EVERY FACE HAS A STORY TO TELL
TRANSLATIONAL RESEARCH

At Rehabilitation Hospital of Indiana (RHI), we utilize Translational Research applying scientific applications from evidence-based treatment to enhance patient care.

Indiana Traumatic Brain Injury (TBI) Model System

In 2012, RHI and the Indiana University School of Medicine (IUSM) Department of Physical Medicine and Rehabilitation (PM&R) was designated one of only 16 TBI Model System sites in the United States by the National Institute for Disability and Rehabilitation Research. This designation recognizes excellence in research and clinical care placing RHI among an elite group of world class rehabilitation centers for brain injury.

Dr. Flora Hammond and her colleagues are testing new methods for reducing irritability and aggression after brain injury; including their recently published article in the prestigious New England Journal of Medicine showing the drug Amantadine increases the rate of recovery of consciousness after brain injury.

IU InterFACE Center at RHI – Human Interactions Lab

Dr. Dawn Neumann utilizes state-of-the-art technology at the new IU InterFACE Center at RHI to study emotional and behavioral responses for the development of new treatments that improve interpersonal relationships and quality of life for patients with neurological disorders.

Spinal Cord Injury (SCI) and Weight Management

Due to an increased risk for weight gain, Dr. Katherine Stenson is testing a specially designed program of diet and exercise to help patients manage their weight after spinal cord injury.

Brain Injury Coping Skills (BICS) Group & Couples CARE Support

The Dr. Lisa Thompson Fund allowed Dr. Samantha Backhaus to develop a group treatment for teaching individuals with brain injury and their caregivers how to effectively cope with life challenges. In addition, Backhaus developed Couples CARE to assist couples in learning to manage life changes and enhance their relationships.

Resource Facilitation

Dr. Lance Trexler found that Resource Facilitation provides a network of services and support doubling the return-to-work rate after brain injury. Trexler’s research led to Resource Facilitation networks, making Indiana the only state to offer this kind of assistance for brain injury disability.

Outcome Measurement

The Mayo-Portland Adaptability Inventory (MPAI-4) developed by Dr. James Malec is the most widely used tool for assessing progress and outcomes in outpatient brain injury rehabilitation. The MPAI-4 shows that the average patient at the RHI-NeuroRehabilitation Center improved in abilities, adjustment, and re-engagement in family and community life.

About Translational Research

- RHI/IUSM PM&R researchers acquired over $1 million in new state and federal grant funding in 2013.
- RHI/IUSM PM&R researchers published 25 peer-reviewed papers and delivered 37 professional presentations at state, national and international meetings.

For more information on Translational Research contact Elena Gillespie, Research Coordinator, 317-329-2212.
Our Mission
Rehabilitation Hospital of Indiana provides personalized, compassionate care that enables individuals to regain hope and independence after life-changing injury or illness.

Our Vision
RHI leads in the practice of rehabilitative medicine through internationally-recognized translational research, innovative and patient-centered care, and holistic training.

We will achieve this vision through the following:

• Achieving superior patient outcomes
• Embracing innovative treatment methods
• Recruiting outstanding clinical expertise
• Training the next generation of rehabilitation professionals
• Seeking partnerships with other community members who serve our patient population
• Providing a lifetime continuum of rehabilitation services for our patients

A History of Healing
Rehabilitation Hospital of Indiana (RHI) opened in January of 1992 as one of the few freestanding rehabilitation hospitals in Indiana. RHI has the backing of two of the largest and most well respected health care organizations in Indiana: Indiana University Health and St. Vincent Health.

RHI is a specialty based rehabilitation hospital where patients work with therapists and nurses trained in the treatment of their particular diagnosis. The vast majority of RHI patients return to their home environment after discharge.

RHI provides a continuum of care throughout the rehabilitation process; including inpatient, outpatient specialty services and vocational evaluation and training. RHI has five convenient locations throughout central Indiana.

Our Values
Integrity: Treating each individual with dignity and respect
Innovation: Pioneering in research leading to better outcomes
Compassion: Providing an empathetic and healing environment
Teamwork: Empowering employees
Service: Providing community outreach and advocacy for individuals with disabilities through our staff, physicians, and the RHI Foundation.
Brain Injury Rehabilitation

RHI provides care to survivors of traumatic brain injury as well as those with acquired brain injuries which may involve brain tumors, infections, aneurysms, or anoxia. These injuries can impact every system of the body. A person admitted to RHI for brain injury will have every aspect of their physical, emotional and cognitive abilities evaluated, including vision, hearing, reasoning ability, memory, language skills (speaking, writing and reading), personality, and their ability to concentrate. Additionally, each patient is screened for paralysis, seizure activity, and spasticity, which can occur with brain injuries.

Every person with a brain injury is under the care of an experienced interdisciplinary team, including, a Physiatrist (a physician with specialized traumatic brain injury medicine training), neuropsychologist, nurses specializing in brain injury rehabilitation, physical therapists, occupational therapists, and speech and language pathologists who all work together to develop an individualized treatment plan.

The staff at RHI not only treats patients with traumatic brain injury, they also engage in clinical research concerning traumatic brain injuries to improve long term treatments and outcomes for patients.

RHI Brain Injury Program Highlights

- Physicians with fellowship training in brain injury medicine
- Caregiver education classes
- Certified Brain Injury Specialist through the Brain Injury Association of America
- Neuropsychology services to address the cognitive, behavioral and emotional dynamics unique to brain injury
- Continuum of Care – from inpatient acute rehabilitation to specialized outpatient and day treatment programs.
- Resource Facilitation
- Brain Injury Coping Skills groups
- On-site support groups by Brain Injury Association of Indiana

WHAT IS NEUROPSYCHOLOGY

“The purpose of Neuropsychology is to provide in-depth information about a person’s cognitive, emotional, and behavioral abilities and difficulties after a brain injury or stroke. This information can be invaluable to patients, their caregivers and their treating professionals in tracking the person’s progress, identifying ways to maximize strengths and using those strengths to compensate for any residual weaknesses.”

Bradley Hufford, PhD
-Neuropsychologist
Spinal Cord Injury Rehabilitation

Approximately 12,000 spinal cord injuries occur annually, each requiring special care and attention. As the only CARF accredited spinal cord injury rehabilitation program in Indiana, RHI is equipped to treat quadriplegia, paraplegia, simultaneous spinal cord and brain injuries, as well as vascular and infectious injuries to the spine.

Multiple lifestyle changes can be expected depending on the level of injury or impairment. An interdisciplinary team of professionals including a physiatrist (physician with specialized spinal cord injury training), nurses, physical therapists, occupational therapists, speech and language pathologists, dieticians and care coordinators will work with you and your family to provide the individualized education and training needed to equip patients after discharge. In addition, rehabilitation psychologists assess your psychological readiness to cope with these changes to assist in improving the overall quality of life.

Besides one-on-one therapy sessions, weekly spinal cord education sessions address such topics as anatomy and physiology, nutrition, medical complications, driving, travel, bowel and bladder management, skin integrity, cushions and adaptive equipment.

After your inpatient stay, RHI provides multiple outpatient services to meet your ongoing needs. These include occupational, physical, and speech therapy, plus specialty clinics dealing with the long term management and effects of aging on spinal cord injuries.

RHI Spinal Cord Injury Program Highlights

- Physicians with fellowship training and board certification in spinal cord injury medicine
- Patient education classes
- Assistive technology and adapted computer station
- Home, work and school evaluations
- On-site Vocational Rehabilitation services
- Peer Guest Program
- Community outings
- Adaptive van for driver re-education
- RHI Sports Program

My injury is life changing for me and my family. I am so pleased that I was able to do my rehabilitation at RHI. The nurses not only took excellent care of me around the clock, but were very encouraging. The physical therapy and occupational therapy I received made it possible for me to once again function independently and resume life with my family, friends and my job. When it came time for me to choose a facility to do my outpatient rehab, there was no doubt I was going to choose RHI.

Jay Shultz
- RHI patient

“I am continuously impressed by the determination and perseverance of my patients.”

Katherine Stenson, MD
-Physiatrist
Spinal Cord Injury Medical Director
Stroke Rehabilitation

Stroke is the third leading cause of death in the United States, and more than 795,000 Americans suffer a new or subsequent stroke each year. Each single stroke is different and impacts a stroke survivor in distinctive ways. The effects of a stroke can often interfere with functions needed to carry out basic, daily activities walking, bathing, getting dressed, speaking, writing, working and leisure activities. The RHI comprehensive Stroke Rehabilitation Program includes speech and language pathologists (SLP) focusing on swallowing, comprehension, reasoning, memory, language skills, and concentration. Physical therapists focus on walking, balance, strengthening, improved endurance and initial community re-entry. Occupational therapists focus on home management skills, activities of daily living, strengthening, mobility, endurance and when necessary, wheelchair fitting. RHI nursing staff is equipped to care for complex medical conditions, coordinate family education, and assist care coordination with discharge planning.

The Physiatrist (physician with specialized stroke rehabilitation training) will coordinate medical care with all disciplines to ensure maximum recovery and minimize potential complication.

RHI Stroke Rehabilitation Program Highlights

- Specialized Rehabilitative Nursing
- Continuum of Care
- Post Stroke Support Group
- Care of Complex Cardiac Patients
- Ventricular Assistive Device (VAD) trained caregivers
- Coumadin Education
- Diabetic Education
- Spasticity Management including use of Botox
Comprehensive Medical Rehabilitation

RHI’s Comprehensive Medical Rehabilitation services provide intensive rehabilitation for individuals with complex medical, surgical and/or neurological injuries or illnesses.

Patients on the Comprehensive Medical Rehabilitation unit tend to have a wide variety of conditions that affect a number of different systems, such as cardiac, pulmonary and renal. Common diagnoses treated in this area are Parkinson’s disease, debilitation, transplants, post surgical orthopedics and multiple trauma. Traumatic and non-traumatic amputation patients are also treated and are educated on how to care for their residual limb, including shaping, wrapping and desensitization, so they can prepare for a prosthetic limb after discharge.

Patients needing dialysis support are also managed by the Comprehensive Medical team. Rehabilitation for all conditions centers on healing, teaching caregivers how to assist you, and achieving realistic goals that allow you to safely return to participating in the activities you enjoyed before your injury, surgery, or illness.

After your inpatient stay, RHI provides multiple outpatient services to meet your ongoing needs. Services include occupational, physical and speech therapy, amputation education and follow-up, and the Parkinson’s and Pain clinics.

**RHI Comprehensive Medical Rehabilitation Program Highlights**

- Dialysis support
- Post-Organ Transplants
- Pulmonary disease and dysfunction
- Parkinson’s Disease
- Amputation education and follow-up
- Post-Orthopedic Surgery and Trauma
- Debilitation
- Interdisciplinary Team Approach

**RHI Facts**

- Patients admitted to RHI that have experienced a traumatic brain injury, spinal cord injury, stroke or other traumatic accident or illness experience severe medical challenges as well as moderate to severe functional deficits.

- Patients typically improve to a level of functional independence during an average stay of 14-17 days with nearly 70% of patients safely returning home.
SPECIALIZED REHABILITATION OUTPATIENT SERVICES

General Physiatry Clinic
RHI is specifically designed to support the delivery of individualized programs of care for patients suffering from back pain and musculoskeletal conditions. Services include spinal injections, nerve blocks, Botox injections and Electromyography (EMGs). RHI seeks to deliver programs of care for patients with pain that may be a direct result from injury, disease, and/or surgery. Diverse conditions are treated through this clinic and designed for patients whose function has been diminished.

RHI treats the following conditions, but are not limited to:
- Lower back pain
- Biomechanical spine pain
- Muscle pain (myofascial pain and fibromyalgia)
- Arthritis pain
- Pain deriving from spasticity
- Neuropathic pain (pain in the nerves)

Rehabilitation Neuropsychology Department at RHI
RHI Neuropsychologists are internationally recognized clinicians and researchers specializing in brain injury rehabilitation. Brain injury rehabilitation is based on a careful neuropsychological assessment of different cognitive and behavioral functions, such as memory or behavioral regulation.

RHI Rehabilitation Psychologists and Neuropsychologists provide:
- Neuropsychological assessment
- Individual and group treatment for behavioral and cognitive difficulties

RHI-NeuroRehabilitation Center (NRC) Programs & Services:
- Outpatient Therapies Specializing in Brain Injury
- Neuropsychological consultation, assessment, and follow-up
- Day Treatment Programs
  - Two Day Program for mild to moderate problems with awareness and executive functions
  - Four Day Program for more moderate to severe problems with awareness and executive functions
- Brain Injury Coping Skills Group for long-term family adjustment
- “Bridging the Gap” Support Group (in collaboration with Brain Injury Association of Indiana)
- Resource Facilitation Services for return to work and school

Follow-Up Clinics
RHI has developed a comprehensive follow-up program unlike any other in the Indianapolis area. Follow-up clinics provide a structured approach for individuals with stroke, brain injury, and spinal cord injury. Clinics are designed to ensure survivors' continued access to support and resources. RHI recognizes that patients' rehabilitation journey is ongoing and always wants to provide a home base for their needs.

Spasticity Clinics
“Spasticity” can best be described as a disorder where overexcited nerves fire rapid messages to the muscles. As a result, muscles become difficult or uncontrollable. Muscle spasticity can interfere with almost all daily living activities, such as walking, sitting, wheeling a chair, bathing, dressing, and general self-care.

RHI’s Spasticity Clinic treats individuals with spasticity caused by the following conditions:
- Spinal Cord Injury
- Multiple Sclerosis
- Brain Injury
- Spina Bifida
- Stroke
- Movement disorders

WHY I DO THIS...
Lance Trexler, PhD
Neuropsychologist
Director of Rehab Neuropsychology

Follow-Up Clinics
“...The NRC team specializes in brain injury and stroke. NRC provides the transition from the hospital to meaningful participation at home, in the community and returning to work. We systematically study our outcomes which are some of the best in the nation.”

RHI has developed a comprehensive follow-up program unlike any other in the Indianapolis area. Follow-up clinics provide a structured approach for individuals with stroke, brain injury, and spinal cord injury. Clinics are designed to ensure survivors' continued access to support and resources. RHI recognizes that patients' rehabilitation journey is ongoing and always wants to provide a home base for their needs.
RHI offers comprehensive outpatient services that support and expand the core programs offered in our inpatient setting. The rehabilitation process is intended to continue following discharge from the hospital. Our program is structured to provide patients and families with the resources and therapy needed to reach their goals. RHI specializes in both orthopedic and neurological treatment regimens; offering individualized treatment and one-on-one therapy. Access to state of the art equipment and technology combined with knowledgeable and compassionate therapists translates into great outcomes for our patients. Our therapists bring a wide range of experience and expertise to our rehabilitation practice which enhances the ability to provide evidence based rehabilitation to individuals with a wide variety of needs.

Vestibular and Balance

RHI offers a vestibular and balance retraining program performed by highly trained physical therapists utilizing state of the art technology adapted from NASA. The NeuroCom® Computerized Dynamic Posturography Assessment and SMART Balance Master® programs allow the practitioner to identify the root cause of the balance disorder. Information in combination with the physical therapist’s expertise results in a course of treatment that optimizes the patient’s success.

The benefits of RHI’s Vestibular and Balance program:
- Objective data and computerized testing
- Complete reports shared with physician
- Quicker time to functional treatment and activities of daily living
- Improved patient outcomes

Driving

RHI’s Return To Driving program is dedicated to promoting safety and independence in driving. Our specially trained occupational therapists address the visual, cognitive, and physical impairments that affect an individual’s ability to drive. RHI utilizes vehicles with state of the art adaptive equipment and computer systems that can be modified to meet the needs of the individuals we serve.

RHI’s comprehensive driving program includes:
- State of the art van with advanced equipment and computer systems
- Screening of vision, motor, and cognitive limitations
- Screening of judgment, safety, and knowledge of the rules of the road
- Behind the wheel evaluation with an occupational therapist and certified driving instructor
- Modified vehicles to enhance independence with driving
- Dependent Passenger Evaluations

Wheelchair Seating and Positioning

RHI provides a comprehensive wheelchair seating and positioning clinic for new wheelchairs or seating modifications. A team approach is used coordinating the client, Occupational therapist, Physical therapist, wheelchair vendor (client’s choice), and physician. RHI has therapists who are Assistive Technology Professionals with advanced training and certification in seating and positioning. Evaluation and recommendations are completed and sent to your physician for approval of medical necessity.

Benefits of RHI wheelchair clinic
- Comprehensive evaluation to ensure wheelchair meets all needs of the client
- Follow-up care that addresses any concerns or needed modifications to wheelchair
- Communication with physician and vendor to support payment and meet requirements of medical necessity.
- Training and education provided to client and family.

Vision

RHI’s vision rehabilitation services are comprised of a specialized occupational therapy team with expertise in pediatric and adult vision rehabilitation. Vision is a complex integration between the eyes, brain, and body. RHI therapists provide restorative and compensatory training for individuals following a brain injury or stroke, in addition to low vision intervention for adults with degenerative eye diseases. RHI provides a comprehensive evaluation and treatment plan to help improve our patients’ visual performance at home, school, work, and on the road.

RHI’s vision team specializes in:
- Pediatric Vision Rehabilitation
- Adult Vision Rehabilitation
- Providing restorative and compensatory training for individuals post brain injury and stroke
- Low vision intervention for adults with degenerative eye diseases
- Visual tests for driving assessments
- On-site ophthalmologist
Donating to RHI... Stepping up in the past; preparing for the future

Donors have made RHI a caring, healing, and hope-filled place. Donations to RHI today will assure that we can fulfill the hospital’s mission of positively changing the lives of the patients who will follow tomorrow.

“I donate to RHI because I have a deep sense of gratitude for the men and women who cared for me. Thank you seems such an insignificant phrase to say to those who have done so much. But I say it as often and as loud as I can.”

Bryan Carter - Indianapolis, IN

The compassion and generosity of RHI donors enable patients the benefits of:

- Purchase of new innovative therapy equipment
- Enjoying a place of beauty and peace in the RHI Healing Garden
- Relearning to drive using the state of the art RHI adaptive training van
- Regaining hope through the nationally recognized TBI Model Systems
- Improving quality of life through participation in the RHI Sports Program

RHISP Teams:
(specially designed equipment is available for many activities)

- Beep Baseball
- Wheelchair Racing
- Water Skiing
- Wheelchair Basketball
- Power Soccer
- Youth Track and Swimming
- Wheelchair Tennis
- Quad Rugby
- Hand Cycling
- Wheelchair Fencing
- Archery

RHISP Clinics:

- Rock Climbing
- Fishing
- Hunting
- Sailing
- Rowing
- Bocce Ball
- Kayaking
- Scuba Diving
- Snow Skiing
- Horseback Riding
- Sled Hockey
- Disc Golf
- Golf

To learn more about RHI Sports Program, or to volunteer - www.rhin.com/rhi-sports-program

Visit www.rhin.com/foundation, or call Mindi Fox at 317-329-2197, or Jim Graham at 317-329-2020 to make a donation.

“Jerry and I feel that no amount of money nor anything we can do for RHI would ever be enough to say, “Thank you!” For what you gave with your support, rehab talents, and laughter. You have been a blessing to us and we pray we can help RHI meet the needs of others.”

Anita and Jerry Way - La Porte, IN

The RHI Foundation is an essential member of the RHI caregiving team. Through the generosity of our patients, patient family members and community organizations, the Foundation enhances the RHI staff’s ability to provide state of the art rehabilitation services.

The RHI Sports Program (RHISP) makes recreational and competitive activities a reality again for many individuals who have endured an injury or illness and completed rehabilitation. Our program boasts over 14 sports teams and conducts approximately 25 athlete development programs each year, resulting in nearly 22,000 program hours to more than 300 individuals. We provide competitive and non-competitive opportunities for youth and adults with spinal cord, orthopedic, neuromuscular, and visual impairments to engage in challenging experiences.
Translational Research at RHI focuses on new techniques and knowledge that help our physicians and therapists provide the most advanced care for our patients. Goals of current studies range from maximizing progress during inpatient rehabilitation, testing new medical treatments for irritability and depression, and developing interventions that support family coping, rejoining the community, and return to work.

Research Keeps RHI at the Leading Edge of Clinical Care

Rehabilitation Hospital of Indiana (RHI) and Indiana University School of Medicine together have been selected as one of only 16 centers in the United States receiving the prestigious designation of being a Traumatic Brain Injury Model Systems site. The Traumatic Brain Injury (TBI) Model Systems designation recognizes the Rehabilitation Hospital of Indiana and Indiana University School of Medicine’s collaborative team for its academic excellence, solid research, translational care, and world-renowned researchers and clinicians.

Flora Hammond, MD
-Physiatrist
-Chief Medical Affairs

Dawn Newmann, PhD
-Clinical Researcher
-IU InterFACE Center

James Malec, PhD
-Neuropsychologist
-Director of Research
WHY CHOOSE RHI?

• RHI is CARF accredited in brain injury, spinal cord injury and stroke!
• Rehabilitation services directed by on-site physical medicine & rehabilitation physicians
• Neuropsychologist on staff
• Frequency of physicians visits: every 1-2 days
• Physicians available on-site 24/7
• Average daily nursing hours: 6-8 hours per patient/per day
• Offers specialized physical, occupational and speech therapy, neuropsychology, and recreational therapy based on patient and family needs
• At least 15 hours of therapy per week
• Interdisciplinary weekly team meetings with physician, therapists, nursing, and care coordination
• Team focus on discharge to the community
• Continuum of care from inpatient to outpatient services
• 12,000 square foot Therapy Gym
• Warm Water Therapy Pool
• Transitional Care Teaching Apartment
• Comprehensive, Goal Oriented, Rehabilitation Program
• On-site pharmacy, radiology, respiratory therapy, and laboratory
• Return to Driving Program: Driver evaluations and training & Dependent Passenger Evaluations
• Traumatic Brain Injury Model Systems site

RHI is a community collaboration between Indiana University Health and St. Vincent Health

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