL</td>
</tr>
</tbody>
</table>

**Program Information**
- Six 1.0-mL liquid plasma specimens for BNP and NT-pro BNP
- A seventh 1.0-mL liquid plasma specimen for NT-pro BNP only
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Immunosuppressive Drugs Calibration Verification/Linearity LN31

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN31 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclosporine</td>
<td>LN31</td>
<td>60–1,200 ng/mL</td>
</tr>
<tr>
<td>Tacrolimus</td>
<td>LN31</td>
<td>1.5–30.0 ng/mL</td>
</tr>
</tbody>
</table>

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.

### Ammonia Calibration Verification/Linearity LN32

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN32 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>LN32</td>
<td>13–900 µmol/L</td>
</tr>
</tbody>
</table>

**Program Information**
- Seven 2.0-mL liquid whole blood hemolysate specimens
- Two shipments per year

LN Express service is available.

### Serum Myoglobin Calibration Verification/Linearity LN33

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN33 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myoglobin</td>
<td>LN33</td>
<td>25–900 ng/mL</td>
</tr>
</tbody>
</table>

**Program Information**
- Seven 1.0-mL liquid serum specimens
- Two shipments per year

LN Express service is available.

### Tumor Markers Calibration Verification/Linearity LN34

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN34 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA 125</td>
<td>LN34</td>
<td>1–1,000 U/mL</td>
</tr>
<tr>
<td>CA 15-3</td>
<td>LN34</td>
<td>2–190 U/mL</td>
</tr>
<tr>
<td>CA 19-9</td>
<td>LN34</td>
<td>10–900 U/mL</td>
</tr>
</tbody>
</table>

**Program Information**
- Seven 3.0-mL liquid serum specimens
- Two shipments per year

LN Express service is available.
### Coagulation Calibration Verification/Linearity
LN35, LN36, LN37

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antithrombin activity</td>
<td>LN35, LN36, LN37</td>
<td>10%–130%</td>
</tr>
<tr>
<td>Protein C activity</td>
<td>LN35, LN36, LN37</td>
<td>10%–100%</td>
</tr>
<tr>
<td>Heparin, low molecular weight</td>
<td>LN35, LN36, LN37</td>
<td>0.1–2.0 U/mL</td>
</tr>
<tr>
<td>Heparin, unfractionated</td>
<td>LN35, LN36, LN37</td>
<td>0.1–1.3 U/mL</td>
</tr>
<tr>
<td>von Willebrand factor antigen</td>
<td>LN35, LN36, LN37</td>
<td>5%–140%</td>
</tr>
</tbody>
</table>

The LN35, LN36, and LN37 CVL programs meet the CAP Accreditation requirements HEM.38009, 38010, and 38011. **LN Express** service is available.

### Viral Load Calibration Verification/Linearity
LN38, LN39

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMV viral load</td>
<td>LN38, LN39</td>
<td>0.3M–1.0M IU/L</td>
</tr>
<tr>
<td>HIV viral load</td>
<td>LN38, LN39</td>
<td>0–10M copies/L</td>
</tr>
</tbody>
</table>

**LN Express** service is available.

### Vitamin D Calibration Verification/Linearity
LN40

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D, total</td>
<td>LN40</td>
<td>4–120 ng/mL</td>
</tr>
</tbody>
</table>

**LN Express** service is available.

---

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
**Procalcitonin Calibration**
**Verification/Linearity**  LN41

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procalcitonin</td>
<td>LN41</td>
<td>0.3-200 ng/mL</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

---

**D-Dimer Calibration**
**Verification/Linearity**  LN42

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-dimer</td>
<td>LN42</td>
<td>200-4,500 ng/mL</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

---

> “I’m a cancer survivor. I always try to remember the person I am assisting is crucial to getting accurate patient results. It is that simple.”

— Patrick

CAP Customer Contact Center representatives understand the importance of what you do.
## Instrumentation Quality Management Programs

### Instrumentation I

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A Shipment</td>
</tr>
<tr>
<td></td>
<td>B Shipment</td>
</tr>
<tr>
<td></td>
<td>C Shipment</td>
</tr>
<tr>
<td>Adjustable micropipette calibration verification/linearity</td>
<td>I</td>
</tr>
<tr>
<td>Analytical balance check</td>
<td>I</td>
</tr>
<tr>
<td>Gravimetric pipette calibration</td>
<td>I</td>
</tr>
<tr>
<td>Microtiter plate linearity</td>
<td>I</td>
</tr>
<tr>
<td>Refractometer calibration</td>
<td>I</td>
</tr>
<tr>
<td>Spectrophotometer (stray light check)</td>
<td>I</td>
</tr>
<tr>
<td>Absorbance check – UV wavelength</td>
<td>I</td>
</tr>
<tr>
<td>Fluorescent intensity check – fluorescent microscopes</td>
<td>I</td>
</tr>
<tr>
<td>Ocular micrometer calibration</td>
<td>I</td>
</tr>
<tr>
<td>Osmometer study</td>
<td>I</td>
</tr>
<tr>
<td>Peak absorbance measurement</td>
<td>I</td>
</tr>
<tr>
<td>pH meter check</td>
<td>I</td>
</tr>
<tr>
<td>Photometric calibration – visible wavelength</td>
<td>I</td>
</tr>
</tbody>
</table>

**Program Information**

- Designed to assess instruments not routinely challenged during the proficiency testing process
- Includes appropriate materials to assess important functional parameters, including accuracy and linearity
- Three shipments per year

**WARNING:** The Instrumentation (I) Survey specimens may contain corrosive or toxic substances, environmental hazards, or irritants.
### Interfering Substance Survey  IFS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Bilirubin Interferent</th>
<th>Hemoglobin Interferent</th>
<th>Lipid Interferent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alanine aminotransferase (ALT/SGPT)</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Albumin</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Amylase</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Aspartate aminotransferase (AST/SGOT)</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Calcium</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Chloride</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>CK2 (MB) mass</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Creatine kinase (CK)</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Creatinine</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Gamma glutamyl transferase (GGT)</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Glucose</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Iron</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Lipase</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Magnesium</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Osmolality</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Phosphorus</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Potassium</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Protein, total</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Sodium</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
<tr>
<td>Uric acid</td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
<td><img src="image-url" alt="Image alt text" /></td>
</tr>
</tbody>
</table>

The material expires December 1, 2015.

### Program Information

- Eighteen 10.0-mL liquid serum specimens
- Designed for verifying manufacturing interference specifications and investigating discrepant results caused by interfering substances
- Submit results any time prior to the material’s expiration date
- One shipment per year
### Serum Carryover  *SCO*

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>SCO</td>
</tr>
<tr>
<td>hCG</td>
<td>SCO</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td>SCO</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>SCO</td>
</tr>
</tbody>
</table>

The material expires May 1, 2016.

### Program Information
- One 10.0-mL liquid serum specimen (low level) and one 5.0-mL liquid serum specimen (high level)
- Designed to screen for instrument sample probe carryover
- One shipment per year

### Urine Toxicology Carryover  *UTC0*

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoylecgonine</td>
<td>UTCO</td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td>UTCO</td>
</tr>
<tr>
<td>Opiates</td>
<td>UTCO</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>UTCO</td>
</tr>
</tbody>
</table>

The material expires May 1, 2016.

### Program Information
- Two 40.0-mL urine specimens (low and high levels)
- Designed to screen for instrument sample probe carryover
- One shipment per year
Improve the reliability of your patient results with CAP CVL Validated Materials

Use the same material that is sent in the CVL program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document corrective actions
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Participant Summary, which includes readily available results.

### Calibration Verification/Linearity, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry, Lipid, Enzyme Calibration Verification/Linearity VM</td>
<td>LN2VM</td>
<td>LN2</td>
<td>106</td>
</tr>
<tr>
<td>Chemistry, Lipid, Enzyme Calibration Verification/Linearity; All Beckman (except AU) and Vitros VM</td>
<td>LN2VM1</td>
<td>LN2BV</td>
<td>106</td>
</tr>
<tr>
<td>TDM Calibration Verification/Linearity VM</td>
<td>LDM</td>
<td>LN3</td>
<td>107</td>
</tr>
<tr>
<td>Ligand Assay Calibration Verification/Linearity VM</td>
<td>LLM</td>
<td>LN5</td>
<td>108</td>
</tr>
<tr>
<td>Urine Chemistry Calibration Verification/Linearity VM</td>
<td>LUM</td>
<td>LN6</td>
<td>108</td>
</tr>
</tbody>
</table>

### Program Information

- LN2VM, LN2VM1 - Seven 5.0-mL liquid serum specimens for basic chemistry, six 3.0-mL liquid serum specimens for direct and total bilirubin, seven 2.0-mL liquid serum specimens for lipids, and seven 5.0-mL liquid serum specimens for enzymes
- LDM - Six 4.0-mL liquid serum specimens
- LLM - Eight 4.0-mL liquid serum specimens; appropriate for most major instruments except for Siemens ADVIA Centaur
- LUM - Eighteen 4.0-mL liquid urine specimens
- Two shipments per year
Put fast identification of cells, fungi, and parasites at your fingertips

These laminated guides are a quick, easy reference for accurate, confident identification.

• Portable (5" x 6.5" or 6.5" x 7")
• Durable—heavy-duty to withstand years of benchtop use

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*CAP distributor customers—contact your distributor to order
“...I appreciate that there are so many CAP proficiency tests and we like the quality of the specimens and the breadth of the specimens that are available. The CAP has such big peer groups that I feel good about seeing what others are doing for the many analytes and many instruments.”
## Hematology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Basic Hematology HE, HEP

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood cell identification</td>
<td>HE</td>
<td>10</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>HE, HEP</td>
<td>5</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>HE, HEP</td>
<td>5</td>
</tr>
<tr>
<td>MCV, MCH, and MCHC</td>
<td>HE, HEP</td>
<td>5</td>
</tr>
<tr>
<td>Platelet count</td>
<td>HE</td>
<td>5</td>
</tr>
<tr>
<td>RDW</td>
<td>HE</td>
<td>5</td>
</tr>
<tr>
<td>Red blood cell count</td>
<td>HE</td>
<td>5</td>
</tr>
<tr>
<td>White blood cell count</td>
<td>HE</td>
<td>5</td>
</tr>
</tbody>
</table>

### Blood Cell Identification BCP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood cell identification</td>
<td>BCP</td>
<td>10</td>
</tr>
</tbody>
</table>

### Erythrocyte Sedimentation Rate ESR, ESR1, ESR2, ESR3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>All methods except the Sedimat 15®, Sedimat 15 Plus, Alifax®, and ALCOR</td>
<td>ESR</td>
<td>3</td>
</tr>
<tr>
<td>Sedimat 15, Sedimat 15 Plus</td>
<td>ESR, ESR2, ESR3</td>
<td>3</td>
</tr>
<tr>
<td>Alifax</td>
<td>ESR, ESR3</td>
<td>3</td>
</tr>
<tr>
<td>ALCOR iSED</td>
<td>ESR, ESR3</td>
<td>3</td>
</tr>
</tbody>
</table>
Hematology Automated Differential Series
FH1-FH12, FH1P-FH12P

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FH1-FH12</td>
<td>FH1P-FH12P</td>
</tr>
<tr>
<td>Blood cell identification</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Immature granulocyte parameter</td>
<td></td>
<td>5 (FH9 only)</td>
</tr>
<tr>
<td>Large unstained cell (LUC)</td>
<td></td>
<td>5 (FH4 only)</td>
</tr>
<tr>
<td>MCV, MCH, and MCHC</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Nucleated red blood cell count (nRBC)</td>
<td></td>
<td>5 (FH3 and FH9)</td>
</tr>
<tr>
<td>Platelet count</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>RDW</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Red blood cell count</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>White blood cell count</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>WBC differential</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

For second instrument reporting options, see the Quality Cross Check programs, FH3Q, FH4Q, FH6Q, and FH9Q on page 126.

Hematology Benchtop Reference Guide (HBRG)

- More than 50 different cell identifications, including common and rare cells
- Detailed descriptions for each cell morphology
- Six tabbed sections for easy reference
  - Erythrocytes
  - Erythrocyte Inclusions
  - Granulocytic (Myeloid) and Monocytic Cells
  - Lymphocytic Cells
  - Platelets and Megakaryocytic Cells
  - Microorganisms and Artifacts
- A durable and water-resistant format—5” x 6½” and spiral bound to withstand years of benchtop use

Add code HBRG to your Surveys order form.

Program Information
- Five whole blood specimens with pierceable caps
- FHP series - Ten images, each available as photographs, images on a CD-ROM, and online images
- For method compatibility, see instrument matrix on page 127
- Three shipments per year
### Quality Cross Check—
**Hematology Automated Differential Series**
**FH3Q, FH4Q, FH6Q, FH9Q**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FH3Q</td>
<td>FH4Q</td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immature granulocyte parameter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large unstained cells (LUC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCV, MCH, MCHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nucleated red blood cell count (nRBC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platelet count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RDW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red blood cell count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White blood cell count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WBC differential</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing. See the FH series on page 125.

### Additional Information
As a trusted partner, you can rely on the CAP to provide the insight, knowledge, and peer-based educational coaching to protect your laboratory from regulatory sanctions.

- The CAP Quality Cross Check program complements CAP PT by offering more opportunities to monitor and proactively identify instrument problems before they impact patient test results.
- This new offering will help you improve quality processes, reduce stress, raise competency of staff, and verify the performance of your instrument results.

**Program Information**
- Three whole blood specimens with pierceable caps
- Report up to three instruments
- For method compatibility, see instrument matrix on page 127
- Two shipments per year
### Hematology Automated Differential Series, Instrument Matrix

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Horiba ABX 9000+, 9018+, 9020+</td>
<td></td>
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</tr>
<tr>
<td>Sysmex K-series, KCP-1, KX-21/21N, poc H-100i, XP-series</td>
<td></td>
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<tr>
<td>Abbott Cell-Dyn® 1200, 1600, 1700, 1800, Emerald™</td>
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<tr>
<td>Horiba ABX Micros</td>
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<td></td>
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</tr>
<tr>
<td>Siemens ADVIA® 60</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Coulter® AcT™, MD, ONYX™, S880, S-plus V, ST, STKR, T-series</td>
<td></td>
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</tr>
<tr>
<td>Drew Scientific DC-18, I-1800, Excell 10/16/18 DREW3</td>
<td></td>
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<tr>
<td>CDS/Medonic M-Series</td>
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<tr>
<td>Mindray BC - 2800, 3000/3200 series</td>
<td></td>
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</tr>
<tr>
<td>Abbott Cell-Dyn 3000, 3200, 3500, 3700, 4000, Sapphire™, Ruby™</td>
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<tr>
<td>Drew Scientific Excell 22, 2280</td>
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</tr>
<tr>
<td>Siemens ADVIA 120, 120 w/SP1, 2120</td>
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</tr>
<tr>
<td>Coulter Gen-S™, HmX, LH500, LH750, LH755, LH780, LH785, MAXM™, MAXM A/L, STKS, VCS™, Unicel DxH</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sysmex XE-2100, XE-2100D, XE-2100L, XE-2100C, XE-2100BC, XE-5000, XN-Series, XT-1800i, XT-2000i, XS-800i, XS-1000i, XS-1000iC, XS-1000iAL, XT-4000i</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Horiba ABX Pentra 60, 80, 120</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Coulter AcT 5 diff (AL, CP, OV)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mindray BC-5000 series</td>
<td>NEW</td>
<td></td>
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<tr>
<td>Mindray BC-6000 series</td>
<td>NEW</td>
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<td></td>
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</tbody>
</table>

### Blood Parasite BP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thin/thick blood film sets*</td>
<td>BP</td>
<td>5</td>
</tr>
</tbody>
</table>

*This Survey will include corresponding thick films when available.

**Program Information**

- Five Giemsa-stained blood film sets, photographs, and/or online images
- A variety of blood parasites, including *Plasmodium*, *Babesia*, *Trypanosoma*, and filarial worms
- Three shipments per year
### Bone Marrow Cell Differential (BMD)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone marrow differential, including myeloid:erythroid ratio</td>
<td>BMD</td>
<td>1</td>
</tr>
<tr>
<td>Bone marrow cell identification</td>
<td>HBF</td>
<td>5</td>
</tr>
<tr>
<td>Bone marrow interpretive questions</td>
<td>HBF</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**Additional Information**
- Examine a whole slide image that includes a 500 bone marrow differential count and annotated cells for identification.
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Evaluate cell morphology and identify specific cells in bone marrow.
- See system requirements on page 15.

### Fetal Red Cell Detection (HBF)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer-Betke, flow cytometry</td>
<td>HBF</td>
<td>2</td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td>HBF</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.2-mL liquid whole blood specimens
- Not designed for F cell quantitation
- Two shipments per year

### Hemoglobinopathy (HG)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin identification and quantification</td>
<td>HG</td>
<td>4</td>
</tr>
<tr>
<td>“Dry lab” educational challenges</td>
<td>HBF</td>
<td>2</td>
</tr>
<tr>
<td>Hemoglobin A₂ quantitation</td>
<td>HBF</td>
<td>4</td>
</tr>
<tr>
<td>Hemoglobin F quantitation</td>
<td>HBF</td>
<td>1</td>
</tr>
<tr>
<td>Sickling test</td>
<td>HBF</td>
<td>4</td>
</tr>
</tbody>
</table>

**Program Information**
- Four 0.5-mL stabilized red blood cell specimens
- Two “dry lab” educational challenges (case histories, electrophoresis patterns, and clinical interpretation questions)
- Two shipments per year
### Reticulocyte RT, RT2, RT3, RT4

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott Cell-Dyn 3200, 3500, 3700, Ruby</td>
<td>RT</td>
<td>3</td>
</tr>
<tr>
<td>Coulter STKS, MAXM, GenS, HmX, LH500, LH700 series, Unicel DxH</td>
<td>RT</td>
<td>3</td>
</tr>
<tr>
<td>Sysmex XE-2100, XE-2100C, XE-5000, XN Series, XT-2000i, XT-4000i</td>
<td>RT</td>
<td>3</td>
</tr>
<tr>
<td>Abbott Cell-Dyn Sapphire, Siemens ADVIA 120/2120 and all other automated and manual methods</td>
<td>RT</td>
<td>3</td>
</tr>
<tr>
<td>Pierceable caps</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Sickle Cell Screening SCS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sickling test</td>
<td>SCS</td>
<td>3</td>
</tr>
</tbody>
</table>

### Transfusion-Related Cell Count TRC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet count (platelet-rich plasma)</td>
<td>TRC</td>
<td>5</td>
</tr>
<tr>
<td>WBC count</td>
<td>TRC</td>
<td>4</td>
</tr>
<tr>
<td>Dry challenge</td>
<td>TRC</td>
<td>2</td>
</tr>
</tbody>
</table>

WBC counts must be performed using a Nageotte chamber, fluorescence microscopy or by flow cytometry.

### Waived Combination HCC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>HCC</td>
<td>2</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>HCC</td>
<td>2</td>
</tr>
</tbody>
</table>
### Hematology

#### Rapid Total White Blood Cell Count  RWBC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWBC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapid total white blood cell count</td>
<td>5</td>
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</tr>
</tbody>
</table>

#### Virtual Peripheral Blood Smear  VPBS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WBC differential</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Platelet estimate</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>RBC morphology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Blood cell identification</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information

- Five 2.0-mL whole blood specimens
- For use with the HemoCue WBC instrument
- Three shipments per year

### Additional Information

- Examine whole slide images that include a 100 WBC differential count and annotated cells for identification.
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Evaluate and identify red blood cell (RBC) morphology and identify specific white blood cells (WBC) in peripheral blood.
- See system requirements on page 15.

### Look for your online Surveys programs via email

When you order the CAP’s online Surveys programs for 2015, we will notify your CAP shipping contact when they are available for assignment and distribution within your laboratory.

This earth-friendly, paperless approach supports green initiatives, saving paper and energy resources.
Expanded Virtual Peripheral Blood Smear EHE1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipmen t</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC differential</td>
<td>EHE1</td>
<td>2</td>
</tr>
<tr>
<td>Platelet estimate</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>RBC morphology</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>WBC morphology</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Blood cell identification</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Interpretive questions</td>
<td></td>
<td>1-2</td>
</tr>
</tbody>
</table>

**Additional Information**

- More challenging and/or complex testing
- Examine of whole slide images that include a 100 WBC/differential count and annotated cells for identification
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image
- Comprehensive case studies
- Ability to recognize and integrate problem-solving skills through the use of interpretive questions
- Evaluate and identify red blood cell (RBC) morphology and identify specific white blood cells (WBC) in peripheral blood
- See system requirements on page 15.

**Program Information**

- Two online whole slide images that include 10 annotated cells for identification
- Powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available

**Body Fluids Benchtop Reference Guide (BFBRG)**

- Thirty-six color images, including common and rare cells, crystals, and other cell inclusions
- Detailed descriptions of each cell including facts, cell morphology and inclusions
- Nine tabbed sections for easy reference
  - Erythroid Series
  - Lymphoid Series
  - Myeloid Series
  - Mononuclear Phagocytic Series
  - Lining Cells
  - Miscellaneous Cells
  - Crystals
  - Microorganisms
  - Miscellaneous Findings
- A durable and water-resistant format—5" x 6½" and spiral bound to withstand years of benchtop use

Add code BFBRG to your Surveys order form.
### Hematopathology Online Education

**Program Code**

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges/Shipmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematopathology online case review</td>
<td>HPATH/HPATH1</td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information

HPATH educates pathologists and hematologists to assess and improve their diagnostic skills in hematopathology.

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Cases are peripheral blood and bone marrow whole slide images.
- Cases may include results of ancillary studies such as histochemistry, immunology, immunohistochemistry, and molecular tests, where appropriate.
- See system requirements on page 15.

### Program Information

- **HPATH** - Five diagnostic challenges/whole slide images with clinical history; for each additional pathologist/hematologist, purchase HPATH1
- **HPATH1** - Reporting option with CME/SAM/CE credit for each additional pathologist and hematologist (within the same institution); must order in conjunction with Survey HPATH
- Earn a maximum of 6 CME/SAM credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 6 CE credits per hematologist for completion of an entire year
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Powered by DigitalScope technology
- One online activity per year; your CAP shipping contact will be notified via email when the activity is available.
### Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

#### Clinical Microscopy CMP, CMP1

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Blood or hemoglobin</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>hCG urine (qualitative)</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Ketones</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Leukocyte esterase</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nitrite</td>
<td></td>
<td></td>
<td>3</td>
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<tr>
<td>Osmolality</td>
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<td>pH</td>
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<td></td>
<td>3</td>
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<tr>
<td>Protein (qualitative)</td>
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<td>Reducing substances</td>
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<tr>
<td>Specific gravity</td>
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<tr>
<td>Urobilinogen</td>
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<tr>
<td>Urine sediment photographs</td>
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<td>4</td>
</tr>
<tr>
<td>Body fluid photographs</td>
<td></td>
<td></td>
<td>6</td>
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</tbody>
</table>

#### Clinical Microscopy Miscellaneous CMMP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipmenet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fern test (vaginal)</td>
<td>CMMP</td>
<td>1</td>
</tr>
<tr>
<td>KOH preparation (skin or vaginal)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Nasal smear</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Pinworm preparation</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Stool for leukocytes</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Vaginal wet preparation (for spermatozoa, trichomonas, clue cells, and epithelial cells)</td>
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<td>1</td>
</tr>
</tbody>
</table>
### Virtual Body Fluid (VBF)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total nucleated cells differential</td>
<td>VBF</td>
<td>2</td>
</tr>
<tr>
<td>Body fluid cell identification</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Additional Information**
- Examine whole slide images that include a differential count and annotated cells for identification.
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Evaluate cell morphology and identify specific cells in a body fluid.
- See system requirements on page 15.

### Amniotic Fluid Leakage (AFL)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH interpretation</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL liquid specimens
- For use with nitrazine paper and the Amniotest™
- Two shipments per year

### Automated Body Fluid (ABF1, ABF2, ABF3)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cell count</td>
<td>ABF1, ABF2, ABF3</td>
<td>2</td>
</tr>
<tr>
<td>White blood cell count</td>
<td>ABF1, ABF2, ABF3</td>
<td>2</td>
</tr>
</tbody>
</table>

For method compatibility, see instrument matrix below.

### Automated Body Fluid, Instrument Matrix

<table>
<thead>
<tr>
<th>Instrument</th>
<th>ABF Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siemens ADVIA 120/2120/2120i</td>
<td>ABF1, ABF2, ABF3</td>
</tr>
<tr>
<td>Coulter LH 700 Series, Unicel DxH</td>
<td>ABF2, ABF3</td>
</tr>
<tr>
<td>Sysmex XE-2100, XN-series, XT-1800i, XT-2000i, XE-5000, XT-4000i</td>
<td>ABF3</td>
</tr>
<tr>
<td>IRIS iQ® 200</td>
<td>ABF3</td>
</tr>
</tbody>
</table>

**Program Information**
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available.
### Automated Urinalysis UAA, UAA1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casts, semiquantitative</td>
<td>UAA</td>
<td></td>
</tr>
<tr>
<td>Crystals, semiquantitative</td>
<td>UAA</td>
<td></td>
</tr>
<tr>
<td>Epithelial cells, semiquantitative</td>
<td>UAA</td>
<td></td>
</tr>
<tr>
<td>Red blood cells, quantitative</td>
<td>UAA1</td>
<td>2</td>
</tr>
<tr>
<td>White blood cells, quantitative</td>
<td>UAA1</td>
<td>2</td>
</tr>
</tbody>
</table>

### Crystals BFC, URC, BCR

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body fluid crystal identification</td>
<td>BFC</td>
<td></td>
</tr>
<tr>
<td>Urine crystal identification</td>
<td>URC</td>
<td></td>
</tr>
<tr>
<td>Bile crystal identification</td>
<td>BCR</td>
<td></td>
</tr>
</tbody>
</table>

### Dipstick Confirmatory DSC

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin</td>
<td>DSC</td>
<td></td>
</tr>
<tr>
<td>Sulfosalicylic acid (SSA)</td>
<td>DSC</td>
<td></td>
</tr>
</tbody>
</table>

### Fecal Fat FCFS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**

- **UAA** - Two 10.0-mL liquid urine specimens for use with IRIS instruments
- **UAA1** - Two 12.0-mL liquid urine specimens for use with Sysmex instruments
- Two shipments per year
### Fetal Hemoglobin APT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal hemoglobin</td>
<td>APT</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.2-mL simulated gastric fluid specimens
- Two shipments per year

### Gastric Occult Blood GOCB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastric occult blood</td>
<td>GOCB</td>
<td>3</td>
</tr>
<tr>
<td>Gastric pH</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL simulated gastric specimens
- Two shipments per year

### Glucose-6-Phosphate Dehydrogenase G6PDS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6PD (qualitative and quantitative)</td>
<td>G6PDS</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 0.5-mL lyophilized hemolysate samples
- Two shipments per year

### Hemocytometer Fluid Count HFC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytopreparation differential</td>
<td>HFC</td>
<td>3</td>
</tr>
<tr>
<td>Red blood cell fluid count</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>White blood cell fluid count</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL simulated body fluid specimens
- Two shipments per year

### Hemocytometer Fluid Count HFCI

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cell fluid count</td>
<td>HFCI</td>
<td>3</td>
</tr>
<tr>
<td>White blood cell fluid count</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Differential</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL simulated body fluid specimens
- Designed for international laboratories that have experienced significant shipping and receiving issues and need longer program stability
- Two shipments per year

---

This program meets the CAP’s Accreditation Program requirements.
### Lamellar Body Count (LBC)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamellar body count</td>
<td>LBC</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL simulated liquid amniotic fluid specimens
- For use with LBC methods performed on all hematology analyzers
- Two shipments per year

### Occult Blood (OCB)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult blood</td>
<td>OCB</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL simulated fecal specimens
- Two shipments per year

### Rupture of Fetal Membranes Testing (ROM1)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rupture of fetal membranes</td>
<td>ROM1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL, simulated vaginal specimens for methods such as Amnisure and Clinical Innovations
- Two shipments per year

### Special Clinical Microscopy (SCM1, SCM2)

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine hemosiderin, Prussian blue</td>
<td>SCM1, SCM2</td>
<td>3</td>
</tr>
<tr>
<td>Urine eosinophils, Wright stain</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three images, each available as photographs and online images
- Two shipments per year

### Ticks, Mites, and Other Arthropods (TMO)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tick, mite, and arthropod identification</td>
<td>TMO</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three images, each available as photographs and online images
- Two shipments per year
Urine Albumin (Microalbumin)/Creatinine UMC

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>UMC</td>
<td>2</td>
</tr>
<tr>
<td>Urine albumin (microalbumin): creatinine ratio</td>
<td>UMC</td>
<td>2</td>
</tr>
<tr>
<td>Urine albumin (microalbumin), semiquantitative</td>
<td>UMC</td>
<td>2</td>
</tr>
</tbody>
</table>

For quantitative reporting, refer to Survey U, page 61.

Worm Identification WID

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worm identification</td>
<td>WID</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information

- Two 5.0-mL liquid urine specimens
- For use with dipstick and semiquantitative methods only
- Two shipments per year

Put fast identification of cells at your fingertips

Urinalysis Benchtop Reference Guide (UABRG)

- Thirty-four different cell identifications, including common and rare cells
- Detailed descriptions for each cell morphology
- Eight tabbed sections for easy reference
  - Urinary Cells
  - Urinary Casts
  - Urinary Crystals
    - At Acid pH
    - At Neutral or Acid pH
    - At Neutral or Alkaline pH
  - Organisms
  - Miscellaneous/Exogenous
- A durable and water-resistant format—5" by 6½" and spiral bound to withstand years of benchtop use.

Add code UABRG to your Surveys order form.
“The CAP covers everything and their Surveys are thorough. They are at the cutting edge and give good comparative data which we use for our performance improvement. I will continue to use CAP PT for our entire test menu—I feel that it is just another good measure to ensure that we’re turning out quality results for our patients.”
Andrology and Embryology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Semen Analysis

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/ Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC, SC1, PV, SM, SV, ASA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sperm count &amp; presence/absence (manual methods and CASA systems)</td>
<td>SC SC1 PV SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Sperm count &amp; presence/absence (automated methods)</td>
<td>SC SC1 PV SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Postvasectomy sperm count &amp; presence/absence</td>
<td>SC SC1 PV SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Sperm morphology</td>
<td>SC SC1 PV SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Sperm viability</td>
<td>SC SC1 PV SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Antisperm antibody IgG</td>
<td>SC SC1 PV SM SV ASA</td>
<td>2</td>
</tr>
</tbody>
</table>

### Sperm Motility, Morphology, and Viability

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/ Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMCD, SM1CD, SM2CD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sperm count</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
<tr>
<td>Sperm motility/forward progression</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
<tr>
<td>Sperm morphology</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
<tr>
<td>Sperm viability</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust the magnification of the whole slide image.

**Program Information**

- **SC** - Two 0.3-mL stabilized human sperm specimens
- **SC1** - Two 1.0-mL stabilized human sperm specimens
- **PV** - Two 0.3-mL stabilized human sperm specimens with counts appropriate for postvasectomy testing
- **SM** - Two prepared slides for staining
- **SV** - Two eosin-nigrosin-stained slides
- **ASA** - Two 0.3-mL serum specimens
- Two shipments per year

- **SMCD** - One CD-ROM with video clips
- **SM1CD** - Two challenges, each available as images on CD-ROM and online whole slide images powered by DigitalScope® technology
- **SM2CD** - Two challenges, each available as images on CD-ROM and online whole slide images powered by DigitalScope technology
- Two shipments per year
### Embryology EMB

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embryo transfer and quality assessment</td>
<td>EMB</td>
<td>4</td>
</tr>
<tr>
<td>(three- and five-day-old embryos)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ligand Assay, Special Y, YY, DY

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-deoxycortisol</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>17-hydroxyprogesterone</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>Androstenedione</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>DHEA sulfate</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>Estradiol</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>Estriol, unconjugated (uE3)</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>Growth hormone (GH)</td>
<td>Y, YY</td>
<td>3</td>
</tr>
<tr>
<td>IGF-1 (somatomedin C)</td>
<td>YY</td>
<td>3</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td>YY</td>
<td>3</td>
</tr>
<tr>
<td>Progesterone</td>
<td>YY</td>
<td>3</td>
</tr>
<tr>
<td>Prolactin</td>
<td>YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone</td>
<td>YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, bioavailable</td>
<td>YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, free</td>
<td>YY</td>
<td>3</td>
</tr>
<tr>
<td>Sex hormone-binding globulin (SHBG)</td>
<td>YY</td>
<td>3</td>
</tr>
</tbody>
</table>

### Antimüllerian Hormone AMH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimüllerian hormone (AMH)</td>
<td>AMH</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information

- One CD-ROM with video clips
- Two shipments per year

### Program Information

- Y - Six 5.0-mL liquid serum specimens (two duplicate sets)
- YY - Nine 5.0-mL liquid serum specimens (three duplicate sets)
- DY - Must order in conjunction with Survey Y or YY
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Program Information

- Three 1.0-mL lyophilized serum specimens
- Two shipments per year
Deliver the best in patient care when you integrate the CAP’s proficiency testing, accreditation, and education programs

- Provide **comprehensive, scientifically endorsed** laboratory standards, proficiency testing/EQA, and educational programs
- Offer a **comprehensive view** of the laboratory for ongoing monitoring of quality performance
- Educate laboratory staff with a complete offering of programs supported by **peer groups and scientific leaders** that provide a unique balance of regulatory and educational coaching
- Take the guesswork out of laboratory compliance
- Gain global quality recognition
- Reduce the risk of inaccurate and unreliable test results

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- Reproductive Laboratory Accreditation
- Forensic Drug Testing Accreditation
- Biorepository Accreditation
- CAP 15189™ Accreditation

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“Participating in CAP Laboratory Improvement Programs, which are developed by leading experts, provides confidence that your laboratory is doing the right thing. The CAP accreditation checklist system is an incredible resource for keeping up with daily management, new CLIA and CAP requirements, and ensuring that you’re performing high quality testing. No other proficiency testing provider develops programs for the newest technologies as rapidly and effectively as the CAP.”

Elizabeth Wagar, MD, FCAP
Professor & Chair, Department of Laboratory Medicine
The University of Texas MD Anderson Cancer Center
“As an executive director, it’s important to me to keep proficiency testing with the CAP to standardize PT throughout all my laboratories—that way I can see and understand when there are problems in particular laboratories.”
Coagulation

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Coagulation, Limited  CGL, CGDF

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGL, CGDF</td>
<td>5</td>
</tr>
<tr>
<td>Fibrinogen</td>
<td>CGL, CGDF</td>
<td>5</td>
</tr>
<tr>
<td>International normalized ratio (INR)*</td>
<td>CGL, CGDF</td>
<td>5</td>
</tr>
<tr>
<td>Prothrombin time</td>
<td>CGL, CGDF</td>
<td>5</td>
</tr>
<tr>
<td>D-dimer</td>
<td>CGL, CGDF</td>
<td>2 per year</td>
</tr>
<tr>
<td>Fibrinogen degradation products, plasma</td>
<td>CGL, CGDF</td>
<td>2 per year</td>
</tr>
<tr>
<td>Fibrinogen degradation products, serum</td>
<td>CGL, CGDF</td>
<td>2 per year</td>
</tr>
</tbody>
</table>

*Participants reporting INR results will receive a special evaluation to assess the INR calculation.

### Coagulation, Extended  CGE, CGEX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>See analyte listing below</td>
<td>CGE, CGEX</td>
<td>2</td>
</tr>
</tbody>
</table>

### Analyte Listing

- 50:50 mixing study, PT and APTT
- Activated partial thromboplastin time
- Activated protein C resistance
- Alpha-2-antiplasmin
- Anti-beta-2-glycoprotein (IgG and IgM)
- Antiphospholipid antibody (IgG, IgM, and IgA)
- Antithrombin activity/antigen
- Dilute prothrombin time
- Dilute Russell’s viper venom time
- Euglobulin test
- Factors II, V, VII, VIII, IX, X, XI, XII, and XIII
- Factor VIII assay
- Fibrin monomer
- Fibrinogen activity
- Fibrinogen antigen
- Heparin-induced thrombocytopenia (HIT)
- High molecular weight kininogen
- Kaolin-activated APTT
- Kaolin clotting time
- Lupus anticoagulant
- Plasminogen activator inhibitor
- Plasminogen activity/antigen
- Prekallikrein
- Protein S
- Prothrombin fragment 1.2
- Prothrombin time
- Reptilase time
- Thrombin-antithrombin
- Thrombin time
- Tissue plasminogen activator
- von Willebrand factor activity:
  - Collagen binding
  - Glycoprotein Ia binding
  - Ristocetin cofactor
- von Willebrand factor antigen
- von Willebrand multimer analysis

### Program Information

- **CGL** - Five 1.0-mL lyophilized plasma specimens; three shipments per year; one 1.0-mL lyophilized plasma specimen; one 1.0-mL serum specimen; two shipments per year
- **CGDF** - One 1.0-mL serum specimen; one 1.0-mL lyophilized plasma specimen; two shipments per year

- **CGE** - Six 1.0-mL lyophilized plasma specimens (three duplicate vials for each challenge)
- **CGEX** - Ten 1.0-mL lyophilized plasma specimens (five duplicate vials for each challenge)
- Two shipments per year
### Coagulation Special Testing Series

**CGS1, CGS2, CGS3, CGS4, CGS5, CGS6**

<table>
<thead>
<tr>
<th>Module/Analyte</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>CGS1</td>
</tr>
<tr>
<td>Activated partial thromboplastin time*</td>
<td>2</td>
</tr>
<tr>
<td>International normalized ratio (INR)</td>
<td>2</td>
</tr>
<tr>
<td>Prothrombin time*</td>
<td>2</td>
</tr>
</tbody>
</table>

**Lupus Anticoagulant and Mixing Studies Module**

- Dilute Russell’s viper venom time: 2
- Lupus anticoagulant (confirmation and screen): 2
- 50:50 mixing studies, PT and APTT: 2

**Thrombophilia Module**

- Activated protein C resistance: 2
- Antithrombin (activity, antigen): 2
- Protein C (activity, antigen): 2
- Protein S (activity, free antigen, total antigen): 2

**von Willebrand Factor Antigen Module**

- Factor VIII assay: 2
- von Willebrand factor (antigen, activity, multimers): 2

**Heparin Module**

- Heparin activities using methodologies including Anti Xa (unfractionated low molecular weight, and hybrid curve): 3
- Thrombin time: 3

**Heparin-Induced Thrombocytopenia Module**

- Appropriate with methods such as Gen-Probe Lifecodes PF4 IgG and Gen-Probe Lifecodes PF4 Enhanced® assays: 2
- Appropriate with the Akers Biosciences, Inc. PIFA® Heparin/Platelet Factor 4 Rapid Assay: 3

---

*Not appropriate for meeting regulatory requirements, see page 144.

**Program Information**

- CGS1, CGS2, CGS3 - A total of two 2.0-mL lyophilized plasma specimens
- CGS4 - Three 1.0-mL lyophilized plasma specimens
- CGS5 - Two 60.0-µL serum specimens
- CGS6 - Three 50.0-µL lyophilized serum specimens
- Two shipments per year
### Dabigatran, Fondaparinux, Rivaroxaban Anticoagulant Monitoring
**DBGN, FNPX, RVBN**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated partial thromboplastin time*</td>
<td>DBGN</td>
<td>FNPX</td>
</tr>
<tr>
<td>Prothrombin time*</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Thrombin time</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Dabigatran</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Fondaparinux</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Rivaroxaban</td>
<td>I</td>
<td></td>
</tr>
</tbody>
</table>

*Not appropriate for meeting regulatory requirements, see page 144.

### Activated Clotting Time Series
**CT, CT1, CT2, CT3, CT5**

<table>
<thead>
<tr>
<th>Instrument/Cartridge</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helena Actalyke®</td>
<td>CT1</td>
<td>3</td>
</tr>
<tr>
<td>Helena Cascade POC</td>
<td>CT2</td>
<td>3</td>
</tr>
<tr>
<td>IL Gem® PCL ACT</td>
<td>CT5</td>
<td>3</td>
</tr>
<tr>
<td>IL Gem PCL ACT-LR</td>
<td>CT3</td>
<td>3</td>
</tr>
<tr>
<td>IL Gem PCL Plus ACT</td>
<td>CT5</td>
<td>3</td>
</tr>
<tr>
<td>IL GEM PCL Plus ACT-LR</td>
<td>CT2</td>
<td>3</td>
</tr>
<tr>
<td>ITC Hemochron® CA510/FTCA510</td>
<td>CT1</td>
<td>3</td>
</tr>
<tr>
<td>ITC Hemochron FTK-ACT</td>
<td>CT2</td>
<td>3</td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT+</td>
<td>CT3</td>
<td>3</td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT-LR</td>
<td>CT5</td>
<td>3</td>
</tr>
<tr>
<td>ITC Hemochron P214/P215</td>
<td>CT1</td>
<td>3</td>
</tr>
<tr>
<td>i-STAT® Celite® and Kaolin ACT</td>
<td>CT2</td>
<td>3</td>
</tr>
<tr>
<td>Medtronic HemoTec ACT ACTII/ACT Plus HR-ACT</td>
<td>CT1</td>
<td>3</td>
</tr>
<tr>
<td>Medtronic HemoTec ACT ACTII/ACT Plus LR-ACT</td>
<td>CT2</td>
<td>3</td>
</tr>
<tr>
<td>Medtronic HemoTec ACT ACTII/ACT Plus R-ACT</td>
<td>CT1</td>
<td>3</td>
</tr>
<tr>
<td>Medtronic Hepcon HMS, HMS Plus</td>
<td>CT2</td>
<td>3</td>
</tr>
<tr>
<td>Sienco Sonoclot®</td>
<td>CT5</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- CT - Three 3.0-mL lyophilized whole blood specimens
- CT1 - Three 1.7-mL lyophilized whole blood specimens
- CT2, CT3 - Three 0.5-mL lyophilized whole blood specimens
- CT5 - Three 1.7-mL lyophilized whole blood specimens
- Two shipments per year
### Platelet Function* PF, PF1

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet aggregation</td>
<td>PF PF1</td>
<td>2</td>
</tr>
<tr>
<td>PFA-100</td>
<td>PF PF1</td>
<td>2</td>
</tr>
<tr>
<td>Helena Plateletworks®</td>
<td>PF PF1</td>
<td>2</td>
</tr>
</tbody>
</table>

*This Survey requires the draw of a normal donor sample.

### Thromboelastogram TEG

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thromboelastogram</td>
<td>TEG</td>
<td>2</td>
</tr>
</tbody>
</table>

### Coagulation Calibration Verification/Linearity LN35, LN36, LN37

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antithrombin activity</td>
<td>LN35 LN36 LN37</td>
<td>10%–130%</td>
</tr>
<tr>
<td>Protein C activity</td>
<td>LN35 LN36 LN37</td>
<td>10%–100%</td>
</tr>
<tr>
<td>Heparin, low molecular weight</td>
<td>LN35 LN36 LN37</td>
<td>0.1–2.0 U/mL</td>
</tr>
<tr>
<td>Heparin, unfractionated</td>
<td>LN35 LN36 LN37</td>
<td>0.1–1.3 U/mL</td>
</tr>
<tr>
<td>von Willebrand factor antigen</td>
<td>LN35 LN36 LN37</td>
<td>5%–140%</td>
</tr>
</tbody>
</table>

The LN35, LN36, and LN37 CVL programs meet the CAP Accreditation requirements HEM.38009, 38010, and 38011. **LN Express service is available.**
## D-Dimer Calibration Verification/Linearity LN42

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-dimer</td>
<td>LN42</td>
<td>200-4,500 ng/mL FEU</td>
</tr>
</tbody>
</table>

LN Express service is available.

## Whole Blood Coagulation WP3, WP4, WP6, WP9, WP10

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WP3</td>
</tr>
<tr>
<td>International normalized ratio (INR)</td>
<td>5</td>
</tr>
<tr>
<td>Prothrombin time</td>
<td>5</td>
</tr>
</tbody>
</table>

For method compatibility, see instrument matrix below.

### Program Information

- Six 1.0-mL plasma specimens
- Two shipments per year

### Whole Blood Coagulation, Instrument Matrix

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WP3</td>
</tr>
<tr>
<td>Abbott CoaguSense™</td>
<td></td>
</tr>
<tr>
<td>Helena Cascade POC – Citrated</td>
<td></td>
</tr>
<tr>
<td>Helena Cascade POC – Noncitrated</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/Signature +, Signature Elite and Jr. II – Citrated cuvette</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/Signature +, Signature Elite and Jr. II – Noncitrated cuvette</td>
<td></td>
</tr>
<tr>
<td>IL GEM PCL, PCL Plus – Citrated</td>
<td></td>
</tr>
<tr>
<td>IL GEM PCL, PCL Plus – Noncitrated</td>
<td></td>
</tr>
<tr>
<td>i-STAT</td>
<td></td>
</tr>
<tr>
<td>Roche CoaguChek XS Plus and XS Pro</td>
<td></td>
</tr>
<tr>
<td>Roche CoaguChek XS System</td>
<td></td>
</tr>
</tbody>
</table>

- WP3 - Five 1.0-mL lyophilized plasma specimens
- WP4, WP6 - Five 0.5-mL lyophilized whole blood specimens
- WP9 - Five 0.3-mL lyophilized plasma specimens
- Three shipments per year
- WP10 - Three 0.3-mL lyophilized plasma specimens; two shipments per year
### Whole Blood D-Dimer  WBDD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-dimer, qualitative</td>
<td>WBDD</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 0.5-mL whole blood specimens
- For use with the SimpliRED® and Clearview® Simplify D-dimer methods
- Two shipments per year

### Drug-Specific Platelet Aggregation  PIA

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin assay</td>
<td>PIA</td>
<td>3</td>
</tr>
<tr>
<td>PRU test</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IIb/IIIa assay</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three lyophilized specimens with diluents
- For use with the Accumetrics VerifyNow® System
- Kit includes sufficient material to perform one assay; multiple assay reporting requires the purchase of additional kits
- Two shipments per year

### 11-Dehydrothromboxane B2  TBX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-dehydrothromboxane B2</td>
<td>TBX</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL lyophilized urine specimens
- For use with Aspirin Works
- Two shipments per year

### Platelet Mapping*  PLTM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA % aggregation/inhibition</td>
<td>PLTM</td>
<td>2</td>
</tr>
<tr>
<td>ADP % aggregation/inhibition</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

*This Survey requires the draw of a normal donor sample.
Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

### Coagulation, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coagulation VM</td>
<td>CGM</td>
<td>CGL</td>
<td>144</td>
</tr>
</tbody>
</table>

### Program Information
- Five 1.0-mL lyophilized plasma specimens; three shipments per year; one 1.0-mL lyophilized plasma specimen and one 1.0-mL serum specimen; two shipments per year

“Everyday, I’m impressed by our customers’ commitment to quality patient care.”

– Lynne

CAP Customer Contact Center representatives understand the importance of what you do.
“In my state, especially, we’re very regulated and have all these regulatory agencies coming in. The CAP is the recognized laboratory standard and it’s great to be compared with a large peer group. I’ve been a manager in a laboratory without the CAP and with the CAP, and I will tell you that it is better to be with the CAP!”

Microbiology

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Discontinued Programs

Breakpoint Implementation Tool (BIT)
Bacteriology

Guide for Ordering Appropriate Bacteriology Surveys

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial identification</td>
<td>D D4 D2 D7 D3 D1</td>
<td></td>
</tr>
<tr>
<td>Gram stain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacterial antigen detection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Participants must report five specimens for each mailing to meet CLIA requirements for the subspecialty of bacteriology. See the following pages for more detailed information about each Survey.

Additional Information

Antigen detection challenges will be included in the following shipments:
- Shipment A: *C. difficile* antigen/toxin and spinal fluid meningitis panel
- Shipment B: Spinal fluid meningitis panel and Group A *Streptococcus*
- Shipment C: *C. difficile* antigen/toxin and Group A *Streptococcus*

Program Information

- Five swabs (in duplicate) with diluents for culture
- Two specimens for bacterial antigen detection from the following:
  - One swab for Group A *Streptococcus*
  - One 1.0-mL lyophilized specimen for spinal fluid meningitis testing
  - One 0.5-mL lyophilized specimen for *Clostridium difficile*, for use with rapid or molecular testing methods
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
**Expanded Bacteriology (DEX)**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live organisms</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**

Expanded Bacteriology (DEX) is an educational opportunity that provides:

- Culture and susceptibility testing challenges for microbiology laboratories that perform complete identification and susceptibility of bacterial isolates including less common or problematic bacteria
- More exposure to emerging bacterial pathogens and novel resistance mechanisms
- Ability to recognize and identify organisms that exhibit multiple drug-resistance patterns
- Recovery and identification of mixed pathogens such as yeast, aerobic, and anaerobic bacteria in cultures containing multiple organisms

---

**Microbiology Bench Tools Competency (MBT)**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial identification</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**

Microbiology Bench Tools for Competency (MBT) is a supplemental module for competency assessment and an educational resource for microbiology laboratories. The module:

- Provides organisms that challenge the basic elements of testing at the microbiology bench, including direct observation, monitoring, recording, and reporting of test results
- Can be used for both competency and educational purposes, including teaching and training pathology residents, new employees, medical, and MT/MLT students
- Provides identification and susceptibility results for supervisor use

This is not a proficiency testing program and participants will not return results to the CAP.

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### GC, Throat, and Urine Cultures  D1, D2, D3, D7

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/ Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td>D1</td>
<td>1</td>
</tr>
<tr>
<td>Bacterial identification</td>
<td>D2</td>
<td>5</td>
</tr>
<tr>
<td>Gram stain</td>
<td>D3</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Culture source:</th>
<th>Throat</th>
<th>Urine</th>
<th>Cervical</th>
<th>Throat/Urine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiologic level:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence or absence of Group A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streptococcus determination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisms identified to the extent of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>your laboratory’s protocol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence or absence of Neisseria</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gonorrhoeae determination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combination of two throat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and three urine culture specimens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Limited Bacteriology  D4

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/ Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td>D4</td>
<td>1</td>
</tr>
<tr>
<td>Bacterial antigen detection</td>
<td>D1</td>
<td>1</td>
</tr>
<tr>
<td>Bacterial identification</td>
<td>D2</td>
<td>5</td>
</tr>
<tr>
<td>Gram stain</td>
<td>D3</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Culture source:</th>
<th>Microbiologic level:</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC culture</td>
<td>Presence or absence</td>
</tr>
<tr>
<td></td>
<td>of Neisseria</td>
</tr>
<tr>
<td></td>
<td>gonorrhoeae</td>
</tr>
<tr>
<td></td>
<td>determination</td>
</tr>
<tr>
<td>Throat culture</td>
<td>Presence or absence</td>
</tr>
<tr>
<td></td>
<td>of Group A Streptococcus</td>
</tr>
<tr>
<td></td>
<td>determination</td>
</tr>
<tr>
<td>Urine culture</td>
<td>Organisms identified</td>
</tr>
<tr>
<td></td>
<td>to the extent of your</td>
</tr>
<tr>
<td></td>
<td>laboratory’s protocol</td>
</tr>
</tbody>
</table>

### Program Information
- Five loop specimens (in duplicate) with diluents and one swab specimen
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Gram Stain D5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram stain</td>
<td>D5</td>
<td>5</td>
</tr>
</tbody>
</table>

### Virtual Gram Stain VGS1, VGS2

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual Gram stain basic</td>
<td>VGS1</td>
<td>3</td>
</tr>
<tr>
<td>Virtual Gram stain advanced</td>
<td>VGS2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Virtual Gram Stain Basic Competency (VGS1) is for general and new laboratory technologists/technicians. Participants will assess the quality of specimens and stains and will report artifacts and detailed gram-positive and gram-negative morphology. Challenges will include specimens such as CSF, body fluids and positive blood cultures.

- Virtual Gram Stain Advanced Competency (VGS2) is for experienced laboratory technologists/technicians and microbiologists. Participants will receive challenging images of sputum, body fluids, and other specimens to assess the quality, quantity, and typical morphology of both gram-positive and gram-negative organisms appropriate for the site.

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.

- See system requirements on page 15.

**Program Information**

- Five air-dried, methanol-fixed unstained glass slides
- Three shipments per year

---

**Program Information**

- Three online whole slide images
- Results included in the kit to assess personnel competency
- Powered by DigitalScope technology
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Rapid Strep A Antigen Detection  D6

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A <em>Streptococcus</em> antigen detection</td>
<td>D6</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- Five swab specimens
- Three shipments per year

### Rapid Strep A Antigen Detection, Waived  D9

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A <em>Streptococcus</em> antigen detection</td>
<td>D9</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- Two swab specimens
- Two shipments per year

### Group B Strep Detection  D8

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group B <em>Streptococcus</em> detection</td>
<td>D8</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- Five swab specimens with diluents
- Compatible with culture and molecular methods
- Three shipments per year

---

**Check on your PT shipment with CAPTRAKer<sup>SM</sup>**

Our CAPTRAKer electronic shipment tracking program<sup>*</sup> gives your lab the ability to locate your PT kit in an instant!

- Alerts you that your CAP PT kits have been shipped
- Allows you to track your shipment through a link
- Results in less worries

**To begin receiving CAPTRAKer emails, send your name, CAP account number, and email address to contactcenter@cap.org.**

<sup>*</sup>CAP distributor customers—contact your distributor for your PT shipping information
## Bacterial Antigen Detection LBAS, SBAS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legionella pneumophila antigen detection</td>
<td>LBAS, SBAS</td>
<td>2</td>
</tr>
<tr>
<td>Streptococcus pneumoniae antigen detection</td>
<td>LBAS, SBAS</td>
<td>2</td>
</tr>
</tbody>
</table>

## Blood Culture BCS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood culture bacterial detection</td>
<td>BCS</td>
<td>2</td>
</tr>
</tbody>
</table>

## Blood Culture, Staphylococcus aureus BCS1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus aureus</td>
<td>BCS1</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Two liquid simulated clinical specimens
- Two shipments per year

### Program Information
- Two challenges with diluents for inoculation of blood culture bottles
- Two shipments per year

### Program Information
- Three specimens with diluents for inoculation of blood culture bottles
- Compatible with methods for rapid detection of S. aureus/MRSA/MSSA from positive blood culture bottles
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Blood Culture Panels for Molecular Multiplex Testing
**GNBC, GPBC**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of gram-negative organisms such as <em>Acinetobacter</em>, <em>Citrobacter</em>, <em>Enterobacter</em>, <em>Proteus</em>, <em>Haemophilus</em>, <em>Klebsiella</em>, <em>Neisseria</em>, <em>Pseudomonas</em>, <em>Serratia</em>, <em>E. coli</em>, and common resistance mechanisms isolated from positive blood culture bottles</td>
<td>GNBC <strong>NEW</strong> GPBC</td>
<td>3</td>
</tr>
<tr>
<td>Identification of gram-positive organisms such as <em>Staphylococcus</em>, <em>Streptococcus</em>, <em>Enterococcus</em>, <em>Listeria</em>, and common resistance mechanisms isolated from positive blood culture bottles</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

These Surveys are not for the inoculation of blood culture bottles.

### PNA FISH PNA1, PNA2, PNA3, PNA4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Staphylococcus</em></td>
<td>PNA1 PNA2 PNA3 PNA4</td>
<td>3</td>
</tr>
<tr>
<td><em>Yeast</em></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><em>Enterococcus</em></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Gram-negative rods</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Campylobacter CAMP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Campylobacter</em></td>
<td>CAMP</td>
<td>2</td>
</tr>
</tbody>
</table>

### Program Information
- **Blood Culture Panels for Molecular Multiplex Testing**: Three 1.0-mL liquid simulated blood culture fluid specimens for laboratories using molecular multiplex panels. Two shipments per year.
- **PNA FISH PNA1, PNA2, PNA3, PNA4**: Three challenges with diluents for inoculation of blood culture bottles. Two shipments per year.
- **Campylobacter CAMP**: Two swabs with diluents for use with rapid antigen, culture-based testing, and molecular methods. Two shipments per year.

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
## Chlamydia trachomatis HC1, HC3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigen detection (DFA)</td>
<td>HC1, HC3</td>
<td>5</td>
</tr>
<tr>
<td>Antigen detection (EIA)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- HC1 - Five 5-well slide specimens; for the detection of chlamydial elementary bodies by DFA
- HC3 - Five 2.0-mL liquid specimens
- Three shipments per year

## Fecal Lactoferrin FLAC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal lactoferrin</td>
<td>FLAC</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three simulated stool specimens
- For use with rapid methods
- Two shipments per year

## Helicobacter pylori Antigen, Stool HPS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helicobacter pylori antigen detection</td>
<td>HPS</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 0.5-mL fecal suspensions
- Two shipments per year

## Laboratory Preparedness Exercise LPX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live organisms</td>
<td>LPX</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three specimens with diluents
- Not available to international customers due to United States export law restrictions
- Two shipments per year

### Additional Information
The Laboratory Preparedness Exercise (LPX) was developed as a collaborative effort between the College of American Pathologists, the Centers for Disease Control and Prevention (CDC), and the Association of Public Health Laboratories (APHL). Laboratories will be sent live organisms that either exhibit characteristics of bioterrorism agents or demonstrate epidemiologic importance and will be expected to respond following Laboratory Response Network Sentinel Laboratory Guidelines if a bioterrorism agent is suspected. All agents provided are excluded from the CDC’s select agent list. These may include strains of *Bacillus anthracis*, *Yersinia pestis*, *Francisella tularensis*, and *Brucella abortus* that have been modified and are safe for testing in a laboratory that contains a certified Class II Biological Safety Cabinet and is capable of handling Category A and B agents.

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Methicillin-Resistant Staphylococcus aureus Screen  MRS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA detection</td>
<td>MRS</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two swab specimens with diluents
- For use with molecular methods and culture-based testing
- Two shipments per year

### Methicillin-Resistant Staphylococcus aureus Screen  MRS5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA detection</td>
<td>MRS5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five swab specimens with diluents
- For use with molecular methods and culture-based testing
- Three shipments per year

### Rapid Urease  RUR

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urease</td>
<td>RUR</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three simulated gastric biopsy specimens
- For use with methods such as CLOTEST®
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Stool Pathogen SP, SPN, SP1

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>SPN (NEW)</td>
<td>SP</td>
</tr>
<tr>
<td>Adenovirus 40/41</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>C. difficile</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Rotavirus</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Shiga toxin</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Norovirus</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

**Program Information**
- SP - Two 1.0-mL liquid specimens; for use with rapid or molecular testing methods; not available to international customers due to United States export law restrictions
- SPN - Two 1.0-mL liquid specimens; for use with rapid or molecular testing methods; intended for international laboratories
- SP1 - One 1.0-mL liquid specimen
- Two shipments per year

### Shiga Toxin ST

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiga toxin</td>
<td>ST</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 0.5-mL liquid specimens
- For use with direct shiga toxin testing only; not compatible with culture methods, cytotoxicity assays, or PCR
- Not available to international customers due to United States export law restrictions
- Two shipments per year

### Bacterial Vaginosis BV

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial vaginosis detection</td>
<td>BV</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL liquid challenges
- For OSOM® BVBlue users
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Vaginitis Screen VS, VS1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Candida sp.</em></td>
<td>VS</td>
<td>5</td>
</tr>
<tr>
<td><em>Gardnerella vaginalis</em></td>
<td>VS</td>
<td>5</td>
</tr>
<tr>
<td><em>Trichomonas vaginalis</em></td>
<td>VS, VS1</td>
<td>5</td>
</tr>
</tbody>
</table>

### Vaginitis Screen, Virtual Gram Stain VS2

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation of Gram-stained vaginal smears</td>
<td>VS2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- See system requirements on page 15.

### Vancomycin-Resistant Enterococcus VRE

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancomycin-resistant <em>Enterococcus</em> (VRE) detection</td>
<td>VRE</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- VS - Five swabs for DNA probe technology; BD Affirm™ VP III probe detection method; three shipments per year
- VS1 - Five swabs for DNA probe technology; Sekisui OSOM Trichomonas Rapid Test and Gen-Probe APTIMA® *Trichomonas vaginalis* methods; two shipments per year
- Three online whole slide images
- Powered by DigitalScope technology
- Two activities per year; your CAP shipping contact will be notified via email when the activity is available
- Two swabs with diluents
- For use with molecular methods and culture-based testing
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
Mycobacteriology

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Mycobacteriology E

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid-fast smear</td>
<td>E</td>
<td>1</td>
</tr>
<tr>
<td>Antimycobacterial susceptibility testing</td>
<td>1 graded, 1 ungraded</td>
<td></td>
</tr>
<tr>
<td>Mycobacterial identification*</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

*This procedure requires identification of *Mycobacterium tuberculosis*.

### Limited Mycobacteriology E1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid-fast smear</td>
<td>E1</td>
<td>5</td>
</tr>
<tr>
<td>Mycobacterial culture</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

### Molecular MTB Detection and Resistance MTBR

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Mycobacterium tuberculosis</em> detection</td>
<td>MTBR</td>
<td>3</td>
</tr>
<tr>
<td>Rifampin resistance</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Program Information
- Five simulated clinical isolates with diluents and one specimen for performing an acid-fast bacillus smear
- Identification may be performed by culture or molecular methods
- Two shipments per year

Program Information
- Five simulated specimens for acid-fast smears and/or for the determination of the presence or absence of acid-fast bacillus by culture
- Two shipments per year

Program Information
- Three simulated sputum specimens for use with molecular methods
- Not suitable for culture
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Mycology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antifungal susceptibility testing</td>
<td>F</td>
<td>1</td>
</tr>
<tr>
<td>Cryptococcal antigen detection</td>
<td>F</td>
<td>2 per year</td>
</tr>
<tr>
<td><strong>Mold and yeast identification</strong></td>
<td>F</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five loops for culture (in duplicate) with diluents and one 1.0-mL simulated cerebrospinal fluid specimen (A and B shipments only)
- Identification of yeast and mold may be performed by culture or molecular methods
- Three shipments per year

### Yeast F1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipmenet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antifungal susceptibility testing</td>
<td>F1</td>
<td>1</td>
</tr>
<tr>
<td>Cryptococcal antigen detection</td>
<td>F1</td>
<td>2 per year</td>
</tr>
<tr>
<td><strong>Yeast identification</strong></td>
<td>F1</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five loops for culture (in duplicate) with diluents and one 1.0-mL simulated cerebrospinal fluid specimen (A and B shipments only)
- Identification of yeast may be performed by culture or molecular methods
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Candida Culture F3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast identification</td>
<td>F3</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five loops for culture (in duplicate) with diluents
- Contains *Candida* species
- Identification of *Candida* species may be performed by culture, molecular, and rapid methods
- Three shipments per year

### Galactomannan FGAL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galactomannan - <em>Aspergillus</em></td>
<td>FGAL</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three liquid specimens
- For use with methods such as Bio-Rad Platelia™
- Two shipments per year

### Fungal Serology FSER

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serological detection of specific fungal antibodies</td>
<td>FSER</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three serum specimens
- For use with immunodiffusion methods
- Designed for the detection of antibodies to *Aspergillus, Blastomyces, Coccidioides,* and *Histoplasma*
- Two shipments per year

### Fungal Smear FSM

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>KOH preparation/calcofluor white</td>
<td>FSM</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three slides
- Two shipments per year

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Mycology

#### India Ink IND

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>India Ink</td>
<td>IND</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Pneumocystis jiroveci PCP1, PCP2, PCP3, PCP4

<table>
<thead>
<tr>
<th>Procedure</th>
<th>PCP1</th>
<th>PCP2</th>
<th>PCP3</th>
<th>PCP4</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCP – Calcofluor white stain</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PCP – DFA stain</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PCP – Giemsa stain</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PCP – GMS stain</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information

- Two liquid specimens
- Two shipments per year

---

**Put fast identification of fungi at your fingertips**

**Mycology Benchtop Reference Guide (MBRG)**

- More than 70 fungal identifications of yeast and molds commonly encountered in the clinical laboratory
- Detailed descriptions of the most significant morphologic elements, ecology, and clinical significance
- Color images of macroscopic and microscopic morphologies
- Six tabbed sections for easy reference
  - Yeast and Yeast-Like Fungi
  - Molds With Narrow, Hyaline Hyphae
  - Dimorphic Fungi
  - Dermatophytes
  - Zygomycetes
  - Dematiaceous Molds
- A durable and water-resistant format—6½" x 7" and spiral bound to withstand years of benchtop use

**Add code MBRG to your Surveys order form.**

Also available as an ebook! Visit ebooks.cap.org
### Parasitology P, P3, P4, P5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal suspension (wet mount)</td>
<td>P P3 P4 P5</td>
</tr>
<tr>
<td>Fecal suspension (Giardia and/or Cryptosporidium immunoassay and modified acid-fast stain)</td>
<td>P P3 P4 P5</td>
</tr>
<tr>
<td>Giemsa-stained blood smear</td>
<td>P</td>
</tr>
<tr>
<td>Preserved slide (for permanent stain)</td>
<td>P</td>
</tr>
</tbody>
</table>

**Additional Information**
- The proficiency testing materials used for the Parasitology Surveys contain formalin as a preservative.
- Modified acid-fast stain results do not meet CLIA requirements for parasite identification.

**Program Information**
- **P** - Five specimens consisting of thin and thick films for blood and tissue parasite identification; preserved slides for permanent stain; 0.75-mL fecal suspensions for direct wet mount examination, photographs, and/or online images; two 0.75-mL fecal suspensions for *Giardia* and/or *Cryptosporidium* immunoassay testing and modified acid-fast stain
- **P3** - Five 0.75-mL fecal suspensions for direct wet mount examination, photographs, and/or online images; one 0.75-mL fecal suspension for *Giardia* and/or *Cryptosporidium* immunoassay testing and modified acid-fast stain
- **P4** - Five specimens consisting of 0.75-mL fecal suspensions for direct wet mount examination, preserved slides for permanent stain, photographs, and/or online images; one 0.75-mL fecal suspension for *Giardia* and/or *Cryptosporidium* immunoassay testing and modified acid-fast stain
- **P5** - Five 0.75-mL fecal suspensions for *Giardia* and/or *Cryptosporidium* immunoassay testing and modified acid-fast stain
- Three shipments per year
### Blood Parasite BP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thin/thick blood film sets*</td>
<td>BP</td>
<td>5</td>
</tr>
</tbody>
</table>

*This Survey will include corresponding thick films when available.

### Rapid Malaria RMAL

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid malaria detection</td>
<td>RMAL</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Five Giemsa-stained blood film sets, photographs, and/or online images
- A variety of blood parasites, including *Plasmodium*, *Babesia*, *Trypanosoma*, and filarial worms
- Three shipments per year

### Program Information
- Three antigen specimens
- Two shipments per year

---

**Put fast identification of parasites at your fingertips**

**Parasitology Benchtop Reference Guide (PBRG)**

- More than 70 identifications for parasites commonly encountered in the clinical laboratory
- Detailed descriptions of the parasite morphology, ecology, and clinical significance
- Color images of microscopic morphologies using routine parasitology stains and preparations
- Color images of macroscopic worms routinely submitted to the clinical laboratory
- Five tabbed sections for easy reference
  - Blood Parasites
  - Intestinal Protozoa
  - Intestinal Helminths
  - Miscellaneous Specimens
  - Macroscopic Worms

A durable and water-resistant format—6½” by 7” and spiral bound to withstand years of benchtop use.

**Add code PBRG to your Surveys order form.**

Also available as an ebook! Visit ebooks.cap.org
### Ticks, Mites, and Other Arthropods  TMO

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tick, mite, and arthropod identification</td>
<td>TMO</td>
<td>3</td>
</tr>
</tbody>
</table>

### Worm Identification  WID

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worm identification</td>
<td>WID</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three images, each available as photographs and online images
- Two shipments per year
Use this flowchart as a guide for ordering the appropriate Virology and Molecular Microbiology Surveys for your laboratory’s testing menu. For the subspecialty of virology, you must test five specimens per mailing. If you have any questions, please call the Customer Contact Center at 800-323-4040 or 847-832-7000 option 1.

**Virology**

Do you perform any of the following virology testing?
- virology culture
- virology antigen testing
- virology antibody testing

**Molecular Microbiology**

Do you perform molecular testing on Chlamydia or GC only?

**Select** from the following Surveys:
- HC6, HC6X, HC7 Chlamydia/GC Nucleic Acid Amplification
- BSTE, BSTN, BSTS Bacterial Strain Typing

Select from the following Surveys:
- IDR Infectious Disease Respiratory Panel
- GIP Gastro-intestinal Panel
- GNBC, GPBC Blood Culture Panels

Do you perform nucleic acid amplification other than GC?

**Select** from the following Surveys:
- ID0, ID1, ID1T, ID2, IDN Nucleic Acid Amplification
- VLS, VLS2 Viral Load

Do you perform viral load testing only?

**Select** from the following Surveys:
- HIV, HV2 HIV Viral Load
- HCVN, HCV2, HBVL, HBVL5 Hepatitis Viral Load

Do you perform molecular multiplexing?

**Select** from the following Surveys:
- VR1
- VR2
- VR3/VR3M
- VR4
- HC2
- HC4
### Virology Culture VR1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia trachomatis culture</td>
<td>VR1</td>
<td>1</td>
</tr>
<tr>
<td>Viral isolation/identification</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Educational challenge</td>
<td></td>
<td>1 per year</td>
</tr>
</tbody>
</table>

### Virology Antigen Detection (DFA) VR2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenovirus antigen</td>
<td>VR2</td>
<td>A 1 1</td>
</tr>
<tr>
<td>Cytomegalovirus antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Herpes simplex virus (HSV) antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Influenza A antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Influenza B antigen</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Parainfluenza antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV) antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Varicella-zoster antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Educational challenge</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 0.5-mL specimens for viral culture and one 0.5-mL specimen for Chlamydia trachomatis culture
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Virology Antigen Detection (Non-DFA) VR4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenovirus (Not 40/41) antigen</td>
<td>VR4</td>
<td></td>
</tr>
<tr>
<td>Influenza A antigen</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Influenza B antigen</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV) antigen</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Rotavirus antigen</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 1.5-mL specimens
- For use with enzyme immunoassay and/or latex agglutination methods
- Three shipments per year

### Herpes Simplex Virus HC2, HC4

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigen detection (DFA)</td>
<td>HC2</td>
<td>5</td>
</tr>
<tr>
<td>Culture</td>
<td>HC4*</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- HC2 - Five 5-well slide specimens
- HC4 - Five 2.0-mL lyophilized specimens
- Three shipments per year

*The biohazard warning applies to Survey HC4.

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Hepatitis Viral Load
**HCVN, HCV2, HBVL, HBVL5**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>HCVN, HCV2</td>
</tr>
<tr>
<td>HCV genotyping</td>
<td>1</td>
</tr>
<tr>
<td>HCV, qualitative</td>
<td>1</td>
</tr>
<tr>
<td>HCV viral load</td>
<td>5</td>
</tr>
<tr>
<td>HBV viral load</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- HCVN - Five 0.5-mL liquid plasma specimens
- HCV2 - Five 1.5-mL liquid plasma specimens
- HBVL - Two 1.25-mL plasma specimens
- HBVL5 - Five 2.0-mL plasma specimens
- Three shipments per year

### HIV Viral Load
**HIV, HV2, HIVG**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-RNA viral load</td>
<td>HIV, HV2</td>
<td>5</td>
</tr>
<tr>
<td>HIV genotyping</td>
<td>HIVG</td>
<td>1</td>
</tr>
</tbody>
</table>

**Program Information**
- HIV - Five 0.5-mL plasma specimens
- HV2 - Five 2.5-mL plasma specimens
- HIVG - One 1.0-mL plasma specimen
- Three shipments per year

### Viral Load
**VLS, VLS2**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK viral load</td>
<td>VLS</td>
<td>2</td>
</tr>
<tr>
<td>CMV viral load</td>
<td>VLS</td>
<td>2</td>
</tr>
<tr>
<td>EBV viral load</td>
<td>VLS</td>
<td>2</td>
</tr>
<tr>
<td>Adenovirus viral load</td>
<td>VLS</td>
<td>2</td>
</tr>
<tr>
<td>HHV6 viral load</td>
<td>VLS</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>VLS2</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- VLS - Six 1.0-mL EDTA plasma specimens; two shipments per year
- VLS2 - Ten 2.0-mL EDTA plasma specimens; three shipments per year
**Viral Load Calibration Verification/Linearity**  
**LN38, LN39**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMV viral load</td>
<td>LN38</td>
<td>0.3M–1.0M IU/L</td>
</tr>
<tr>
<td>HIV viral load</td>
<td>LN39</td>
<td>0–10M copies/L</td>
</tr>
</tbody>
</table>

*LN Express service is available.*

**Program Information**
- LN38 - Six 1.5-mL frozen plasma specimens
- Two shipments per year; ships on dry ice

- LN39 - Six 2.5-mL frozen plasma specimens
- Two shipments per year; ships on dry ice

---

**C. trachomatis and N. gonorrhoeae**  
**HC6, HC6X, HC7**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nucleic acid amplification (NAA)</td>
<td>HC6, HC6X</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- HC6 - Three swab specimens and two 1.0-mL simulated urine specimens
- HC6X - Three swab specimens; two simulated urine specimens (in duplicate)
- HC7 - Five simulated body fluid specimens; designed for Cepheid users
- For Surveys HC6 and HC6X, use each swab to perform both C. trachomatis and N. gonorrhoeae testing
- Three shipments per year

---

**Human Papillomavirus**  
**HPV**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human papillomavirus</td>
<td>HPV</td>
<td>2</td>
</tr>
</tbody>
</table>

For laboratories using Digene, SurePath, and/or ThinPrep collection media, see page 246.

**Program Information**
- Two simulated cervical specimens contained in Digene transport media
- For Digene Hybrid Capture only
- Two shipments per year

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Bacterial Strain Typing  BSTE, BSTN, BSTS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BSTE</td>
<td>BSTN</td>
</tr>
<tr>
<td>Enterococcus</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Gram-negative organisms*</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Staphylococcus</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

*Gram-negative organisms include *Klebsiella* sp., *Acinetobacter* sp., and *Pseudomonas aeruginosa*.

### Nucleic Acid Amplification, Organisms  IDO, IDN

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IDO</td>
<td>IDN</td>
</tr>
<tr>
<td><em>Bordetella pertussis</em>/parapertussis*</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><em>Legionella pneumophila</em>/ Chlamyphila pneumoniae*</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Methicillin-resistant <em>Staphylococcus aureus</em></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Molecular typing (bacterial isolates)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><em>Mycobacterium tuberculosis</em></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><em>Mycoplasma pneumoniae</em></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Vancomycin-resistant Enterococcus</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

* *Bordetella pertussis*/parapertussis* and *Legionella pneumophila*/Chlamyphila pneumoniae will be included in the following shipments:
  - Shipment A: *Bordetella pertussis* and *Chlamyphila pneumoniae*
  - Shipment B: *Bordetella parapertussis* and *Legionella pneumophila*

### Program Information
- Two sets of loops with diluents
- Two shipments per year

**Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.**
### Nucleic Acid Amplification, Viruses ID1, ID1T

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytomegalovirus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Enterovirus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Epstein-Barr virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Herpes simplex virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Human herpesvirus 6</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Human herpesvirus 8</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Parvovirus B19</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Varicella-zoster virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>BK virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>JC virus</td>
<td>ID1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Program Information
- **ID1** - Eight 1.0-mL liquid specimens
- **ID1T** - Two 1.0-mL liquid specimens
- Two shipments per year

### Nucleic Acid Amplification, Respiratory ID2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenovirus</td>
<td>ID2</td>
<td>1</td>
</tr>
<tr>
<td>Coronavirus/Rhinovirus*</td>
<td>ID2</td>
<td>1</td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td>ID2</td>
<td>1</td>
</tr>
<tr>
<td>Influenza virus*</td>
<td>ID2</td>
<td>1</td>
</tr>
<tr>
<td>Parainfluenza virus</td>
<td>ID2</td>
<td>1</td>
</tr>
<tr>
<td>Respiratory syncytial virus</td>
<td>ID2</td>
<td>1</td>
</tr>
</tbody>
</table>

*Coronavirus/Rhinovirus and influenza virus will be included in the following shipments:
- Shipment A: Coronavirus and Influenza A
- Shipment B: Rhinovirus and Influenza B

### Program Information
- Six 1.0-mL liquid specimens
- Two shipments per year
# Infectious Disease Respiratory Panel for Molecular Multiplex Testing  IDR

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenovirus</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Influenza A</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Influenza B</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Parainfluenza</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Respiratory syncytial virus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Rhinovirus/Enterovirus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Educational challenge (Bocavirus, Coronavirus, or Parainfluenza 4)</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

## Gastrointestinal Panel for Molecular Multiplex Testing  GIP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campylobacter</td>
<td>GIP</td>
<td>3</td>
</tr>
<tr>
<td>Clostridium difficile, toxin A/B</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cryptosporidium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Enterotoxigenic E. coli (ETEC) LT/ST</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Escherichia coli 0157</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Giardia</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Norovirus GI/GII</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Rotavirus A</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Salmonella</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Shiga-like toxin producing E. coli (STEC) stx1/stx2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Shigella</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
# Infectious Disease Serology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

## Infectious Disease Serology VR3, VR3M

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytomegalovirus (CMV) – IgG, IgM, and total antibodies</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td>Epstein-Barr virus (EBV) – VCA – IgG, IgM EBNA – IgG, IgM, and total antibodies EA – IgG</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td><em>Helicobacter pylori</em> – IgG, IgA, and total antibodies</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td>Herpes simplex virus (HSV) – IgG antibody</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td><em>Mycoplasma pneumoniae</em> – IgG, IgM, and total antibodies</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td>Mumps – IgG</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td>Rubeola virus (English measles) – IgG antibody</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td><em>Toxoplasma gondii</em> – IgG, IgM, and total antibodies</td>
<td>VR3</td>
<td>1</td>
</tr>
<tr>
<td>Varicella-zoster virus – IgG and total antibodies</td>
<td>VR3</td>
<td>1</td>
</tr>
</tbody>
</table>

## Tick-Transmitted Diseases TTD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibodies to tick-transmitted disease organisms</td>
<td>TTD</td>
<td>3</td>
</tr>
</tbody>
</table>

## Program Information

- **VR3** - Eight 0.5-mL lyophilized plasma specimens
- **VR3M** - One 0.5-mL lyophilized plasma specimen
- Two shipments per year

- **TTD** - Three 0.4-mL liquid specimens
- Designed for the detection of antibodies to *Borrelia burgdorferi*, *Babesia microti*, and *Anaplasma phagocytophilum*
- Two shipments per year
The data we receive from CAP often drives changes that are necessary to improve our performance.
### Immunology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

#### Immunology

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANA, ASO, CRP, HCG, IM, RF/RFX, RUB/RUBX, IL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ANA, ASO, CRP, HCG, IM, RF/RFX, RUB/RUBX, IL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antinuclear antibody (ANA)*</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Antistreptolysin O (ASO)*</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>C-reactive protein (qualitative/quantitative)</td>
<td>✔</td>
<td>2</td>
</tr>
<tr>
<td>hCG, serum (qualitative/quantitative)</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Infectious mononucleosis</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Rheumatoid factor*</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Rubella (IgG)*</td>
<td>✔</td>
<td>5</td>
</tr>
</tbody>
</table>

*Antinuclear antibody, Antistreptolysin O, Rheumatoid factor, and Rubella are regulated analytes and are graded for both qualitative and quantitative methods. Semiquantitative and/or titer results for these analytes are ungraded/educational in this Survey and do not meet regulatory requirements.*

#### Immunology, General - IG/IGX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program Code</strong></td>
<td>IG/IGX</td>
<td></td>
</tr>
<tr>
<td>Alpha-antitrypsin</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Complement C3</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Complement C4</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Haptoglobin</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>IgA</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>IgE</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>IgG</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>IgM</td>
<td>✔</td>
<td>5</td>
</tr>
<tr>
<td>Total kappa/lambda ratio</td>
<td>✔</td>
<td>5</td>
</tr>
</tbody>
</table>

#### Program Information

- ANA and RUB - Five 0.5-mL liquid serum specimens
- ASO, HCG, and RF - Five 1.0-mL liquid serum specimens
- CRP - Two 0.5-mL liquid serum specimens; not appropriate for high-sensitivity CRP (hsCRP) methods
- IM - Five 0.6-mL liquid serum specimens
- RFX - All Survey RF specimens in duplicate
- RUBX - All Survey RUB specimens in duplicate
- IL - All immunology specimens except RFX and RUBX
- Three shipments per year
### Immunology, Special; Immunology Special, Limited; and *H. pylori* IgG Antibody  S2, S4, S5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticentromere antibody</td>
<td>S2</td>
<td>A 1 1</td>
</tr>
<tr>
<td>Anti-DNA antibody (ds)</td>
<td>S4</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Antiglomerular basement membrane (GBM), IgG antibody</td>
<td>S5</td>
<td>1 1</td>
</tr>
<tr>
<td>Antimitochondrial antibody</td>
<td></td>
<td>1 1 1</td>
</tr>
<tr>
<td>Antineutrophil cytoplasmic antibody (ANCA, anti-MPO, anti-PR3)</td>
<td>S2</td>
<td>A 1 1</td>
</tr>
<tr>
<td>Anti-RNP antibody</td>
<td>S4</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Anti-Sm antibody</td>
<td>S5</td>
<td>A 1 1 1</td>
</tr>
<tr>
<td>Anti-Sm/RNP antibody</td>
<td></td>
<td>1 1 1</td>
</tr>
<tr>
<td>Antimitochondrial antibody</td>
<td></td>
<td>1 1 1</td>
</tr>
<tr>
<td>Anti-SSA antibody</td>
<td>S2</td>
<td>A 1 1</td>
</tr>
<tr>
<td>Anti-SSB antibody</td>
<td>S4</td>
<td>1 1</td>
</tr>
<tr>
<td>Anti-SSA/SSB antibody</td>
<td>S5</td>
<td>A 1 1 1</td>
</tr>
<tr>
<td>Antithyroglobulin antibody</td>
<td>S2</td>
<td>A 1 1 1</td>
</tr>
<tr>
<td>Antithyroid microsomal antibody</td>
<td>S4</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Antithyroid peroxidase antibody</td>
<td>S5</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Ceruloplasmin</td>
<td></td>
<td>1 1 1</td>
</tr>
<tr>
<td>Haptoglobin</td>
<td>S2</td>
<td>A 1 1 1</td>
</tr>
<tr>
<td><em>Helicobacter pylori</em>, IgG antibody</td>
<td>S4</td>
<td>A 2 2</td>
</tr>
<tr>
<td>IgD</td>
<td>S5</td>
<td>1 1 1</td>
</tr>
<tr>
<td>IgG</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>IgG subclass proteins</td>
<td>S2</td>
<td>A 1 1 1</td>
</tr>
<tr>
<td>Prealbumin (transthyretin)</td>
<td>S4</td>
<td>1 1</td>
</tr>
<tr>
<td>Total kappa/lambda ratio</td>
<td>S5</td>
<td>A 1 1 1</td>
</tr>
<tr>
<td>Transferrin</td>
<td></td>
<td>1 1</td>
</tr>
</tbody>
</table>

**Program Information**
- S2 - A minimum of seven (0.5 to 1.0-mL/vial) liquid serum specimens
- S4 - A minimum of three (0.5 to 1.0-mL/vial) serum specimens
- Three shipments per year
- S5 - Two 1.0-mL serum specimens; two shipments per year

### Infectious Mononucleosis, Waived  IMW

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infectious mononucleosis, waived</td>
<td>IMW</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.6-mL serum specimens
- Two shipments per year
### Antichromatin Antibody ACA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antichromatin antibody</td>
<td>ACA</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL serum specimens
- Two shipments per year

### Antifilamentous Actin IgG Antibody FCN

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antifilamentous actin (f-actin) IgG antibody</td>
<td>FCN</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL serum specimens
- Two shipments per year

### Antihistone Antibody AHT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antihistone antibody</td>
<td>AHT</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL serum specimens
- Two shipments per year

### Antimitochondrial M2 Antibody H

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimitochondrial M2 antibody (AMA-M2)</td>
<td>H</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.0-mL serum specimens
- Two shipments per year

### Antiparietal Cell Antibody APC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiparietal cell antibody</td>
<td>APC</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.0-mL serum specimens
- Two shipments per year
### Antiphospholipid Antibody (ACL)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticardiolipin antibody (polyclonal, IgG, IgM, and IgA)</td>
<td>ACL</td>
<td>3</td>
</tr>
<tr>
<td>Beta-2-glycoprotein I (polyclonal, IgG, IgM, and IgA)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL lyophilized serum specimens
- Two shipments per year

### Antiphosphatidylserine Antibody (APS)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticardiolipin antibody (polyclonal, IgG, IgM, and IgA)</td>
<td>APS</td>
<td>3</td>
</tr>
<tr>
<td>Antiphosphatidylserine antibody (IgG, IgM, and IgA)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Beta-2-glycoprotein I (polyclonal, IgG, IgM, and IgA)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL lyophilized serum specimens
- Two shipments per year

### Antiribosomal-P Antibody (ARP)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiribosomal-P antibody</td>
<td>ARP</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL lyophilized serum specimens
- Two shipments per year

### Anti-Saccharomyces cerevisiae Antibody (ASC)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Saccharomyces cerevisiae antibody, IgG and IgA</td>
<td>ASC</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.0-mL serum specimens
- Two shipments per year
### Celiac Serology CES

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipmen</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiendomysial antibody, IgA and IgG</td>
<td>CES</td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Antiendomysial antibody screen, IgA and IgG</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Antigliadin antibody, IgA and IgG</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Antideamidated gliadin peptide antibody, IgA and IgG</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Antideamidated gliadin peptide antibody screen, IgA and IgG</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Antitissue transglutaminase antibody, IgA and IgG</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Antideamidated gliadin peptide and antitissue transglutaminase antibody screen, IgA and IgG</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Each shipment will contain the appropriate number of 0.3-mL serum specimens
- Two shipments per year

### Cyclic-Citrullinated Peptide Antibody (Anti-CCP) CCP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-CCP</td>
<td>CCP</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.0-mL serum specimens
- Two shipments per year

### Cytokines CTKN

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interferon (IFN)-gamma</td>
<td>CTKN</td>
<td>3</td>
</tr>
<tr>
<td>Interleukin (IL)-1 beta</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-6</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-8</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-10</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Tumor necrosis factor (TNF)-alpha</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Vascular endothelial growth factor (VEGF)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0- to 3.0-mL lyophilized serum specimens
- Two shipments per year
### Diagnostic Allergy SE

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgE, multiallergen screen (qualitative)</td>
<td>SE</td>
<td>5</td>
</tr>
<tr>
<td>IgE, total</td>
<td>SE</td>
<td>5</td>
</tr>
<tr>
<td>Lateral flow immunoassay</td>
<td>SE</td>
<td>5</td>
</tr>
<tr>
<td>Specific allergens</td>
<td>SE</td>
<td>25</td>
</tr>
<tr>
<td>Educational challenges</td>
<td>SE</td>
<td>2 per year</td>
</tr>
</tbody>
</table>

### Heavy Chain/Light Chain Analysis HCA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgA kappa</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgA lambda</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgA kappa/lambda ratio and ratio interpretation</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgG kappa</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgG lambda</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgG kappa/lambda ratio and ratio interpretation</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgM kappa</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgM lambda</td>
<td>HCA</td>
<td>3</td>
</tr>
<tr>
<td>IgM kappa/lambda ratio and ratio interpretation</td>
<td>HCA</td>
<td>3</td>
</tr>
</tbody>
</table>

This program will target unique junctional epitopes between the constant regions of immunoglobulin heavy and light chains and will allow laboratories to identify the different light chain types of each immunoglobulin class.

### High-Sensitivity/Cardiac C-Reactive Protein HSCRP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity/Cardiac C-reactive protein</td>
<td>HSCRP</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information

- **Diagnostic Allergy SE**
  - Five 2.0-mL serum specimens
  - Includes common allergens from North America as well as less frequently tested allergens
  - Also compatible with the ImmunoCAP® Rapid Inhalant Profile 1 device for allergen testing
  - Three shipments per year

- **Heavy Chain/Light Chain Analysis HCA**
  - Three 1.0-mL serum specimens
  - Two mailings per year

- **High-Sensitivity/Cardiac C-Reactive Protein HSCRP**
  - Three 0.5-mL liquid serum specimens
  - Two shipments per year
### Liver-Kidney Microsomal Antibody (Anti-LKM) LKM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-LKM</td>
<td>LKM</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Program Information
- Two 1.0-mL serum specimens
- Two shipments per year

### M. tuberculosis-Stimulated Infection Detection QF

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. tuberculosis</td>
<td>QF</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Program Information
- Two 1.0-mL lyophilized specimens and one lyophilized mitogen control
- For use with the QuantiFERON®-TB method only
- Two shipments per year

### Rheumatic Disease Special Serologies RDS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Jo-1 (antihistidyl t-RNA synthetase)</td>
<td>RDS</td>
<td>1</td>
</tr>
<tr>
<td>Anti-Scl-70 (anti-DNA topoisomerase)</td>
<td>RDS</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Program Information
- Two 1.0-mL serum specimens
- Two shipments per year

### Syphilis Serology G

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syphilis</td>
<td>G</td>
<td>5</td>
</tr>
</tbody>
</table>

Use with VDRL, RPR, MHA-TP/TP-PA/PK-TP, EIA, CMIA, multiplex flow immunoassay, FTA-ABS, and USR methods. Laboratories performing syphilis serology on CSF specimens may also use this Survey.

### Total Hemolytic Complement CH50

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total hemolytic complement, 50% lysis</td>
<td>CH50</td>
<td>2</td>
</tr>
<tr>
<td>Total hemolytic complement, 100% lysis</td>
<td>CH50</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Program Information
- Two 0.5-mL lyophilized serum specimens
- Two shipments per year
Rely on this reference for a rapidly growing field

*Flow Cytometry in Evaluation of Hematopoietic Neoplasms: A Case-Based Approach* is a practical, case-based guide to flow cytometric analysis in the workup of hematopoietic neoplasms presenting in the peripheral blood, marrow, lymphoid tissue, and extranodal sites. Using multicolor techniques pioneered by Brent Wood, the text demonstrates a unique approach to diagnosis of hematopoietic malignancies as well as identification of small abnormal populations in the posttherapy setting (minimal residual disease testing).

This text provides pathologists, residents, laboratory technologists, and hematologists with both a study guide and an atlas for regular consultation in the clinical flow cytometry laboratory.

To order
Visit cap.org and choose the Shop tab or call the CAP Customer Contact Center at 800-323-4040 or 847-832-7000 option 1.

**Viscosity V**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>V</td>
<td>2</td>
</tr>
</tbody>
</table>

**Serum Free Light Chains SFLC**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kappa serum free light chain</td>
<td>SFLC</td>
<td>3</td>
</tr>
<tr>
<td>Lambda serum free light chain</td>
<td>SFLC</td>
<td>3</td>
</tr>
<tr>
<td>Kappa/lambda serum free light chain ratio and ratio interpretation</td>
<td>SFLC</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 10.0-mL serum specimens
- Two shipments per year

**Program Information**
- Three 1.0-mL serum specimens
- Two shipments per year
Flow Cytometry

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Flow Cytometry FL, FL1, FL2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
</tr>
<tr>
<td>DNA content and cell cycle analysis</td>
</tr>
<tr>
<td>Lymphocyte immunophenotyping</td>
</tr>
</tbody>
</table>

This Survey is not appropriate for hematology analyzers with monoclonal antibody analysis.

<table>
<thead>
<tr>
<th>Flow Cytometry—Immunophenotypic Characterization of Leukemia/Lymphoma FL3, FL3CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
</tr>
<tr>
<td>Leukemia/lymphoma</td>
</tr>
<tr>
<td>Leukemia/lymphoma list mode challenge (CD-ROM)</td>
</tr>
</tbody>
</table>

**Additional Information**

- Becton Dickinson (BD) CellQuest users may need FACSConvert™ software, which is standard on most operating systems, to view the BD list mode files on the FL3CD CD-ROM.
- Survey FL3 features DigitalScope technology that simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- See system requirements on page 15.

**Program Information**

- FL1 - Three 1.5-mL whole blood specimens
- FL2 - Three 1.1-mL specimens; two fixed cell line specimens and one calibrator for DNA content and cell cycle analysis
- FL - All Survey FL1 and FL2 specimens
- Three shipments per year

**Program Information**

- FL3 - Two 4.5-mL whole blood specimens and/or cell lines simulating leukemia/lymphoma; images of tissue sections, bone marrow, and/or peripheral blood smears with clinical histories
- Online whole slide images powered by DigitalScope technology
- FL3CD - CD-ROM containing two cases of leukemia/lymphoma with clinical histories, digital images, and ungated list mode files; allows users to examine gating strategies and interpret antibody staining patterns; the files are in standard FCS 2.0 format and work well with CellQuest™, FACSCanto/Diva™, Expo 32, R(C)XP, and other software capable of reading the FCS 2.0 files (with the exception of System II and Paint-A-Gate™ software)
- Two shipments per year
### Flow Cytometry, CD34+ FL4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD34+</td>
<td>FL4</td>
<td>2</td>
</tr>
</tbody>
</table>

### Flow Cytometry, Interpretation Only FL5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow cytometry, interpretation only</td>
<td>FL5</td>
<td>2</td>
</tr>
</tbody>
</table>

Survey FL5 is for laboratories that receive flow cytometry analyses from referring laboratories to perform the interpretation of patient results.

### Flow Cytometry – Immunophenotypic Characterization of Paroxysmal Nocturnal Hemoglobinuria PNH

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNH RBC analysis</td>
<td>PNH</td>
<td>2</td>
</tr>
<tr>
<td>PNH WBC analysis</td>
<td>PNH</td>
<td>2</td>
</tr>
</tbody>
</table>

Additional Information

The PNH Survey complies with the recommendations from the Guidelines for the Diagnosis and Monitoring of Paroxysmal Nocturnal Hemoglobinuria and Related Disorders by Flow Cytometry for RBC (eg, CD59 and CD235a) and WBC (eg, CD15, CD24, CD45, and FLAER) analysis. Due to the unique nature of these human, donor-based materials, the shipping dates are subject to change. If this should occur, the CAP will provide notification prior to the originally scheduled shipping date.

### Fetal Red Cell Detection HBF

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer-Betke, flow cytometry</td>
<td>HBF</td>
<td>2</td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td>HBF</td>
<td>2</td>
</tr>
</tbody>
</table>

### Program Information

- Two 1.5-mL stabilized human CD34+ specimens
- Two shipments per year

- Two cases consisting of gated dot plots, clinical histories, and pertinent laboratory data, as well as images of tissue sections, bone marrow, and/or peripheral blood smears
- Two shipments per year

- Two 0.5-mL whole blood specimens for RBC and WBC analysis
- Two shipments per year

- Two 1.2-mL liquid whole blood specimens
- Not designed for F cell quantitation
- Two shipments per year
### Rare Flow Antigen Validation, CD1a  RFAV1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD1a</td>
<td>RFAV1</td>
<td></td>
</tr>
</tbody>
</table>

Survey RFAV1 does not meet the regulatory requirements for proficiency testing.

**Additional Information**
This Survey meets the CAP Accreditation Checklist item FLO.23737, which requires semiannual testing of antigens.

### ZAP-70 Analysis by Flow Cytometry  ZAP70

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeta chain-associated protein kinase 70</td>
<td>ZAP70</td>
<td></td>
</tr>
</tbody>
</table>

Additional Information
This Survey tests for intracellular ZAP-70 staining of cell lines co-stained with pan T- and B-cell markers. It allows for assessment of the laboratory’s staining techniques and the antibody clone used for ZAP-70 detection.

**Program Information**
- One 4.5-mL cell line specimen
- Two shipments per year

**Program Information**
- Three 4.5-mL cell line specimens
- Two shipments per year

Download My PT Shipping Calendar to access your customized shipping schedule

Access your customized shipping calendar* through e-LAB Solutions™. Not enrolled in e-LAB Solutions? Go to cap.org to get started.

*CAP distributor customers—contact your distributor for your PT shipping schedule
“In my state especially, we’re very regulated, and have all these regulatory agencies coming in. The CAP is the recognized laboratory standard and it’s great that you are compared to a large peer group. I’ve been a manager in a laboratory without the CAP and with the CAP, and I will tell you that it is better to be with the CAP!”
Transfusion Medicine

### Transfusion Medicine, Comprehensive/Limited  J, J1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO grouping</td>
<td>J</td>
<td>J1</td>
</tr>
<tr>
<td>Rh typing</td>
<td>J</td>
<td>J1</td>
</tr>
<tr>
<td>Antibody detection</td>
<td>J</td>
<td>J1</td>
</tr>
<tr>
<td>Antibody identification</td>
<td>J</td>
<td>J1</td>
</tr>
<tr>
<td>Compatibility testing</td>
<td>J</td>
<td>J1</td>
</tr>
<tr>
<td>Red blood cell antigen typing</td>
<td>J</td>
<td>J1</td>
</tr>
</tbody>
</table>

#### Program Information
- J - Five 2.0-mL 3% red blood cell suspensions; five 3.0-mL corresponding serum specimens; one 2.0-mL donor red blood cell suspension
- J1 - Five 2.0-mL 3% red blood cell suspensions; five 3.0-mL corresponding serum specimens
- Three shipments per year

### Transfusion Medicine Automated Testing  JAT

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO grouping</td>
<td>JAT</td>
<td></td>
</tr>
<tr>
<td>Antibody detection</td>
<td>J</td>
<td></td>
</tr>
<tr>
<td>Antibody identification</td>
<td>J</td>
<td></td>
</tr>
<tr>
<td>Compatibility testing</td>
<td>J</td>
<td></td>
</tr>
<tr>
<td>Rh typing</td>
<td>J</td>
<td></td>
</tr>
</tbody>
</table>

#### Program Information
- Five bar-coded 4.0-mL blood specimens and one 4.0-mL blood specimen for compatibility testing
- Three shipments per year

### Transfusion Medicine Educational Challenges  JE1

<table>
<thead>
<tr>
<th>Analyte/Program</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational challenge</td>
<td>JE1</td>
<td></td>
</tr>
</tbody>
</table>

#### Program Information
- One educational challenge, which may consist of a paper challenge and/or wet specimen for ABO grouping, Rh typing, antibody detection, antibody identification, compatibility testing, antigen typing, and/or direct antiglobulin testing
- Must purchase in conjunction with Survey J
- Three shipments per year
### Transfusion Medicine Automated, Educational Challenges  JATE1

<table>
<thead>
<tr>
<th>Analyte/Program</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>JATE1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Educational challenge</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Expanded Transfusion Medicine Exercises  ETME1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETME1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Expanded challenges</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Information**

Survey ETME1 is an educational opportunity that offers:

- More challenging and/or complex antibody identification
- Comprehensive case studies in transfusion medicine
- Simulated collaboration with other professionals, including those within or outside your institution
- A method for determining the laboratory’s ability to recognize and integrate problem solving skills in transfusion medicine

The wet challenge may consist of specimens for ABO grouping, Rh typing, antibody detection, antibody identification, compatibility testing, antigen typing, direct antiglobulin testing, antibody titer, and/or antibody elution.

**Program Information**

- ETME1 - One paper challenge and one wet challenge consisting of a serum specimen(s) and/or red blood cell suspensions
- Two shipments per year
### Transfusion Medicine Competency Assessment—Comprehensive Transfusion Medicine (TMCA)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO grouping</td>
<td>TMCA</td>
<td>2</td>
</tr>
<tr>
<td>Antibody detection</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Antibody identification</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Compatibility testing</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Rh typing</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Survey TMCA does not meet the regulatory requirements for proficiency testing.

### Transfusion Medicine Competency Assessment—Direct Antiglobulin Test (TMCAD)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct antiglobulin testing</td>
<td>TMCAD</td>
<td>2</td>
</tr>
</tbody>
</table>

Survey TMCAD does not meet the regulatory requirements for proficiency testing.

### Transfusion Medicine Competency Assessment—Eluate Test (TMCAE)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibody elution</td>
<td>TMCAE</td>
<td>2</td>
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</tbody>
</table>

Survey TMCAE does not meet the regulatory requirements for proficiency testing.

### Transfusion Medicine Competency Assessment—Fetal Red Cell Quantitation (TMCAF)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer-Betke, flow cytometry</td>
<td>TMCAF</td>
<td>2</td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Survey TMCAF does not meet the regulatory requirements for proficiency testing.

---

**Program Information**

- Two 2.0-mL 3% red blood cell suspensions
- Two 2.0-mL corresponding serum specimens
- One 2.0-mL donor 3% red blood cell suspension
- Three shipments per year; order shipments individually or for an entire year

### Program Information

- Two 2.0-mL 3% red blood cell suspensions
- Two shipments per year; order shipments individually or for an entire year

### Program Information

- Two 2.0-mL 50% red blood cell suspensions
- Two shipments per year; order shipments individually or for an entire year

### Program Information

- Two 1.2-mL whole blood specimens
- Two shipments per year; order shipments individually or for an entire year
Transfusion Medicine, Electronic Crossmatch EXM

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic crossmatch</td>
<td>EXM</td>
<td>3</td>
</tr>
</tbody>
</table>

Survey EXM assists laboratories in monitoring the performance of their electronic crossmatching system.

Transfusion Medicine Automated, Electronic Crossmatch EXM2

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic crossmatch</td>
<td>EXM2</td>
<td>3</td>
</tr>
</tbody>
</table>

Survey EXM2 assists laboratories in monitoring the performance of their electronic crossmatching system.

Program Information
- Three simulated, ISBT-128 labeled donor unit challenges and three corresponding red blood cell suspensions
- Must order in conjunction with Survey J
- Two shipments per year

Program Information
- Three simulated, ISBT-128 labeled donor unit challenges and three corresponding red blood cell suspensions
- Must purchase in conjunction with Survey JAT
- Two shipments per year

"The guidance I provide for PT ordering and results assures my customers that everything will be okay." – Tiffani

CAP Customer Contact Center representatives understand the importance of what you do.
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-A titer</td>
<td>ABT</td>
<td>1</td>
</tr>
<tr>
<td>Anti-B titer</td>
<td>ABT1</td>
<td>1</td>
</tr>
<tr>
<td>Anti-D titer</td>
<td>ABT2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ABT3 ▼NEW</td>
<td></td>
</tr>
</tbody>
</table>

**Antibody Titer ABT, ABT1, ABT2, ABT3**

**Program Information**

- **ABT** - One 2.0-mL plasma specimen for anti-A titer with one corresponding titer cell (3% to 4% red blood cell suspension); one 2.0-mL plasma specimen for anti-D titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- **ABT1** - One 2.0-mL plasma specimen for anti-A titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- **ABT2** - One 2.0-mL plasma specimen for anti-D titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- **ABT3** - One 2.0-mL plasma specimen for anti-B titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- Two shipments per year
Bacterial Detection in Platelets  BDP, BDP5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Challenges/Shipment</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial culture and detection systems</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**
- The Centers for Medicare & Medicaid Services (CMS) requires proficiency testing for bacterial detection in platelets.
- Survey BDP is designed for donor centers/laboratories that are associated with a CMS-certified microbiology laboratory with the same CLIA number and are participating in an approved proficiency testing program for bacterial detection.
- Survey BDP5 is designed for donor centers/laboratories that are performing bacterial detection for the purposes of platelet unit screening and are not associated with a CMS-certified microbiology laboratory with the same CLIA number.
- See International Shipping information section in the Ordering Information Supplement regarding additional dangerous goods shipping fees.

Bacterial Detection in Platelets, Rapid  BDPV, BDPV5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Challenges/Shipment</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid immunoassay</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**
- The Centers for Medicare and Medicaid Services (CMS) requires proficiency testing for bacterial detection in platelets.
- Survey BDPV is designed for donor centers/laboratories that are associated with a CMS-certified microbiology laboratory with the same CLIA number and are participating in an approved proficiency testing program for bacterial detection.
- Survey BDPV5 is designed for donor centers/laboratories that are performing bacterial detection for the purposes of platelet unit screening and are not associated with a CMS-certified microbiology laboratory with the same CLIA number.
- See International Shipping information section in the Ordering Information Supplement regarding additional dangerous goods shipping fees.

**Program Information**
- BDP - Two lyophilized pellet specimens with diluents; two shipments per year
- BDP5 - Five lyophilized pellet specimens with diluents; three shipments per year
- BDPV - Two frozen specimens; two shipments per year
- BDPV5 - Five frozen specimens; three shipments per year
- For use with methods such as Verax Biomedical

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Cord Blood and Stem Cell Processing CBT, SCP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute CD3</td>
<td>CBT</td>
<td>2</td>
</tr>
<tr>
<td>Absolute CD34</td>
<td>SCP</td>
<td>2</td>
</tr>
<tr>
<td>Absolute CD45</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Bacterial culture</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>%CD3+</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>%CD34+</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>%CD45+</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>BFU-E</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>CFU-E</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>CFU-GEMM</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>CFU-GM</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Total CFC</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Fungal culture</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Mononuclear cell count</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Total nucleated cells</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Total nucleated red cells</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Viability</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>WBC count</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**
- Because these materials are human donor-based, the ship date is subject to change. If this should occur, notification will be provided prior to the scheduled date. In some instances, the program may ship in two installments.
- Due to material stability, no replacements will be available.
- See International Shipping information section in the Ordering Information Supplement regarding additional dangerous goods shipping fees.

### Direct Antiglobulin Testing DAT

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct antiglobulin testing</td>
<td>DAT</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL 3% red blood cell suspensions
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
<table>
<thead>
<tr>
<th>Eluate Survey ELU</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>Antibody elution</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fetal Red Cell Detection HBF</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>Kleihauer-Betke, flow cytometry</td>
<td>HBF</td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td>HBF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Platelet Serology PS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>Antibody detection</td>
<td>PS</td>
</tr>
<tr>
<td>Platelet crossmatch</td>
<td>PS</td>
</tr>
<tr>
<td>Platelet antibody identification</td>
<td>PS</td>
</tr>
</tbody>
</table>

A low concentration of sodium azide may be present in the specimens and may affect lymphocytotoxicity methods.

<table>
<thead>
<tr>
<th>Red Blood Cell Antigen Genotyping RAG</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>Red cell antigen genotype with predictive phenotype</td>
<td>RAG</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fetal Red Cell Detection HBF</strong></td>
<td></td>
</tr>
<tr>
<td>- Two 1.2-mL liquid whole blood specimens</td>
<td></td>
</tr>
<tr>
<td>- Not designed for F cell quantitation</td>
<td></td>
</tr>
<tr>
<td>- Two shipments per year</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Platelet Serology PS</strong></td>
<td></td>
</tr>
<tr>
<td>- Three 3.0-mL plasma specimens</td>
<td></td>
</tr>
<tr>
<td>- For use with solid-phase red cell adherence, flow cytometry, EIA/ELISA, and RIA methods</td>
<td></td>
</tr>
<tr>
<td>- Two shipments per year</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red Blood Cell Antigen Genotyping RAG</strong></td>
<td></td>
</tr>
<tr>
<td>- Three 2.0-mL whole blood specimens</td>
<td></td>
</tr>
<tr>
<td>- Two shipments per year</td>
<td></td>
</tr>
</tbody>
</table>
**Red Blood Cell Antigen Typing**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cell antigen typing</td>
<td>RBCAT</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**

- Two 2.0-mL 3% red blood cell suspensions
- Two shipments per year

**Additional Information**

Survey RBCAT is for donor centers and transfusion laboratories performing red cell phenotyping for the management of patients with complex serology including alloimmunization, sickle cell disease and/or warm autoimmune hemolytic anemia. Challenges will include antigens such as Rh, Kell, MNSs, Duffy, and Kidd blood group system.

---

**Transfusion-Related Cell Count**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet count (platelet-rich plasma)</td>
<td>TRC</td>
<td>5</td>
</tr>
<tr>
<td>WBC count</td>
<td>TRC</td>
<td>4</td>
</tr>
<tr>
<td>Dry challenge</td>
<td>TRC</td>
<td>2</td>
</tr>
</tbody>
</table>

WBC counts must be performed using a Nageotte chamber, fluorescence microscopy or by flow cytometry.

**Program Information**

- Five 1.2-mL suspensions of platelet-rich plasma
- Two 1.0-mL vials leukocyte-reduced platelet material
- Two 1.0-mL vials leukocyte-reduced red blood cells
- Three shipments per year
## Viral Markers

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Viral Markers—Series 1 VM1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HAV (total: IgM and IgG)</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HAV (IgG)</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HBc (total: IgM and IgG)</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HBs</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HCV</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-1</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-1/2</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-2</td>
<td>VM1</td>
<td>5</td>
</tr>
<tr>
<td>HBsAg</td>
<td>VM1</td>
<td>5</td>
</tr>
</tbody>
</table>

Do not use Survey VM1 with rapid anti-HCV, anti-HIV-1, or anti-HIV-1/2 kits. See page 202 for Surveys appropriate for rapid methods.

### Viral Markers—Series 2 VM2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HBe</td>
<td>VM2</td>
<td>5</td>
</tr>
<tr>
<td>HBeAg</td>
<td>VM2</td>
<td>5</td>
</tr>
</tbody>
</table>

### Viral Markers—Series 3 VM3

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-CMV</td>
<td>VM3</td>
<td>3</td>
</tr>
<tr>
<td>Anti-HTLV-I/II</td>
<td>VM3</td>
<td>3</td>
</tr>
<tr>
<td>HIV-1 p24 antigen</td>
<td>VM3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- **Series 1 VM1**
  - Five 3.5-mL plasma specimens
  - Three shipments per year

- **Series 2 VM2**
  - Five 3.5-mL plasma specimens
  - Three shipments per year

- **Series 3 VM3**
  - Three 3.5-mL plasma specimens
  - Two shipments per year
### Viral Markers—Series 4 VM4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Trypanosoma cruzi (Chagas disease)</td>
<td>VM4</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 1.0-mL plasma specimens
- Two shipments per year

### Viral Markers—Series 5 VM5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HAV (IgM)</td>
<td>VM5</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HBc (IgM)</td>
<td>VM5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 1.5-mL plasma specimens
- Three shipments per year

### Viral Markers—Series 6 VM6

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HIV-1/2, HIV-1 p24 antigen</td>
<td>VM6</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 0.5-mL serum specimens
- For use with methods such as the Abbott ARCHITECT HIV Combo and the Bio-Rad GS HIV Combo assays
- Three shipments per year

### Rapid Anti-HIV AHIV, AHIVW

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HIV-1, Anti-HIV-2, Anti-HIV-1/2</td>
<td>AHIV</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-1, Anti-HIV-1/2, waived methods only</td>
<td>AHIVW</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- AHIV - Five 0.5-mL plasma specimens; second method reporting available; three shipments per year
- AHIVW - Two 0.5-mL plasma specimens; report up to five different locations within your institution; two shipments per year

### Anti-HCV, Rapid Methods RHCVW

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HCV, waived methods only</td>
<td>RHCVW</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL plasma specimens
- Two shipments per year
Nucleic Acid Testing  NAT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBV</td>
<td>✅</td>
<td>5</td>
</tr>
<tr>
<td>HCV</td>
<td>✅</td>
<td>5</td>
</tr>
<tr>
<td>HIV</td>
<td>✅</td>
<td>5</td>
</tr>
<tr>
<td>West Nile virus</td>
<td>✅</td>
<td>5</td>
</tr>
</tbody>
</table>

Program Information
- Five 6.0-mL plasma specimens
- Designed for blood donor centers performing nucleic acid testing on donor units
- Compatible with HIV, HCV, and HBV multiplex assays
- Three shipments per year
Parentage/Relationship Testing  PARF

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation challenge (paper challenge)</td>
<td>PARF</td>
<td>1</td>
</tr>
<tr>
<td>DNA testing (PCR)</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Program Information
- Three blood-stained filter paper paternity trio specimens; two buccal swabs for a second alleged father challenge
- Reporting for short tandem repeats (STRs), Y-STRs, as well as the conclusions provided
- Three shipments per year

Let them know you’ve earned the mark

The CAP certification mark recognizes organizations worldwide for achieving CAP accreditation. Today, this honor is shared with more than 7,600 laboratories. The mark is a way to display to peers, patients, and the public that you’ve attained CAP accreditation through the most respected and recognized laboratory accreditation program in the world.

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“We really like the range of programs the CAP offers. Within each area we can see how we can become more efficient. It’s always reassuring to the physicians to say we have never failed a proficiency testing challenge from the CAP.”
### Histocompatibility

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

#### HLA Crossmatching, Antibody Screen, and Antibody Identification (Class I)  MX1B, MX1C, MX1E

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MX1B</td>
<td>MX1C</td>
</tr>
<tr>
<td>Crossmatching</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Antibody screen</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Antibody identification</td>
<td>I</td>
<td>I</td>
</tr>
</tbody>
</table>

**Program Information**
- **MX1B** - Four 0.25-mL plasma specimens; two (approximately $1.0 \times 10^6$ cells) purified peripheral blood lymphocyte specimens
- **MX1C** - Four 0.50-mL plasma specimens; two (approximately $4.0 \times 10^6$ cells) purified peripheral blood lymphocyte specimens
- **MX1E** - Four 0.0-mL plasma specimens; must be ordered in conjunction with Survey MX1B or MX1C
- Multiple method reporting provided
- Three shipments per year

#### HLA Crossmatching, Antibody Screen, and Antibody Identification (Class II)  MX2B, MX2C, MX2E

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MX2B</td>
<td>MX2C</td>
</tr>
<tr>
<td>Crossmatching</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Antibody screen</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Antibody identification</td>
<td>I</td>
<td>I</td>
</tr>
</tbody>
</table>

**Program Information**
- **MX2B** - Two 0.25-mL plasma specimens; two (approximately $7.2 \times 10^6$ cells) purified peripheral blood lymphocyte specimens
- **MX2C** - Two 0.50-mL plasma specimens; two (approximately $9.6 \times 10^6$ cells) purified peripheral blood lymphocyte specimens
- **MX2E** - Two 0.0-mL plasma specimens; must be ordered in conjunction with Survey MX2B or MX2C
- Multiple method reporting provided
- Three shipments per year

For laboratories conducting BOTH Class I and Class II HLA testing, see next page.
### HLA Crossmatching, Antibody Screen, and Antibody Identification (Class I/II) Combinations

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Corresponding Survey</th>
<th>Program Code</th>
<th>MXB</th>
<th>MXC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossmatching, antibody screen, and antibody identification, Class I</td>
<td>MX1B*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossmatching, antibody screen, and antibody identification, Class II</td>
<td>MX2B*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossmatching, antibody screen, and antibody identification, Class I</td>
<td>MX1C*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossmatching, antibody screen, and antibody identification, Class II</td>
<td>MX2C*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See page 206 for specimen and analyte information.

### HLA Molecular Typing

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular HLA-A, -B, and -C typing (Class I)</td>
<td>ML DL DML</td>
<td>5</td>
</tr>
<tr>
<td>Molecular HLA-DR, -DQ, and -DP typing (Class II)</td>
<td>DL DML</td>
<td>5</td>
</tr>
</tbody>
</table>

### HLA Serologic Typing (Class I/II)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO grouping (includes A subtyping)</td>
<td>ABO</td>
<td>5</td>
</tr>
<tr>
<td>HLA serologic typing (Class I and Class II)</td>
<td>HLAS</td>
<td>3</td>
</tr>
<tr>
<td>HLA serologic typing (Class I only)</td>
<td>HLAS1</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information

- **MXB** - Class I: four 0.25-mL plasma specimens, two purified peripheral blood lymphocyte specimens; Class II: two 0.25-mL plasma specimens, two purified peripheral blood lymphocyte specimens
- **MXC** - Class I: four 0.50-mL plasma specimens, two purified peripheral blood lymphocyte specimens; Class II: two 0.50-mL plasma specimens, two purified peripheral blood lymphocyte specimens
- Three shipments per year

- **DL, ML** - Five 1.5-mL whole blood specimens in CPD-A
- **DML** - Ten 1.5-mL whole blood specimens in CPD-A
- Serologic equivalents reporting available
- Three shipments per year

- **ABO** - Five 2.0-mL 3% red blood cell suspensions and five 3.0-mL corresponding serum specimens; must be ordered in conjunction with Survey HLAS or HLAS1
- **HLAS** - Three 3.0-mL suspensions of purified peripheral blood lymphocytes
- **HLAS1** - Three 1.0-mL suspensions of purified peripheral blood lymphocytes
- Three shipments per year
### HLA-B27 Typing  B27

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLA-B27 typing</td>
<td>B27</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 2.0-mL whole blood specimens in CPD-A
- Two shipments per year

### Antibody Titer  ABT, ABT1, ABT2, ABT3

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-A titer</td>
<td>ABT</td>
<td>1</td>
</tr>
<tr>
<td>Anti-B titer</td>
<td>ABT1</td>
<td>1</td>
</tr>
<tr>
<td>Anti-D titer</td>
<td>ABT2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ABT3 NEW</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- **ABT** - One 2.0-mL plasma specimen for anti-A titer with one corresponding titer cell (3% to 4% red blood cell suspension); one 2.0-mL plasma specimen for anti-D titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- **ABT1** - One 2.0-mL plasma specimen for anti-A titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- **ABT2** One 2.0-mL plasma specimen for anti-D titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- **ABT3** - One 2.0-mL plasma specimen for anti-B titer with one corresponding titer cell (3% to 4% red blood cell suspension)
- Two shipments per year

### Monitoring Engraftment  ME

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem cell monitoring engraftment</td>
<td>ME</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 1.5-mL whole blood specimens
- Designed for laboratories supporting stem cell transplant and laboratories monitoring chimerism after organ transplantation
- Three shipments per year
### HLA Disease Association, Drug Risk
**DADR1, DADR2**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DADR1</td>
<td>DADR2</td>
</tr>
<tr>
<td>HLA-A*31:01</td>
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<td>![ ]</td>
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<tr>
<td>HLA-B*13:01</td>
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<tr>
<td>HLA-B*15:02</td>
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<tr>
<td>HLA-B*57:01</td>
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<td>HLA-B*58:01</td>
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<td>HLA-A*29:01</td>
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<td>![ ]</td>
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<tr>
<td>HLA-A*29:02</td>
<td>![ ]</td>
<td>![ ]</td>
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<tr>
<td>HLA-DQA1*04:01</td>
<td>![ ]</td>
<td>![ ]</td>
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<tr>
<td>HLA-DQA1*05:01</td>
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<tr>
<td>HLA-DQB1*03:02</td>
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<td>HLA-DRB1*03:01</td>
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<tr>
<td>HLA-DRB1*03:02</td>
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<td>![ ]</td>
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<tr>
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<td>![ ]</td>
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<td>HLA-DRB1*04:03</td>
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<tr>
<td>HLA-DRB1*06:02</td>
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<td>HLA-DRB1*08:02</td>
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<tr>
<td>HLA-DRB1*08:04</td>
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<tr>
<td>HLA-DRB1*14:04</td>
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<td>HLA-DRB1*14:05</td>
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<td>![ ]</td>
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<tr>
<td>HLA-DRB1*14:08</td>
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<td>![ ]</td>
</tr>
<tr>
<td>HLA-DRB1*15:01</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>HLA-DRB1*15:02</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>DQA1<em>03/DQB1</em>03:02</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>DQA1<em>05/DQB1</em>02</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
</tbody>
</table>

#### Additional Information
These Surveys will challenge the laboratory to accurately identify the presence or absence of alleles associated with a variety of disease states (listed below) and/or the adverse reactions to specific drugs.

**DADR1**
- Carbamazepine induced Stevens-Johnson syndrome (CSJ)
- Allopurinol Stevens-Johnson syndrome (ASJ)
- Hypersensitivity to abacavir (HA)
- Dapsone hypersensitivity (DH)

**DADR2**
- Celiac disease (CD)
- Narcolepsy (N)
- Pemphigus vulgaris (PV)
- Psoriasis (P)
- Antiglomerular basement membrane disease (ABM)
- Birdshot retinocchoroidopathy (BR)
- Idiopathic myopathy (IM)

**Program Information**
- Three 0.1-mL specimens, each containing 200 μg/mL of human DNA in media
- Two shipments per year
Are you ready for your CAP inspection?

The CAP Accreditation Readiness Assessment (CARA®) is an on-site evaluation and education program for laboratories just beginning their pursuit of CAP accreditation. CARA focuses on:

• Facilitating an in-depth understanding of CAP requirements as they apply to your laboratory
• Helping you manage the time and resources necessary for compliance with CAP accreditation requirements and preparation for your initial inspection
• Delivering on-site education when you’re ready for it

CARA provides a unique educational coaching experience that leverages the expertise of the world’s most respected pathology organization.

“The Readiness Assessment [CARA] helped our lab immediately spot potential problems before our inspection. Our CAP inspection went like clockwork!”

Laboratory Director

More control. Zero risk. Give your laboratory its best opportunity to be prepared and be successful.

Email us at readiness-assessment@cap.org to accelerate your quality journey.
“We want to use one vendor for all our proficiency testing and the CAP provides the broad range of Surveys needed. As new molecular testing becomes available, the CAP is first to provide proficiency tests so that we can be assured of providing the most accurate results for our patients and we do not have to do alternative assessment.”

### Genetics and Molecular Pathology

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### New Programs

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### New Analyte Additions

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<td>Multigene Tumor Panel (MTP)</td>
<td>224</td>
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<tr>
<td>NRAS</td>
<td></td>
</tr>
<tr>
<td>PIK3CA</td>
<td></td>
</tr>
</tbody>
</table>
Cytogenetics

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### CAP/ACMG Cytogenetics CY, CYBK

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromosome abnormality</td>
<td>CY</td>
<td>6</td>
</tr>
<tr>
<td>Karyotype</td>
<td>CY</td>
<td>6</td>
</tr>
<tr>
<td>Educational challenge, ungraded</td>
<td>CYB+</td>
<td>1 per year</td>
</tr>
</tbody>
</table>

**Additional Information**

Each challenge includes a case history and images of metaphase cells that are representative of each case. Each mailing will include three constitutional and three neoplastic challenges.

### CAP/ACMG Fluorescence In Situ Hybridization CYF, CYI

<table>
<thead>
<tr>
<th>Disease/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constitutional and Hematologic Disorders</td>
<td>CYF</td>
<td>A</td>
</tr>
<tr>
<td>FISH for neoplastic disorder</td>
<td>CYI</td>
<td>1</td>
</tr>
<tr>
<td>FISH for constitutional abnormality</td>
<td>CYI</td>
<td>2</td>
</tr>
<tr>
<td>Urothelial Carcinoma</td>
<td>CYI</td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**

- **CYF 2015-A:**
  - Hematologic disorder – 20q deletion (two slides)
  - Constitutional abnormality – Prenatal aneuploidy probes (two slides)
  - Constitutional abnormality – (photograph)
- **CYF 2015-B:**
  - Hematologic disorder – PML/RARA (two slides)
  - Constitutional abnormality – Probes for the enumeration of sex chromosomes (two slides)
  - Neoplastic disorder – (photograph)
- **CYF** is prepared from cell suspension samples. For FISH in paraffin-embedded tissue, see page 213.

**Program Information**

- **CY** - Online images of metaphase cells; delivered two times a year; your CAP shipping contact will be notified via email when the activity is available
- **CYBK** - Prints of metaphase cells; two shipments per year

**Program Information**

- **CYF** - Four slides and one photograph
- **CYI** - Two 250-μL cell samples suspended in ethanol from two different specimens; participants use FISH to detect chromosome abnormalities using probes for the centromeres for chromosomes 3, 7, 17, and a locus-specific probe for 9p21
- **CYF** and **CYI** are shipped two times a year.
### CAP/ACMG Fluorescence In Situ Hybridization for Paraffin-Embedded Tissue: CYH, CYJ, CYK, CYL

<table>
<thead>
<tr>
<th>Disease/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer</td>
<td>CYH, CYJ, CYK, CYL</td>
<td>A, B</td>
</tr>
<tr>
<td>HER2 gene amplification</td>
<td></td>
<td>1, 10, 10</td>
</tr>
<tr>
<td>Brain/Glioma Tissue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p/19q</td>
<td></td>
<td>1, 1</td>
</tr>
<tr>
<td>Solid Tumor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MYCN (2p24) gene amplification</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ALK (2p23) gene rearrangement</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Lymphoma Tissue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALK (2p23) gene rearrangement</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IGH/BCL2 (14q32/18q21) gene</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>rearrangement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CAP/ACMG Cytogenomic Microarray Analysis: CYCGH

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenomic microarray analysis</td>
<td>CYCGH</td>
<td></td>
</tr>
<tr>
<td>for constitutional abnormality</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Educational paper challenge</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>for constitutional or neoplastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>abnormality</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information
Participants will identify and characterize gains or losses and the cytogenetic location of any abnormalities detected.

### Program Information
- CYH - Two unstained, five-core tissue microarray slides equivalent to 10 paraffin-embedded breast tissue specimens; a duplicate set of H&E stained tissue microarray slides will also be provided.
- CYJ - Four unstained slides; one H&E stained slide.
- CYK, CYL - Two unstained slides; one H&E stained slide.
- All specimens will be 4.0-micron tissue sections mounted on positively charged glass slides.
- Two shipments per year.

### Program Information
- Two .0-µg DNA specimens; one educational paper challenge.
- Two shipments per year.
Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Participant Summary, which includes readily available results.

### Cytogenetics, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Survey</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenetics VM</td>
<td>CYM</td>
<td>CY</td>
<td>212</td>
</tr>
</tbody>
</table>

**Program Information**

- Prints of metaphase cells
## Biochemical and Molecular Genetics

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### CAP/ACMG Biochemical Genetics | BGL, BGL1

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acylcarnitines, qualitative and quantitative</td>
<td>BGL</td>
<td>1</td>
</tr>
<tr>
<td>Amino acids, qualitative and quantitative</td>
<td>BGL</td>
<td>1</td>
</tr>
<tr>
<td>Carnitine, qualitative and quantitative</td>
<td>BGL1</td>
<td>3</td>
</tr>
<tr>
<td>Glycosaminoglycans (mucopolysaccharides), qualitative and quantitative</td>
<td>BGL</td>
<td>1</td>
</tr>
<tr>
<td>Organic acids, qualitative and quantitative</td>
<td>BGL</td>
<td>1</td>
</tr>
<tr>
<td>Educational challenge</td>
<td>BGL1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Program Information

- **BGL** -
  - Acylcarnitines: One 0.1-mL plasma specimen
  - Amino acids: One 1.0-mL plasma or 2.0-mL urine specimen
  - Glycosaminoglycans (mucopolysaccharides): One 2.0-mL urine specimen
  - Organic acids: One 7.5-mL urine specimen
  - Educational challenge: Will consist of any one of the BGL analytes

- **BGL1** - Three 0.3-mL serum specimens
- Two shipments per year
**CAP/ACMG Alpha-1 Antitrypsin (SERPINA1) Genotyping  AAT**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-1 antitrypsin genotyping</td>
<td>AAT</td>
<td></td>
</tr>
</tbody>
</table>

This Survey will test for the M, S, and Z alleles.

**CAP/ACMG Apolipoprotein E Genotyping  APOE**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apolipoprotein E (APOE) genotyping</td>
<td>APOE</td>
<td></td>
</tr>
</tbody>
</table>

This Survey is designed for laboratories utilizing APOE testing for cardiovascular and Alzheimer diseases and will test for various variants (APOE e2, APOE e3, and APOE e4).

**CAP/ACMG Hemoglobinopathies Genotyping  HGM**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-thalassemia</td>
<td>HGM</td>
<td></td>
</tr>
<tr>
<td>Beta-thalassemia</td>
<td>HGM</td>
<td></td>
</tr>
<tr>
<td>Hemoglobin S/C</td>
<td>HGM</td>
<td></td>
</tr>
</tbody>
</table>

Program Information

- Three 10.0-μg extracted DNA specimens
- Two shipments per year

Program Information

- Three 50.0-μg extracted DNA specimens
- Two shipments per year
## CAP/ACMG Molecular Genetics
### MGL1, MGL2, MGL3, MGL4, MGL5

<table>
<thead>
<tr>
<th>Disease/Gene</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloom syndrome</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>BRCA1/2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Canavan</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Connexin 26</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cystic fibrosis</td>
<td></td>
<td>3/2 (MGL5)</td>
</tr>
<tr>
<td>DMD/Becker</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor V Leiden</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Familial dysautonomia</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fanconi anemia complementation group C</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fragile X</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Friedreich ataxia</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Gaucher</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Glycogen storage disease type IA</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Hemochromatosis</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Hemoglobin S/C</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Huntington</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Methylene tetrahydrofolate reductase (MTHFR) 677C&gt;T and 1298A&gt;C</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Mucolipidosis IV</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Multiple endocrine neoplasia type 2 (MEN2)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Myotonic dystrophy</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Niemann-Pick disease type A</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Plasminogen activator inhibitor (PAI)-1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Prader-Willi/Angelman syndrome</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Prothrombin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>RhD</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spinal muscular atrophy</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spinocerebellar ataxia</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Tay-Sachs</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Module MGL4 is designed for laboratories testing for diseases/disorders related to Ashkenazi Jewish ancestry.**

### Program Information
- MGL1, MGL2, MGL3, MGL4 - A minimum of three 50.0-µg extracted DNA specimens
- MGL5 - Two 50.0-µg extracted DNA specimens
- Two shipments per year
CAP/ACMG Inherited Metabolic Diseases  IMD1, IMD2, IMD3

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitochondrial DNA deletion syndromes</td>
<td>IMD1 IMD2 IMD3</td>
<td>3</td>
</tr>
<tr>
<td>MCAD</td>
<td>IMD2 IMD3</td>
<td>3</td>
</tr>
<tr>
<td>Mitochondrial cytopathies*</td>
<td>IMD1 IMD3</td>
<td>3</td>
</tr>
</tbody>
</table>

*Includes disorders/diseases such as Leber hereditary optic neuropathy and myoclonus epilepsy with ragged red fibers (MERRF).

CAP/ACMG Molecular Genetics Sequencing  SEC, SEC1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA sequencing interpretation challenge</td>
<td>SEC SEC1</td>
<td>3</td>
</tr>
<tr>
<td>DNA sequencing</td>
<td>SEC SEC1</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Information
- Test your skill at interpreting and reporting DNA sequence variants for inherited disease using standard nomenclature.
- Receive a summary and discussion of responses, including comments on the mutation nomenclature, known or expected outcomes from identified variants, and teaching points about genes/disorders represented.

Program Information
- IMD1 - Three 50.0-μL DNA specimens (50.0-ng/μL DNA PCR product that encompasses the entire mitochondrial genome)
- IMD2, IMD3 - Three 50.0-μg extracted DNA specimens
- Two shipments per year

Program Information
- SEC - One CD-ROM containing three DNA sequence electropherogram files with a range of variants, suitable for base-calling and analysis using a range of commercial or public domain software programs; also includes control sequences, normal DNA reference sequences, and nomenclature/mutation references
- SEC1 - Three 10.0-μg extracted DNA specimens; one set of forward and reverse lyophilized primers
- Two shipments per year
### Pharmacogenetics - PGX, PGX1, PGX2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PGX</td>
<td>PGX1</td>
</tr>
<tr>
<td>CYP2C19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYP2C9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYP2D6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UGT1A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VKORC1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IL28B (rs12979860)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HLA-B*5701</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Information**
Survey PGX2 is designed for laboratories that provide HLA-B*5701 testing to identify risk of hypersensitivity to abacavir. The intended response is qualitative (presence/absence of the allele). This Survey is not appropriate for laboratories that perform molecular HLA typing. For HLA typing proficiency testing, please consult the HLA Molecular Typing (ML, DML) Surveys.

### CAP/ACMG Rett Syndrome (MECP2) - RETT

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RETT</td>
<td></td>
</tr>
<tr>
<td>MECP2 genotyping</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CAP/ACMG Thrombophilia Mutations - TPM

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TPM</td>
<td></td>
</tr>
<tr>
<td>Factor II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- PGX - Two 25.0-μg extracted DNA specimens
- PGX1, PGX2 - Three 25.0-μg extracted DNA specimens
- Includes allele detection (genotyping) and/or interpretive challenges
- Two shipments per year

**Program Information**
- Three 10.0-μg extracted DNA specimens
- Two shipments per year

**Program Information**
- Three 0.25-mL synthetic whole blood specimens
- Two shipments per year

**Additional Information**
This Survey is designed for the Cepheid GeneXpert factor II and factor V assays. DNA extraction for other assays/methods is NOT recommended.
### Red Blood Cell Antigen Genotyping RAG

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red cell antigen genotype with predictive phenotype</td>
<td>RAG</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL whole blood specimens
- Two shipments per year
Next-Generation Sequencing

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next-generation sequencing</td>
<td>NGS</td>
<td></td>
</tr>
</tbody>
</table>

New

Additional Information
Laboratories will have the ability to test up to 200 variants. For the full list of genes in this program, please go to cap.org and choose the Laboratory Improvement Programs tab.

Program Information
- One 10.0-µg extracted DNA specimen
- Methods-based challenge for laboratories using gene panels, exome, and whole genome sequencing
- Two shipments per year

Give the CAP's complimentary Sample Exchange Registry service a try!

Sign up for this unique and complimentary service for those rare analytes for which proficiency testing is not yet available. This service now includes all clinical laboratory disciplines.

- The CAP connects labs performing testing for which no formal proficiency testing is available.
- There is no charge for this service.
- Participate at any time, no contract required.
- A minimum of three labs performing the same analyte must participate before the CAP can facilitate the sample exchange.
- Each individual laboratory will receive its own results along with an anonymized summary report for all participants.

Visit cap.org and choose the Laboratory Improvement Programs tab to register today!
### Defective DNA Mismatch Repair/Hereditary Nonpolyposis Colorectal Cancer (HNPCC) MSI

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsatellite instability testing (DNA amplification)</td>
<td>□</td>
<td>3</td>
</tr>
</tbody>
</table>

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

Laboratories performing DNA mismatch repair assessment by immunohistochemistry methods should see Survey MMR on page 237.

### In Situ Hybridization  ISH, ISH2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epstein-Barr virus (EBV)</td>
<td>□</td>
<td>4</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>□</td>
<td>4</td>
</tr>
<tr>
<td>Kappa/Lambda (IGK/IGL)</td>
<td>□</td>
<td>4</td>
</tr>
<tr>
<td>HER2 (ERBB2) gene amplification (brightfield)</td>
<td>□</td>
<td>10</td>
</tr>
</tbody>
</table>

Program Information
- Two 10.0-micron unstained paraffin section slides and one H&E slide; two photograph challenges
- For laboratories performing molecular testing using PCR
- Two shipments per year

Laboratories performing FISH for interphase chromosomal targets in paraffin sections refer to the Cytogenetics Surveys, page 213.
### Neoplastic Cellularity NEO

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online assessment of percent neoplastic cellularity</td>
<td>NEO</td>
<td>10</td>
</tr>
</tbody>
</table>

### Sarcoma Translocation SARC

<table>
<thead>
<tr>
<th>Gene</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarcoma translocation* (RT-PCR)</td>
<td>SARC</td>
<td>3</td>
</tr>
</tbody>
</table>

*See translocation listing below.
Laboratories performing FISH for sarcoma translocation refer to the Cytogenetics Surveys, page 213.

### Sarcoma Translocation Listing

- **COL1A1/PDGFB, t(17;22)**
- **EWSR1/ATF1, t(12;22)**
- **EWSR1/ERG, t(21;22)**
- **EWSR1/FLI1, t(11;22)**
- **EWSR1/FLI1 or EWSR1/ERG**
- **EWSR1/WT1, t(11;22)**
- **FUS/DDIT3, t(12;16)**
- **PAX3/FOXO1, t(2;13)**
- **PAX7/FOXO1, t(1;13)**
- **PAX3/FOXO1 or PAX7/FOXO1**
- **SS18/SSX1, t(X;18)**
- **SS18/SSX2, t(X;18)**
- **SS18/SSX1 or SS18/SSX2**
### Solid Tumor–Other: BRAF, EGFR, KRAS, KIT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BRAF</td>
<td>EGFR</td>
</tr>
<tr>
<td>BRAF</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EGFR</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>KRAS</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>KIT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PDGFRA</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### Multigene Tumor Panel: MTP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MTP</td>
<td></td>
</tr>
<tr>
<td>BRAF</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EGFR</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>KRAS</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NRAS (NEW)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PIK3CA (NEW)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- BRAF, EGFR, KRAS - Paraffin-embedded sections or shavings
- KIT/PDGFRA - Four 10.0-micron unstained paraffin section slides and one H&E slide
- For laboratories performing molecular testing using PCR
- Two shipments per year

### Additional Information

Survey MTP is designed for use with multiplex technologies such as next-generation sequencing where genes will be added as clinical utility and practices evolve. The challenges are mixtures and are more likely to include mutations at lower relative concentrations than do the individual gene-specific Surveys. Laboratories using assay technologies that do not reliably detect mutations in small allelic fractions (<25%), such as modified Sanger sequencing, should enroll in the gene-specific Surveys KRAS, BRAF, and EGFR.

### Glioma: GLI

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>IDH1, IDH2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10q (PTEN) deletion</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- Four 10.0-micron unstained paraffin section slides and one H&E slide
- For laboratories performing molecular testing using PCR
- Two shipments per year
# Molecular Oncology – Hematologic

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

## Molecular Hematologic Oncology

**MHO, MHO1, MHO2, MHO3, MHO5**

<table>
<thead>
<tr>
<th>Procedure/Gene</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lymphoid malignancy genotyping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGH/BCL2 major</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGH/BCL2 minor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGH/CCND1</td>
<td></td>
<td></td>
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<tr>
<td>IGK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myeloid malignancy genotyping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBFB/MYH11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLT3 ITD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLT3 TKD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JAK2 c.1849G&gt;T[p.V617F]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPM1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PML/RARA</td>
<td></td>
<td></td>
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<tr>
<td>RUNX1/RUNX1T1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNA extraction and amplification from formalin-fixed, paraffin-embedded (FFPE) tissue</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

## Minimal Residual Disease

**MRD, MRD1, MRD2**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCR/ABL1 p190</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCR/ABL1 p210</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PML/RARA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Program Information

- **MHO** - One sample vial containing purified DNA (200 µg/mL per vial) for each specimen
- **MHO1** - MHO specimens in duplicate for additional DNA testing
- **MHO2** - Two sample vials; one with purified DNA containing 200 µg/mL and one with purified RNA, containing 400 µg/mL
- **MHO3** - MHO2 specimen in duplicate for additional DNA and RNA testing
- **MHO5** - Five 10.0-micron paraffin sections; extraction and amplification from FFPE tissue will be assessed by a method-based challenge
- Two shipments per year; ships on dry ice (dry ice does not apply to MHO5 or international shipments)

- **MRD, MRD1, MRD2** - Three RNA specimens in distilled water
- For laboratories diagnosing and monitoring leukemia tumor burden by measuring the quantity of BCR/ABL1 or PML/RARA fusion transcripts
- Two shipments per year; ships on dry ice
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“The CAP is good about being the leader, doing research, and taking a role in developing these programs.”
Surgical Pathology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Performance Improvement Program in Surgical Pathology  PIP/PIP1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical pathology case review</td>
<td>PIP/PIP1</td>
<td>10</td>
</tr>
</tbody>
</table>

### Additional Information

PIP educates pathologists in general surgical pathology. This program:

- Provides a practical approach to continuing education
- Gives pathologists a method to assess their diagnostic skills and compare their performance with that of their peers
- Features PIP case selections that include:
  - A variety of neoplastic and nonneoplastic lesions
  - Inflammatory and infectious disease
  - Various sites, encompassing a variety of organ systems

### Program Information

- **PIP** - Ten diagnostic challenges/H&E stained glass slides with clinical history; one individual response form
- **PIP1** - Reporting option with CME credit for each additional pathologist within the same institution; must order in conjunction with Survey PIP
- Earn a maximum of 40 CME credits (AMA PRA Category 1 Credits™) per pathologist for completion of an entire year
- Four shipments per year

This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
Online Performance Improvement Program in Surgical Pathology  PIPW/IPW1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges/Shipmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical pathology case review</td>
<td>PIPW/IPW1</td>
<td>10</td>
</tr>
</tbody>
</table>

Additional Information

PIP7 educates pathologists in general surgical pathology. Features of this online educational program include:

• DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
• Pathologists can assess their diagnostic skills and compare their performance with that of their peers.
• Included PIP7 case selections feature:
  - A variety of neoplastic and nonneoplastic lesions
  - Inflammatory and infectious disease
  - Various sites, encompassing a variety of organ systems
• See system requirements on page 15.

Program Information

• PIP7 - Ten diagnostic challenges/whole slide H&E images with clinical history; for each additional pathologist, purchase PIPW1
• PIPW1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with Survey PIPW
• Earn a maximum of 40 CME credits (AMA PRA Category 1 Credits ™) per pathologist for completion of an entire year
• This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
• Powered by DigitalScope technology
• Four online activities per year; your CAP shipping contact will be notified via email when the activity is available

Test Your Diagnostic Skills with Case of the Month

Challenge yourself and your staff with two new cases each month drawn from the CAP Online Performance Improvement Program in Surgical Pathology (PIPW) archives. You can also explore the Case Archives for dozens of additional cases. Case information includes:

- Specimen source
- Clinical history
- Laboratory findings
- Representative whole slide image of the surgical specimen

Case of the Month uses DigitalScope® for unparalleled online viewing of whole slide images. CME is not available for Case of the Month; CME is available with the PIPW program.

To access the Case of the Month, visit cap.org and choose the CAP Foundation tab.
Online Virtual Biopsy Program  VBP/VBP1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online biopsy case review</td>
<td>VBP/VBP1</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Information**

VBP educates pathologists to assess and improve their diagnostic skills in surgical pathology. Features of this online educational program include:

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Cases may also include gross, radiographic, or endoscopic images.
- Cases are from selected organ systems and may include a variety of specimen types (e.g., core biopsies, endoscopic biopsies, curettings, aspirate smears). Activities with their corresponding topics are:
  - 2015-A Lung Biopsy
  - 2015-B Ear, Nose, Throat Biopsy
  - 2015-C Gynecologic Biopsy
  - 2015-D Surgical Pathology Biopsy (various sites)
- See system requirements on page 15.

**Program Information**

- VBP - Five diagnostic challenges/whole slide images with clinical history; for each additional pathologist, purchase VBP1
- VBP1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with Survey VBP
- Earn a maximum of 23 CME/SAM credits (AMA PRA Category 1 Credits™) per pathologist for completion of an entire year
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Powered by DigitalScope technology
- Four online activities per year; your CAP shipping contact will be notified via email when the activity is available

**Program Code**

- VBP
- VBP1

**Challenges/Shipments**

- 1
- 5
### Online Digital Slide Program in Dermatopathology

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPATH/DPATH1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online dermatopathology case review</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**Additional Information**

DPATH educates pathologists, dermatopathologists, and dermatologists to assess and improve their diagnostic skills in dermatopathology. Features of this online educational program include:

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Cases include static images.
- See system requirements on page 15.

**Program Information**

- **DPATH** - Six diagnostic challenges/whole slide images with clinical history; for each additional pathologist, purchase DPATH1
- **DPATH1** - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with Survey DPATH
- Earn a maximum of 1.4 CME/SAM credits (AMA PRA Category 1 Credits™) per pathologist for completion of an entire year
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
Hematopathology Online Education
HPATH/HPATH1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematopathology online case review</td>
<td>HPATH/HPATH1</td>
<td>5</td>
</tr>
</tbody>
</table>

Additional Information
HPATH educates pathologists and hematologists to assess and improve their diagnostic skills in hematopathology:

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Cases are peripheral blood and bone marrow whole slide images.
- Cases may include results of ancillary studies such as histochemistry, immunology, immunohistochemistry, and molecular tests, where appropriate.
- See system requirements on page 15.

Program Information

- HPATH - Five diagnostic challenges/whole slide images with clinical history; for each additional pathologist/hematologist, purchase HPATH1
- HPATH1 - Reporting option with CME/SAM/CE credit for each additional pathologist and hematologist (within the same institution); must order in conjunction with Survey HPATH
- Earn a maximum of 6 CME/SAM credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 6 CE credits per hematologist for completion of an entire year
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Powered by DigitalScope technology
- One online activity per year; your CAP shipping contact will be notified via email when the activity is available

CME credit
SAM credit
DigitalScope

### Practicum in Cancer Surgical Pathology  PCSP/PCSP1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online surgical pathology cancer case review</td>
<td>PCSP/PCSP1</td>
<td>4</td>
</tr>
</tbody>
</table>

**Additional Information**

PCSP educates pathologists in cancer case review and reporting.

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Cases review challenges in interpretation, staging, and cancer reporting.
- Cases represent the following:
  - T Staging and Margins in Pancreatic Tumors: Challenges and Recommendations
  - Staging Invasive Breast Cancer: Size Determination and Assessment of Multiple Tumors
  - Adverse Histologic Parameters in Thyroid Carcinoma: Picking Out the Wolf in Sheep’s Clothing
  - Staging Cutaneous Melanoma: Impact of Previous Shave Biopsy
- See system requirements on page 15.

**Program Information**

- **PCSP** - One mailing containing four diagnostic challenges/whole slide H&E images with clinical history; for each additional pathologist purchase PCSP1
- **PCSP1** - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with Survey PCSP
- Earn a maximum of 5 CME/SAM credits (AMA PRA Category 1 Credits™) per pathologist for completion of an entire year
- Powered by DigitalScope technology
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- One online activity per year; your CAP shipping contact will be notified via email when the activity is available
### CAP/NHS HistoQIP HQIP

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HQIP</td>
<td>A</td>
</tr>
<tr>
<td>H&amp;E - Lung resection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E - Bone marrow core biopsy, no aspirates or smears</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHC - Napsin A (Lung adenocarcinoma)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHC - <em>H. pylori</em>, stomach (Positive tissue control)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special stain - Trichrome (Small bowel resection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E - Colon resection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E - Liver resection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHC - Smooth muscle myosin heavy chain (Breast resection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHC - CDX2 (Colon resection, adenocarcinoma)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special stain - Reticulin (Liver resection)</td>
<td></td>
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</tr>
</tbody>
</table>

### Additional Information

HistoQIP improves the preparation of histologic slides in all anatomic pathology laboratories. In this educational program, participants will receive an evaluation specific to their laboratory, an education critique, and a Participant Summary that includes peer comparison data, evaluators’ comments, and performance benchmarking data. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.

### Histologic Preparations

**Richard W. Brown, MD, FCAP**

This “how to” guide to good slide preparation was developed by the Histotechnology Committee of the College of American Pathologists in conjunction with the National Society for Histotechnology. Building on data and images from the NSH/CAP histology quality assurance program, HistoQIP, the book presents photographic examples of well-prepared slides followed by numerous examples of associated problems and their solutions.

To order and see the table of contents and sample pages: Visit cap.org and choose the Shop tab.
### CAP/NSH HistoQIP - IHC HQIHC

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HQIHC</td>
<td>A</td>
</tr>
<tr>
<td>IHC – AE1/3 (Bladder biopsy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHC – CK7 (Cervix biopsy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHC – Melan A (Skin, punch biopsy)</td>
<td></td>
<td></td>
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<tr>
<td>IHC – Ki-67 (Stomach biopsy)</td>
<td></td>
<td></td>
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<tr>
<td>IHC – CK20 (Colon biopsy)</td>
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<td></td>
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<tr>
<td>IHC – ER (Endometrium biopsy)</td>
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<tr>
<td>IHC – CK5/6 (Skin, excisional biopsy)</td>
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<tr>
<td>IHC – p63 (Prostate biopsy)</td>
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</tbody>
</table>

### Additional Information
HistoQIP - IHC improves the preparation of immunohistochemistry slides in all anatomic laboratories involved in the handling of gastrointestinal, dermatologic, and urological tract biopsies. Participants will receive an evaluation specific to their laboratory and a Participant Summary. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.

### CAP/NSH HistoQIP Biopsy Series HQIPBX

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HQIPBX</td>
<td>A</td>
</tr>
<tr>
<td>H&amp;E – Bladder biopsy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Cervical biopsy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Skin punch biopsy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Stomach biopsy</td>
<td></td>
<td></td>
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<tr>
<td>H&amp;E – Colon biopsy</td>
<td></td>
<td></td>
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<tr>
<td>H&amp;E – Endometrial biopsy</td>
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<tr>
<td>H&amp;E – Prostate needle biopsy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Skin excisional biopsy (large excision)</td>
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</tbody>
</table>

### Additional Information
The HistoQIP Biopsy Series is an additional program to improve the preparation of histologic slides in all anatomic pathology laboratories. Participants will receive an evaluation specific to their laboratory and a Participant Summary. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.

### Program Information
- Participants may submit up to four IHC stained and coverslipped glass slides (one from each category) per mailing
- Two shipments per year

- Participants may submit up to four H&E stained and coverslipped glass slides (one from each category) per mailing
- Two shipments per year
### CAP/NSH HistoQIP Specialty Series

**HQBX1, HQBX2, HQBX3**

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges/ Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HQBX1</td>
<td>HQBX2</td>
</tr>
<tr>
<td><strong>Gastrointestinal Biopsy Module</strong></td>
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</tr>
<tr>
<td>H&amp;E – Colon biopsy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Esophageal biopsy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Small intestinal biopsy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Stomach biopsy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Dermatologic Biopsy Module</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Alopecia</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Skin excisional biopsy (large excision)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Skin punch biopsy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Skin shave biopsy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Urogenital Tract Biopsy Module</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Bladder biopsy (nonneoplastic)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Bladder biopsy (with carcinoma)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Prostate needle biopsy (nonneoplastic)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Prostate needle biopsy (with carcinoma)</td>
<td>1</td>
<td>1</td>
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</tbody>
</table>

**Additional Information**

The HistoQIP Specialty Series includes modules to improve the preparation of histologic slides in all anatomic pathology laboratories involved in the handling of gastrointestinal, dermatologic and urogenital tract biopsies. Participants will receive an evaluation specific to their laboratory and a Participant Summary. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.

**Program Information**

- HQBX1, HQBX2, HQBX3 - Participants may submit up to four H&E stained and coverslipped glass slides (one from each category) per mailing
- Two shipments per year
General Immunohistochemistry

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Immunohistochemistry</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK</td>
<td></td>
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</tbody>
</table>

The MK program allows laboratories to compare their assay methodology and results with all participating laboratories.

<table>
<thead>
<tr>
<th>DNA Mismatch Repair</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If your laboratory performs DNA mismatch repair by molecular methods, see the MSI program on page 222.

<table>
<thead>
<tr>
<th>CD117, CD20 Immunohistochemistry</th>
<th>Tissue Microarray</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM1, PM3</td>
<td>PM1</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM3</td>
<td>10</td>
</tr>
</tbody>
</table>

For ER/PgR testing, see the PM2 program on page 239.

Program Information
- Glass slides with unstained tissue sections from four separate cases; additional slides provided for an H&E stain and negative control
- Two shipments per year

Program Information
- Four 4.0-micron unstained paraffin section slides and one H&E slide for the immunohistochemical analysis of DNA mismatch repair proteins MLH1, MSH2, MSH6, and PMS2
- Two shipments per year

Program Information
- One 10-core tissue microarray slide per predictive marker
- One shipment per year
Immunohistochemistry Tissue Microarray Series  PM5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALK</td>
<td>PM5</td>
<td>10</td>
</tr>
<tr>
<td>GATA3</td>
<td>PM5</td>
<td>10</td>
</tr>
</tbody>
</table>

Additional Information

This newly designed program will allow immunohistochemistry laboratories to evaluate appropriate assay performance on a wide array of tissues and/or tumor types. Each year, the PM5 program will offer different immunohistochemistry markers to evaluate assay performance on a wide variety of tissues and/or tumor types. See list below.

CDX2
CD30
D2-40
K 20
Ki-67
PAX 2
PAX 8
p63
### Predictive Markers

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

#### HER2 Immunohistochemistry

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipement</th>
</tr>
</thead>
<tbody>
<tr>
<td>HER2</td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>

**Additional Information**
The HER2 program fulfills the proficiency testing requirement stated in the ASCO/CAP HER2 Testing Guideline. Due to the unique nature of these human, donor-based materials, the shipping date is subject to change. If this should occur, the CAP will provide notification prior to the originally scheduled shipping date.

#### Gastric HER2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipement</th>
</tr>
</thead>
<tbody>
<tr>
<td>HER2</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Additional Information**
The interpretive criteria for HER2 immunohistochemistry performed on gastroesophageal adenocarcinomas differs significantly from breast carcinoma. The GHER2 program will help participating laboratories understand these differences.

#### ER/PgR Immunohistochemistry

<table>
<thead>
<tr>
<th>Tissue Microarray</th>
<th>PM2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estrogen receptor (ER)</td>
<td>PM2</td>
<td>20</td>
</tr>
<tr>
<td>Progesterone receptor (PgR)</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

**Additional Information**
The PM2 program fulfills the proficiency testing requirement stated in the ASCO/CAP ER/PgR Testing Guideline. Due to the unique nature of these human, donor-based materials, the shipping date is subject to change. If this should occur, the CAP will provide notification prior to the originally scheduled shipping date.
### Autopsy Pathology

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autopsy case analysis</td>
<td>AUCD/AUCD1</td>
<td>6</td>
</tr>
</tbody>
</table>

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

Each CD-ROM includes case description, gross and/or microscopic images, and case discussion with sample death certificate, key teaching points, and current references.

### Program Information

- One CD-ROM with six autopsy cases; one individual response form
- AUCD1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with Survey AUCD
- Earn a maximum of 12 CME credits (AMA PRA Category 1 Credits™) per pathologist
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements and the CAP Accreditation checklist requirement for professional competency
- Two shipments per year

### Autopsy & Forensic Anthology of Classic Pathology Images (AFA)

This CD-ROM offering contains more than 2,000 classic images from the CAP’s 1992–2010 Autopsy Pathology (AUCD) and the 1990–2010 Forensic Pathology (FR) programs.

- View images in three different modes:
  - List—Cases listed by program, year, patient age, and diagnosis
  - Browse—Images filtered by category (eg, cardiovascular, CNS, external exam) and/or image type (eg, gross, H&E, scene)
  - Search—Access images based on matching key words or word fragments
- Customize the anthology by adding your own images and categories
- Use only a standard Web browser—it runs on any operating system—with no software to install

**Add this valuable tool to your laboratory’s teaching library. Add code AFA to your Surveys order form.**
Neuropathology Program NP/NP1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuropathology case review</td>
<td>NP/NP1</td>
<td>8</td>
</tr>
</tbody>
</table>

Additional Information
The Neuropathology program helps anatomic pathologists, neuropathologists, and trainees assess and improve their diagnostic skills and learn about new developments in neuropathology. Each shipment of this educational program includes eight cases that cover the spectrum of neoplastic and nonneoplastic disorders affecting the central and peripheral nervous systems, including infectious, degenerative, developmental, demyelinating, traumatic, toxic-metabolic, vascular, and neuromuscular diseases. In addition, each mailing will include a mini-symposium that focuses on a specific problem area in neuropathology, which relates to four of the eight cases.

Program Information
- One CD-ROM with eight cases and a mini-symposium
- NP1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with Survey NP
- Earn a maximum of 10 CME/SAM credits (AMA PRA Category 1 Credits™) per pathologist
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Two shipments per year

Experience a new level of pathology education with CAP SAMs
- Outcomes-based learning at the cutting edge of pathology science
- Peer reviewed by at least two subject matter experts
- Highly interactive formats with immediate feedback

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Cytopathology

Analyze/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

Glass Slide Gynecologic
Cytopathology PAP PT Program
with Online Education PTGD

<table>
<thead>
<tr>
<th>Slide Type</th>
<th>Program Code</th>
<th>Challenges Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PTGD</td>
<td></td>
</tr>
<tr>
<td>SurePath™</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ThinPrep®</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Participant</td>
<td>APTGD</td>
<td></td>
</tr>
<tr>
<td>Response Form</td>
<td>APTGDM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APTGDL</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information
You will receive one shipment for proficiency testing (10 slides) and two additional shipments for your education (5 slides each).

Follow these steps to order your PAP Proficiency Testing and Online Education:
1. Choose the Slide Type program code (refer to table above).
2. Order one Individual Participant Response Form code for each participating pathologist/cytotechnologist (eg, APTGD).
3. Select primary testing session option with two alternative date options using the Gynecologic Cytology Proficiency Testing Order Details Form.
4. Order PPTENR only if you are a laboratory possessing a CLIA license to perform gynecologic cytology where all personnel are performing proficiency testing at another CLIA location.

Additional Information
- Individual participants receive intended responses and slide annotations immediately after submission of their education results.
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- The PAP Education Laboratory Kit, a tool that lets your staff collaboratively review the whole slide images to help sharpen their interpretive and diagnostic skills, is included with PTGD.
- See system requirements on page 15.

Program Information
- PTGD - Ten glass slides for proficiency testing and ten online whole slide images for education
- Earn a maximum of 8 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 8 CE credits per cytotechnologist for completing all challenges
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Online whole slide images powered by DigitalScope technology
- One shipment for proficiency testing (10 slides) and two online education activities per year (5 slides each); your CAP shipping contact will be notified via email when the online activities are available
Glass Slide Gynecologic Cytopathology PT Program with Glass Slide PAP Education PAP PT

<table>
<thead>
<tr>
<th>Slide Type</th>
<th>Program Code</th>
<th>Challenges Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>PAPCPT</td>
<td>10</td>
</tr>
<tr>
<td>SurePath</td>
<td>PAPKPT</td>
<td>10</td>
</tr>
<tr>
<td>ThinPrep</td>
<td>PAPMPT</td>
<td>10</td>
</tr>
<tr>
<td>Individual</td>
<td>APAPCPT</td>
<td>10</td>
</tr>
<tr>
<td>Participant</td>
<td>APAPKPT</td>
<td>10</td>
</tr>
<tr>
<td>Response Form</td>
<td>APAPMPT</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>APAPLPT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APAPJPT</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information

You will receive one shipment for proficiency testing (10 slides) and two additional shipments for your education (5 slides each).

Follow these steps to order your PAP Proficiency Testing and PAP Education:

1. Choose the following:
   a. Slide Type program code (refer to table above)
   b. PAP Education series shipment dates (choose one)
      • Series 1
         o A mailing ships February 2015
         o B mailing ships August 2015
      • Series 2
         o A mailing ships May 2015
         o B mailing ships November 2015

   Add the PAP Education series number after the Slide Type program code (eg, PAPCPT1).

2. Order one Individual Participant Response Form code for each participating pathologist/cytotechnologist. Also include the PAP Education Series number after the program code (eg, APAPCPT1).

3. Select primary testing session option with two alternative date options using the Gynecologic Cytology Proficiency Testing Order Details Form.

4. Order PPTENR only if you are a laboratory possessing a CLIA license to perform gynecologic cytology where all personnel are performing proficiency testing at another CLIA location.

Additional Information

• Participants can receive laboratory reference interpretations and performance for the PAP Education slides within 20 minutes by fax.
• The PAP Education component meets the CAP Laboratory Accreditation Program requirement for participation in a peer educational program.

Program Information

• Ten glass slides for proficiency testing and ten glass slides for education
• Earn a maximum of 8 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 8 CE credits per cytotechnologist for completing all challenges
• This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
• Three shipments per year; one shipment for proficiency testing (10 slides) and two shipments for education (5 slides each)
### Online Gynecologic Cytopathology Education

<table>
<thead>
<tr>
<th>Slide Type</th>
<th>Program Code</th>
<th>Challenges Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>SurePath</td>
<td>PEDK</td>
<td>10</td>
</tr>
<tr>
<td>ThinPrep</td>
<td>PEDM</td>
<td></td>
</tr>
<tr>
<td>Individual Participant</td>
<td>APEDK</td>
<td></td>
</tr>
<tr>
<td>Response Form</td>
<td>APEDM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APEDL</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Information**

You will receive two shipments for your online education (5 slides each).

**Follow these steps to order your PED Education:**

1. Choose the Slide Type program code (refer to table above).
2. Order one Individual Participant Response Form code for each participating pathologist/cytotechnologist (e.g., APEDK).

**Additional Information**

- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- The PAP Education Laboratory Kit, a tool that lets your staff collaboratively review the whole slide images to help sharpen their interpretive and diagnostic skills is included with PED.
- Participants receive intended responses and slide annotations immediately after submission of their education results.
- PED meets the CAP Laboratory Accreditation Program requirement for participation in a peer educational program.
- See system requirements on page 15.

**Program Information**

- Ten online whole slide images
- Earn a maximum of 8 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 8 CE credits per cytotechnologist for completing all challenges
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Powered by DigitalScope technology
- Two online activities per year (5 slides each); your CAP shipping contact will be notified via email when the activity is available
Cytopathology Glass Slide Education Program
PAPCE, PAPJE, PAPKE, PAPLE, PAPME Series 1 or 2

<table>
<thead>
<tr>
<th>Slide Type</th>
<th>Program Code</th>
<th>Education Challenges Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PAPCE</td>
<td>PAPKE</td>
</tr>
<tr>
<td>Conventional</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>SurePath</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>ThinPrep</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Individual</td>
<td>APAPCE</td>
<td>APAPKE</td>
</tr>
<tr>
<td>Participant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Form</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information

Follow these steps to order your PAP Education:

1. Choose the following:
   a. Slide Type program code (refer to table above)
   b. PAP Education series shipment dates (choose one)
      • Series 1
         o A mailing ships February 2015
         o B mailing ships August 2015
      • Series 2
         o A mailing ships May 2015
         o B mailing ships November 2015

   Add the PAP Education series number after the Slide Type program code (eg, PAPCE1).

2. Order one Individual Participant Response Form code for each participating pathologist/cytotechnologist. Also include the PAP Education series number after the program code (eg, APAPCE1).

Additional Information

• Participants can receive laboratory reference interpretations and performance for the PAP Education slides within 20 minutes by fax.
• The PAP Education component meets the CAP Laboratory Accreditation Program requirement for participation in a peer educational program.
**Gynecologic Cytopathology – Fields of View**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOVK/FOVK1</td>
<td>FOVM/FOVM1</td>
<td>5</td>
</tr>
<tr>
<td>Online review of SurePath slides</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online review of ThinPrep slides</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Information**
- The Fields of View online education program helps pathologists and cytotechnologists assess and improve their skills in image-assisted screening.
- The Fields of View program helps participants understand the processes involved in image-assisted gynecologic screening technologies.
- Participants receive the reference interpretation for each case immediately after completing the exercise.
- See system requirements on page 15.

**Human Papillomavirus (High Risk) for Cytology**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV</td>
<td>CHPVD</td>
<td>5</td>
</tr>
<tr>
<td>High-risk HPV genotyping (optional)</td>
<td>CHPVM CHPVJ</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five simulated cervical specimens
- CHPVD - Digene® Specimen Transport Medium™ (STM)
- CHPVM - ThinPrep PreservCyt® Transport Medium
- CHPVK - SurePath Preservative Fluid Transport Medium and corresponding vial of diluent
- CHPVJ - Combination of Digene, ThinPrep PreservCyt, and SurePath transport mediums
- Three shipments per year
Nongynecologic Cytopathology – Intraoperative Touch Imprint/Crush Preparation Program  TICP/TICP1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online slide and image program in rapid assessment case review</td>
<td>TICP/TICP1</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**

- The TICP Program is designed to familiarize surgical pathologists, cytopathologists, and cytotechnologists with the cytomorphic features of pathologic processes and tumors in touch-imprints and crush or scrape preparations. These specimens are prepared either for intraoperative consultation (frozen section) or rapid on-site evaluation (ROSE) of core biopsies for adequacy and/or interpretation. Participants will learn to make an immediate adequacy assessment, assign the process to a general category, and triage the specimen to appropriate ancillary studies. Participants will review digital whole-slides of the TICP preparations (hematoxylin & eosin, modified Wright-Giemsa, and/or Papanicolaou stains), static images of the preparation and ancillary studies, and clinical history/radiographic findings to reach a diagnosis. Each case has a complete description of entities in the differential diagnosis along with a discussion of the correct interpretation.
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Participants will receive immediate feedback on interpretations, ancillary studies and case-related adequate assessment.
- The 2015 cases will be comprised of an eclectic mix of procedural touch preparations and intraoperative consultations from various body sites.
- See system requirements on page 15.

**Program Information**

- TICP - Five online assessment challenges with clinical history; for each additional pathologist or cytotechnologist, purchase TICP1
- TICP1: Reporting option with CME/SAM/CE credit for each additional pathologist/technologist (within the same institution); must order in conjunction with Survey TICP
- Earn a maximum of 10 CME/SAM credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 10 CE credits per cytotechnologist for completion of an entire year
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Online whole slide images powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
### Nongynecologic Cytopathology Education Program NGC/NGC1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nongynecologic cytopathology case review – glass slides</td>
<td>NGC/NGC1</td>
<td>5</td>
</tr>
<tr>
<td>Nongynecologic cytopathology case review – online</td>
<td>NGC/NGC1</td>
<td>5 per year</td>
</tr>
</tbody>
</table>

### Additional Information

- The Nongynecologic Cytopathology Education (NGC) program is an interlaboratory educational opportunity to assess participants’ screening and interpretive skills. The NGC program is unsuitable for proficiency testing as these cases are chosen for their educational value. Cases may incorporate static online images that incorporate radiology and multiple aspects of pathology to enhance the interpretation.
- Participants can access laboratory reference interpretations and performance for the glass slides within 20 minutes by fax, providing rapid educational feedback, peer comparison, and additional review time.
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- Additional online advanced education cases provide immediate feedback on interpretation selection, follow-up recommendations, and case-related educational questions.
- See system requirements on page 15.

### Program Information

- NGC - Five glass slides; five online advanced education cases; one laboratory response form and two individual response forms.
- NGC1 - Reporting option with CME/CE credit for each additional pathologist/cytotechnologist (within the same institution); must order in conjunction with Survey NGC.
- Earn a maximum of 25 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 25 CE credits per cytotechnologist for completing the glass slides and online cases.
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements.
- Online whole slide images powered by DigitalScope technology.
- Four shipments per year.
## Online Digital Slide Program in Fine-Needle Aspiration FNA/FNA1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online program in fine-needle aspiration case review</td>
<td>FNA/FNA1</td>
<td>5</td>
</tr>
</tbody>
</table>

### Additional Information

- This program focuses on FNA diagnostic dilemmas in practice. Online cases, which consist of whole slide images and static images, provide immediate feedback on interpretation selection, ancillary studies selection, and case-related educational questions.
- Cases will focus on lung and head and neck pathology.
- DigitalScope technology simulates the use of a microscope by enabling the user to scan and adjust magnification of the whole slide image.
- See system requirements on page 15.

### Program Information

- **FNA** - Five online diagnostic challenges; for each additional pathologist or cytotechnologist, purchase FNA1.
- **FNA1** - Reporting option with CME/CE credit for each additional pathologist/cytotechnologist (within the same institution); must order in conjunction with Survey FNA.
- Earn a maximum of 10 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 10 CE credits per cytotechnologist.
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements.
- Online whole slide images powered by DigitalScope technology.
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available.
**Fine-Needle Aspiration Glass Slide Education Program  FNAG/FNAG1**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine-needled aspiration glass slide case review</td>
<td>FNAG/FNAG1</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**

- The Fine-Needle Aspiration Glass Slide Education program is an interlaboratory educational opportunity to assess participants’ screening and interpretive skills. FNAG cases may include more than one slide of varying stains and/or preparations used on fine-needle aspirations.
- Cases may include static online images that incorporate radiology and multiple aspects of pathology to support the interpretation.
- Participants can access laboratory reference interpretations and performance for the glass slides within 20 minutes by fax, providing rapid educational feedback, peer comparison, and additional review time.

**Program Information**

- FNAG - Five cases consisting of glass slides and selected online images, representing a variety of conditions; one laboratory response form and two individual response forms
- FNAG1 - Reporting option with CME/CE credit for each additional pathologist/cytotechnologist (within the same institution); must order in conjunction with Survey FNAG
- Earn a maximum of 10 CME credits (AMA PRA Category 1 Credits™) per pathologist/resident and a maximum of 10 CE credits per cytotechnologist
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Two shipments per year

---

**CAP Practical Guide to Gynecologic Cytopathology**

David C. Wilbur, MD, FCAP  
Michael R. Henry, MD, FCAP

This image-rich guide extensively covers the principles of gynecologic cytopathology and takes a thorough look at practical matters such as evaluation of patients and their specimens as well as criteria to determine specimen adequacy. Comprehensive reviews of the morphology of the vast majority of entities both benign and malignant that are routinely identified in Pap tests are presented.

To order and see the table of contents and sample pages:
Visit cap.org and choose the Shop tab or call the CAP Customer Contact Center at 800-323-4040 or 847-832-7000 option 1.

**Item number:** PUB121  
**ISBN:** 978-0-930304-94-2  
Softcover; 270 pages; 700+ photomicrographs, figures, and tables; 2008
We use CAP proficiency testing to ensure the accuracy of our results and the competency of our staff.

Program Changes

DNA Database (DNA, DNAF) .................................................................................................................. 252

Discontinued Procedure: Mitochondrial DNA database analysis
Forensic Sciences

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### DNA Database DNA, DNAF

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database analysis (whole blood)</td>
<td>DNA</td>
<td>3</td>
</tr>
<tr>
<td>Database analysis (filter paper)</td>
<td>DNAF</td>
<td>3</td>
</tr>
</tbody>
</table>

The American Society of Crime Laboratory Directors/Laboratory Accreditation Board Proficiency Review Committee (ASCLD/LAB PRC) has approved Surveys DNA and DNAF.

### Forensic Identity—Nuclear and Mitochondrial DNA Analysis FID, FIDM

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forensic nuclear DNA analysis</td>
<td>FID</td>
<td>3</td>
</tr>
<tr>
<td>Forensic mitochondrial DNA analysis</td>
<td>FIDM</td>
<td>2</td>
</tr>
</tbody>
</table>

The American Society of Crime Laboratory Directors/Laboratory Accreditation Board Proficiency Review Committee (ASCLD/LAB PRC) has approved Surveys FID and FIDM.
### Forensic Pathology  FR/FR1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forensic pathology cases</td>
<td>FR/FR1</td>
<td>6</td>
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</table>

### Additional Information
- Cases may include or reflect anthropologic materials, ballistics, dental identification, DNA identification, environmental pathology, forensic evidence, injury pattern, natural death, medicolegal issues, toxicology, and trace evidence.
- FR/FR1 is for hospital-based pathologists, forensic pathologists, residents, fellows, and medical examiners/coroners. This educational program is also designed for investigators, analysts, and technicians/technologists.

### Program Information
- FR - One CD-ROM containing six case studies illustrating gross and/or microscopic slides and questions related to medicolegal decision making; one individual response form
- FR1 - Additional pathologist or investigator (within the same institution) reporting option with CME or CE credit; must order in conjunction with Survey FR
- Pathologists can earn a maximum of 12 CME credits (AMA PRA Category 1 Credits™) for completion of an entire year
- This activity meets the ABP MOC Part IV Practice Performance Assessment requirements
- Members of the American Board of Medicolegal Death Investigators, analysts, and technologists can earn a maximum of 12 CE credits for completion of an entire year
- Two shipments per year

### Vitreous Fluid, Postmortem  VF

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<thead>
<tr>
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<th>Program Code</th>
<th>Challenges/Shipments</th>
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<td>Acetone</td>
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<td>Chloride</td>
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<td>Potassium</td>
<td>VF</td>
<td>3</td>
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<tr>
<td>Sodium</td>
<td>VF</td>
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</tr>
<tr>
<td>Vitreous urea nitrogen</td>
<td>VF</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Three 5.0-mL synthetic vitreous fluid specimens
- Two shipments per year
Forensic Toxicology, Criminalistics FTC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges/Shipments</th>
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<td>See drug listing below</td>
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</tbody>
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The American Society of Crime Laboratory Directors/Laboratory Accreditation Board Proficiency Review Committee (ASCLD/LAB PRC) has approved Survey FTC.

**FTC Drug Listing**

Challenges will include a mix of drugs from the list below.

- 6-acetylmorphine (6-AM)
- 7-aminoclonazepam
- 7-aminoflunitrazepam
- Acetaminophen
- Alpha-hydroxyalprazolam
- Alprazolam
- Amitriptyline
- Amphetamine
- Benzylecgonine
- Butalbital
- Carisoprodol
- Chlorpheniramine
- Clonazepam
- Cocaethylene
- Cocaine
- Codeine
- Cyclobenzaprin* 
- Delta-9-THC
- Delta-9-THC-COOH
- Desipramine
- Desmethylcyclobenzaprin
- Diazepam
- Diphenhydramine
- Doxepin
- Ecgonine ethyl ester

- Ecgonine methyl ester
- Ephedrine
- Fentanyl*
- Flurazepam*
- Gamma-hydroxybutyrate (GHB)
- Hydrocodone
- Hydromorphone
- Imipramine
- Ketamine
- Lorazepam
- Lysergic acid diethylamide (LSD)
- Meperidine*
- Meprobamate
- Methadone
- Methadone metabolite (EDDP)
- Methamphetamine
- Methylenedioxyamphetamine (MDA)
- Methylamphetamine
- Methyleneedioxyamphetamine (MDMA)
- Morphine*
- N-desmethyltramadol
- Nordiazepam
- Nordoxepin
- Norfluoxetine
- Nortriptyline
- Oxazepam
- Oxycodone
- Oxymorphone
- Paroxetine
- Phencyclidine
- Phenethyllamine
- Phenobarbital
- Phentermine
- Phenytoin
- Propoxyphene
- Pseudoephedrine
- Secobarbital
- Sertraline
- Temazepam
- Tramadol*
- Trazodone
- Zolpidem

*and/or metabolite(s)

Refer to Section 8, Toxicology, for a more comprehensive selection of toxicology offerings.
“The CAP's Surveys analyte listings are comprehensive—so when you're looking at new tests you can go to the index to see across the spectrum and it helps you pick what you might want.”
**Analyte/Procedure Index**

The following Analyte/Procedure Index is a comprehensive listing of analytes and corresponding CAP program options. Analytes/procedures **in bold type** whose corresponding program codes are **bold** are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

Laboratories must perform five challenges three times per year (as noted by boldface) for analytes that are regulated by the CMS.

The **X** in the LAP ENR column denotes the CAP programs that can be used to fulfill the proficiency testing enrollment requirements for CAP-accredited laboratories. Refer to the program description in this catalog to determine compatibility with your specific methodologies.

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<th>Analyte/Procedure</th>
<th>LAP ENR Code</th>
<th>Description</th>
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<td>1,5-anhydroglucitol</td>
<td>AG</td>
<td>1,5-Anhydroglucitol</td>
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<tr>
<td>1,25 dihydroxy Vitamin D</td>
<td>BMV1</td>
<td>Bone Markers and Vitamins</td>
<td>77</td>
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<tr>
<td>3-methoxytyramines</td>
<td>N/NX</td>
<td>Urine Chemistry, Special</td>
<td>62</td>
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<tr>
<td>5-hydroxyindoleacetic acid, qualitative</td>
<td>N/NX</td>
<td>Urine Chemistry, Special</td>
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<tr>
<td>5-hydroxyindoleacetic acid, quantitative</td>
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<td>6-acetylmorphine (6-AM)</td>
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<td>Forensic Toxicology, Criminalistics</td>
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<tr>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
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<td>Toxicology</td>
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<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
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<tr>
<td>7-aminoclonazepam</td>
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<td>Drug Monitoring for Pain Management</td>
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<td>Glioma</td>
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<td>11-dehydrothromboxane B2</td>
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<td>11-Dehydrothromboxane B2</td>
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<td>11-deoxycortisol</td>
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<td>25-OH vitamin D</td>
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<td>Chemistry and TDM</td>
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<td>FP/FPX</td>
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<td>Forensic Urine Drug Testing, Confirmatory</td>
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**Additional Notes:**
- HHV6 ID1: Nucleic Acid Amp, Viruses
- HHV8 ID1: Nucleic Acid Amp, Viruses
- High molecular weight kininogen: CGE/CGEX Coagulation, Extended
- High-sensitivity C-reactive protein: HSCRP
- Histotechnology quality improvement: HQIP, HQIPBX, HQB8X1, HQB8X2, HQB8X3, HQH1HC
- Homocysteine: HMS
- Homovanillic acid: N/NX
- HPV (cytology), high-risk: CHPVD
- HIV genotyping: HIVG
- HIV-1 p24 antigen, Anti HIV 1/2: VM6
- HLA-A,B,C antibody identification: MX1B, MX1C, MX1E, MXB, MXC
- HLA-(Class I/II) crossmatching: MX2B, MX2C, MX2E, MXB, MXC
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