HOME CARE: HOME SAFETY ASSESSMENT

by

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HOME CARE: HOME SAFETY ASSESSMENT

BEHAVIORAL OBJECTIVES

UPON COMPLETION OF THE READING MATERIAL, THE PRACTITIONER WILL BEABLE TO:

1. Describe the goals of home care.
2. Cite the purpose of home safety assessments.
3. List 5 categories that are important in a comprehensive home evaluation.
4. Identify basic home safety and patient safety issues.
5. Summarize components to evaluate in the general home environment.
6. Explain accessibility issues important in the home safety assessment.
7. Identify methods of minimizing fire hazards.
8. List common changes a home will need to accommodate a home care patient.
9. Explain the roles the patient and family/caregiver must be able and willing to perform in the home care setting.
10. List problems that indicate the need to consult the physician and/or other professional medical clinicians.

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INTRODUCTION

The elderly population in the United States is growing quickly, and this increased mean age parallels with a growing need for health care services. Home care is an option for some patients depending on their medical condition. Home care is more cost efficient than medical care given in the hospital, and is sometimes a desirable first choice for the patient and their family. This course concentrates on the home safety assessment for those patients indicated for home care, along with a brief discussion of home care in general.

The home safety assessment is one of the first steps the clinician will perform in the patients’ home prior to beginning any therapeutics. The home environment is much different than the institutional health care setting. Health and safety regulations are not as stringent in home care, but home care companies, to help assure the home is a safe environment for delivery of medical services, follow basic safety standards. The home safety assessment is an important tool for verifying the safety of the patient and their home environment, as well as identifying and correcting deficiencies.

It is assumed the participants of this course have some knowledge and experience in health care. The target audience is nurses and respiratory therapists, as this group of clinicians often performs home safety assessments. For participants wanting more information about home care, please refer to the course “Respiratory Home Care” also available at RC Educational Consulting Services, Inc.

GENERAL INFORMATION ABOUT HOME CARE

Home care is focused on the whole person, not just the disease process, and a team effort between many disciplines is essential in the patient’s recovery process. The multidisciplinary team includes the physician, nurse, respiratory therapist, physical therapist, occupational therapist, speech therapist, pharmacist, dietitian, social worker, and the home care company.

Home care is often a desirable choice for medical care if the patient does not have an acute illness requiring hospitalization, and they are able to care for themselves, or they have family members and/or caregivers to assist them. Home care nursing services cover a very broad spectrum of physical and mental illnesses. Most respiratory home care services are provided for patients with chronic respiratory disorders, patients diagnosed with sleep apnea, or infants requiring apnea monitoring.

The home care clinician will experience many differences between the traditional acute care hospital setting and the home environment for the delivery of healthcare services. Many clinicians make the transition from acute care, or nursing homes to home care, and others enter the field of home care directly. Experience in acute care or other healthcare is a valuable asset in home care. Some major differences between acute care and home care include:

- Ability to work independently; a must in home care.
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- Availability of supervision; usually just a phone call away in home care, but one must be able to work without direct supervision when out in the field delivering medical care.

- Additional personnel to assist with emergency situations; calling 911 may be the first option in home care.

- Availability of resources; not as readily available in home care. This includes equipment, supplies, medications, laboratory results and x-rays. However, with good planning, one can have all the necessary supplies in the delivery vehicle. As for laboratories and x-rays, the patient receiving home care should be stable enough not to need these services quite as frequently.

- Different work schedules, including on-call. Many enjoy the Monday to Friday 8-5 schedule in home care, since it coincides with family time. However, one usually must share the responsibility of being on-call on weekends and holidays with their co-workers.

- Different documentation. Home care documentation is often more detailed and extensive than that in the hospital.

- More comprehensive assessment skills. The home care clinician can better prepare himself or herself for the job by learning to assess the whole person and situation. This may involve educating oneself a bit beyond what is usually required by one’s own profession. This includes research, self education, regular classes or continuing education courses on such topics as nutrition, rehabilitation therapy, fire preparedness skills, and domestic violence to name a few.

- Professional-patient interaction; home care clinicians are often more familiar with their patients and the families than in the hospital.

Patients are referred to a home care company when there is a physician’s order for home care services. If the physician feels home care may be an option, the home care team can evaluate the patient and their home for appropriateness of home care services. All of the home environment factors discussed later in this course are evaluated and the physician is kept up to date on the patients’ progress at all times, and is notified if a contraindication to home care exists. The initial process involves a screening for home care with consideration of the following:

- The patient’s medical condition which indicates a need for specialized clinician services that are available in the home.

- The patient’s overall condition.

- The patient’s ability to provide self care.

- The availability of family or caregiver support.
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- The patient’s therapeutic needs.
- The type and complexity of home care medical equipment.
- The ability of the patient and/or caregivers to learn and perform the therapeutic regimen of care, as well as the ability to competently operate, troubleshoot, and clean the equipment.
- The overall home environment.
- Insurance reimbursement and financial issues.

GOVERNMENTAL REGULATIONS AND INSURANCE COVERAGE

The majority of reimbursement for home care services is through Medicare or Medicaid. Private insurance companies, employer provided insurance, and self-pay are other sources of payment for services. Medicare and Medicaid are government programs, placing the government in the major role of setting quality of care standards. In addition, other insurance companies and the home care company itself may set quality standards of their own.

The Medicare Provider Certification Program ensures that hospitals, skilled nursing facilities (SNF’s), and home care agencies meet certain health, safety, and quality requirements. These requirements, called conditions of participation, emphasize quality indicators and outcome measures that are designed to improve the quality of care given to patients. Periodic on-site inspections are performed to ensure compliance with the laws, regulations, and standards of care. The federal government works in partnership with state survey agencies (including the state health department or state licensing authority for healthcare facilities). The state agencies often set additional regulations that govern the licensing of home healthcare and post-acute providers.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) gives voluntary accreditation of post-acute care providers. The JCAHO develops standards of care for the subacute care providers and the home health agencies. Periodic on-site inspections are performed to ensure compliance with standards, and for renewal of accreditation.

THE GOALS OF HOME CARE

Nursing and respiratory therapy services are frequently needed outside of the acute care hospital setting. The patients who require specialized clinical services can be referred for home care directly from a physicians office visit, a rehabilitation center, a nursing home, or newly discharged from the hospital after an acute illness.

The main goal of home care is to provide safe, effective, high quality healthcare services to patients in their home setting. Other goals include:

- Providing comprehensive education to the patient and their family about their disease process, and effective disease management.
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- Providing a self-management plan of care for each patient.
- Improving the patient’s physical health and emotional and well-being.
- Promoting the patient’s self-sufficiency.
- Minimizing the patient’s dependence on institutional care.
- Ensuring cost-effective health care.

PURPOSE OF THE HOME SAFETY ASSESSMENT

The purpose of the home safety assessment is to assure the home environment is conducive to safe, effective, quality health care. This includes assuring the safety of the patient. The basic safety standards discussed in this course are very similar among home care companies.

When the home safety assessment is performed, and a home is found to have deficiencies that would adversely affect patient safety, or quality of care, the home care company has a system of protocols to follow for correcting deficiencies. The corrective action plan is formulated and discussed with all parties involved. This can include the patient, family/caregiver, physician, other clinicians, the home care company, and the insurance company. Corrective action is sometimes a simple five minute discussion with the patient/family/caregiver about how to improve safety. At other times, corrective action can be complex and expensive, depending on the situation. There are many factors to be evaluated in the process of determining whether or not the home meets basic safety standards. These factors will be covered in detail in the following sections.

FACTORS TO EVALUATE DURING A HOME SAFETY ASSESSMENT

Each of the following components are issues to be documented during a home safety assessment. Also present on the home safety assessment form is an area to document deficiencies noted, corrective action planned, other safety measures implemented, other recommendations, follow-up plans, and any additional comments. The clinician performing the home safety assessment and the patient, family, and/or caregiver usually sign this form.

A comprehensive evaluation of the patient’s home environment includes these 5 general categories:

1. Basic Home Safety And Patient Safety Issues

- Basic safety standards must be met; the home should be free of fire, health, and safety hazards.  

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- Provide instruction in fire preparedness/minimizing fire hazards (discussed later). For those patients using oxygen in the home, the fire hazards of oxygen must be discussed.

- Provide education and training in the proper operation, maintenance, storage, and cleaning of in-home medical equipment. Proper cleaning and maintenance at timely intervals can decrease the incidence of infections caused by contaminated equipment, and ensure optimal performance of the equipment.

- Provide instruction in patient safety such as preventing falls in patients at risk, the correct lifting and transferring techniques for non-ambulatory patients, and proper administration and storage of medications.

- Encourage CPR training for the family/caregiver. CPR training is available at many hospitals, and at community education centers for little or no charge.

- Provide the patient/family/caregiver with a list of phone numbers to call in emergency situations. Also provide them with the names and phone numbers of resources and support groups in the community that provide training and education in safety issues, and in the disease process. The better they understand their specific illness, the better they can deal with it, safely and effectively.

- Notify electric/utility companies with the names and addresses of all patients who require life support, or life-sustaining medical equipment.

2. The Overall Home Environment

- Evaluate the overall set-up of each room for optimal efficiency of care.
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- Check for adequate space in the home for all equipment and supplies. A list of equipment and supplies that may be needed in the home are listed in Appendix A. This gives an idea of the amount of storage space that may be needed.

- See if there is extra storage space available, if required.

- The home should have adequate floor strength. This can be an issue in upstairs rooms or apartments, or homes on stilts, if bringing in heavy medical equipment.

- Check for adequate ventilation, heating and cooling. Recommended in-home temperature range is about 68 to 80 degrees Fahrenheit.

- Check for adequate humidity, and recommend a humidifier if appropriate.

- Check the home for grounded electrical outlets, and ample electrical service. There must be enough grounded electrical outlets for all the necessary electrical equipment. These outlets must be in a location that is accessible, or furniture moved to make it accessible. It is also recommended to purchase surge protectors for many types of medical equipment.

- The home should have one or more telephones (at least one hard-wired) in case of emergencies. Recommend keeping a list of emergency numbers near each phone.

- The home should have hot and cold running water.

- The home should have a refrigerator at proper cooling temperature for certain medications.

- The home must be clean and sanitary. Medical equipment must be cleaned and disinfected on a regular schedule. Discuss ways of improving home sanitation, and inexpensive disinfectants such as bleach and water solution of 1:10, and vinegar and water solution of 1:3. Discuss the proper solutions to use on each type of medical equipment. Proper cleaning and disinfecting of medical equipment should be done on a regular schedule with methods suggested by the manufacturer of the product, or the home care companies’ policies. Some manufacturers will directly state in their literature which cleaning chemicals should and should not be used on their product. Instruct the patient/family that proper cleaning and disinfecting of equipment on a regular schedule will keep the equipment performance optimal, and reduce the incidence of infection from contaminated medical equipment.

- The home must be free of infestation. Pest control is discussed, when appropriate.

- If any animals are present in the home, they should be clean, well-groomed and kept up to date with vaccinations.

- Any potential sources of allergies should be minimized.
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• The home should be free of excess clutter that can hamper mobility, cause accidental falls, and lead to misplaced supplies. Medical equipment should be in a clean, well organized and well maintained area. The main area of patient care should be given particular attention in organization and sanitation.

• Scatter rugs should be avoided as they can hamper mobility and cause accidental falls.

3. Accessibility Issues

• Evaluate for accessibility in and out of the home, between rooms, and into the bathroom.

• Assess the patient’s mobility. Is the patient ambulatory on their own, or do they need assistance? Does the patient need a wheelchair or a walker? Is the patient non-ambulatory? Mobility is a main issue in accessibility evaluations. If the patient is ambulatory on his or her own, accessibility between rooms is not a problem. If the patient is not ambulatory on their own, all of the following must be taken into account:

  • Evaluate each doorway. Are the width and height adequate for accessibility? The home may need to have doorways widened.

  • Check for stairways that the patient may no longer be able to utilize. The home may need to have access ramps installed, a bathroom added at the downstairs level, or to have the patient’s bedroom moved downstairs.

  • Check for carpets that can hamper wheelchair mobility. The carpets may need to be removed and/or replaced.

  • Evaluate the main area of patient care. The patient/family/caregiver should have easy access to equipment and supplies.

4. Fire Preparedness / Minimizing Fire Hazards

• The home should have one or more smoke detectors installed. Give instructions regarding regular testing of the equipment, and changing the batteries at regular intervals. Follow the manufacturer’s guidelines on the number of smoke detectors the home needs; for example, one smoke detector per 600 square feet of living space.

• The home should have one or more fire extinguishers present that are rated for fighting all types of home fires. Home occupants/caregivers should be trained in the proper use of fire extinguishers. Refer them to a local fire station or community education class for proper training. Follow the manufacturer’s guidelines on the number of fire extinguishers; for example, one per 700 square feet of living space.

• Be sure the patient, family/caregivers have a planned exit procedure in case of fire. The patient’s mobility and access to the exits are of primary importance in the fire exit plan.
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- For those using oxygen in the home, the fire hazards of oxygen are discussed – specifically, that oxygen supports combustion. Instruct them to store oxygen tanks in a cool, well-ventilated space. Oxygen cylinders should be laid flat or placed in approved storage containers. Advise not to smoke in the home. Discuss the dangers of smoking in the presence of oxygen.

- Inspect the home and equipment for unsafe wiring and unsafe electrical cords that may be a fire hazard.

*Fire Extinguisher rated ABC for fighting all types of fires.*

*Training in proper use is recommended.*

*Smoke Detectors are inexpensive, simple to install, and highly recommended in the home safety plan.*
5. Patient, Family/Caregiver Issues: Availability, ability and willingness to perform required tasks

It is very helpful if the patient and their family/caregiver is willing and motivated to receive medical care in the home care environment. The support of the family/caregiver is crucial if the patient cannot care for himself or herself. Even if the patient is capable of self-care, it helps to have the support of the family. All involved in the patient’s care must be motivated, willing, and able to learn and perform all the many tasks that will be required of them. This includes both mental and physical ability and willingness. The family/caregiver are accepting what may be an enormous endeavor, as well as an emotionally and physically draining responsibility.

Training and education for home care patients, family/caregiver is very thorough, comprehensive and detailed since they often do not have a professional clinician residing in the home. Education and training may be provided by many methods including instruction booklets, educational videos, interactive education with the professional clinicians, and most importantly, the hands-on training.

- Assess the patient/family/caregiver for the ability to comprehend instructions. They will need to attend training and education on all of the in-home medical procedures, equipment, and supplies. They must be able to demonstrate competence and proficiency at performing all the required tasks, and be able to properly operate, maintain, troubleshoot, and clean the equipment. For each medication, they must learn the indications, contraindications, administration technique and schedule, side effects, onset of action, duration of action, and proper storage procedures. This can be a simple matter of learning how to administer one medication, or it can be a very complex and lengthy training session including in-home dialysis equipment and in-home mechanical ventilation. Does the patient/family/caregiver have the ability and motivation to learn these procedures, and perform them with competence?
Mechanical ventilators used in the home environment. Safe and proper utilization of ventilators, and many other types of medical equipment, requires the patient/family/caregiver to participate in lengthy and possibly complex training sessions. They must also accept what may be an enormous responsibility.

- Note any language barriers including illiteracy, inability to speak English, and the availability of a translator/interpreter.

- Note any vision, speech, or hearing impairments that can affect care.

- Instruct in the importance of a well balanced diet and give resources for nutritional guidance when appropriate. Perform a basic nutritional assessment. Assess for weight gain or loss.
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over a period of time. Observe for adequate food in the home. Note any patient comments concerning inadequate amounts of food or drink.

- Observe the general hygiene of the patient. If they are reliant on others for personal hygiene care, does that care seem adequate? Does the patient appear clean and well-groomed, with a clean bed to sleep in, and a clean chair to sit in? Note any patient comments about not receiving enough personal care such as bathing, washing hair, brushing teeth, and other personal hygiene concerns.

- For non-ambulatory patients, be sure the family/caregiver can know immediately when the patient needs assistance. This can include a bell at the bedside or room monitors.

- Note any patient comments regarding abuse, neglect, lack of care, or any other problems and concerns. Notify the physician when appropriate, and make recommendations if necessary for a social worker, dietician, or other clinical consults to remedy any problems outside ones scope of care. The home care company has an established set of protocols with proper communication channels for reporting these types of problems. Some may report directly to the physician, others may report to their supervisor, nurse manager, or case manager. Be sure to follow the appropriate communication channels, as some of these situations must be reported to authorities or other agencies.

Documentation Of Acceptable Home Safety Standards And Documentation Of Any Corrective Action

Any deficiencies that may adversely affect the patient should be corrected prior to initiating home care therapies. Often, the clinician is able to simply make suggestions for minor changes.

The most common and inexpensive items needed, and changes a home requires are:

- Moving furniture around to gain easy access to electrical outlets.
- Purchasing a room humidifier.
- Purchasing one or more smoke detectors and fire extinguishers.
- Purchasing surge protectors.
- Purchasing a walker.
- Purchasing a bedside commode.
- Removing scatter rugs.
- Clearing the home of excess clutter, especially in the main patient care area.
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If major adjustments or remodeling are deemed necessary, the clinician performing the evaluation should follow the protocol and communication channels set forth by the home care company to remedy the problems. Some equipment, supplies, or changes to the home may be very expensive, and may, or may not be covered by insurance.

Some expensive equipment and home changes include:

- A hospital bed.
- A wheelchair.
- Widening all doorways in the home.
- Adding access ramps to the home.
- Upgrading the electrical service in the home.
- Adding a bathroom to the home.
- Remodeling an existing bathroom in the home.
- Replacing high pile carpet with low pile carpet, or hardwood floors.

Whenever problems arise in the home safety assessment that are outside the clinicians scope of care, one should follow the communication channels established by the home care company as noted above. When the home safety assessment is complete, there is documentation of acceptable safety standards.

HOME SAFETY FOR YOUR AGING PATIENT

Each year, hundreds of thousands of older Americans are injured in and around their homes. Many of these injuries result from hazards that are easy to overlook and could have been avoided.

Specific modifications and home repairs can be implemented that will make your aging patient’s home safer and more functional. Research suggests that as much as one-third to one-half of all home accidents can be prevented through home modification and repair.

Exterior Approach

- Is the sidewalk in good repair?
- Would a ramp be helpful?
- If there are steps, are they skid-free? Is a railing properly secured?
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- Is the doorlock well maintained?
- Is it easy to get the mail?

**Interior – General**

- Are smoke detectors in working order? Is there at least one on each floor?
- Is the heater in working order? Have the filters been cleaned or changed? Is the heater set at an appropriate temperature?
- Are all space heaters located where they will not get knocked over?
- Are any extension cords or outlets overloaded? Are any outlets warm to the touch?
- Are doorways, hallways and steps unobstructed?
- Are steps well maintained with skid-free surfaces?
- Are handrails present where needed?
- Is the lighting in the house bright enough (as we age, we require more light)? Is the lighting non-glare?
- Are there at least a few lights on timers?
- Is the doorbell loud enough?
- Do electrical cords have safe paths to outlets where nobody has to step over them?
- Are all of the utilities in working order?
- Are all medications in the containers they came in and clearly marked?
- Are all poisons clearly marked and segregated?
- Is there an emergency exit plan?
- Is the water temperature 120 degrees or lower?
- Are the fuses (in the central fuse box) the correct size for the circuits?

**Telephones and Computers**

- Would your patient benefit from phones with large numeric keypads and enhanced audio systems?
- Is a single phone sufficient or would a number of phones, strategically placed, be better?
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- Are emergency numbers posted in large easy-to-read print?
- Would your patient use a computer (to communicate with family members, pursuing personal interests, making new friends, etc.)?
- Would an emergency response system be useful in case of a fall?

Living Room

- Is the furniture functional? Can your patient get in and out of chairs and couches easily?
- Are end tables sufficiently stable to support your patient if he or she suddenly leans on them?
- Are all carpets tacked down (edges should not be sticking up)?
- Are lights non-glare and bright enough for reading?
- Has a professional cleaned the chimney within the last year?

Kitchen Area

- Are all the appliances well-maintained and safe?
- Is it easy for your patient to reach the daily essentials (dishes, pots and pans, food, garbage, etc.)?
- Is there a stable stepstool available for reaching things in high cupboards?
- Do outlets have safety breakers on them?
- Is their sufficient non-glare light?
- Have all drapes and flammables been moved away from the stove?

Bathrooms

- Are all medications (including over-the-counter medications) in easy-to-open containers that are well-marked?
- Are faucets easy to turn on and off?
- Are grab bars needed and in place?
- Would a raised toilet seat help?
- Are the bathtub and shower floors covered with a non-stick surface?
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- Would a sturdy tub bench or chair be helpful?

Bedroom

- Can your Patient get in and out of bed with safety and ease? Is the bed too high?
- Is a light and phone easily accessible from his/her bed?
- Would a nightlight be useful?
- Is the floor uncluttered?

A day spent identifying and implementing some home improvement in your elderly patient’s home will bring a considerable amount of peace of mind.

FOLLOW-UP VISITS IN HOME CARE WITH CONTINUOUS SAFETY ASSESSMENT UPDATES

Regular follow-up care is scheduled for home care patients based on their medical needs. The home safety assessment components should remain in compliance with standards. Any changes or substandard safety issues should be noted, evaluated and solved.

The home care clinician performing follow-up care can document on progress notes and summaries to include:

- Patient assessment (objective and subjective) to include:
  - Any change in the patient’s medical or respiratory status
  - Breath sounds, respiratory rate, heart rate
  - Blood pressure, body temperature, color changes
  - Mental status changes

- Patient/family/caregiver’s understanding and compliance with the treatment plan.

- Any need for additional patient/family education.

- Address any problems or concerns of the patient and family.

- Equipment assessment (operation, cleanliness, adequate supplies).

- Recommendations to change, increase, or decrease therapies.

- Any new home safety issues.
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CASE STUDY: A SAMPLE HOME SAFETY ASSESSMENT

Jennifer RRT and Susan RN are employed by “We Care Home Care, Inc”. Today they are travelling together to perform a home safety assessment for Mr. Joe Deerly. Mr. Deerly is an 85 year old patient who is about to be discharged from the hospital after a lengthy illness.

This is a typical home safety assessment where the family has already expressed the desire to care for the patient and participate in all of the training and education required. In this example, the finances are a major concern, and the family needs to know what preparations will have to be made in the home prior to the patients’ arrival. This sample also illustrates the need for home care clinicians to educate themselves on matters that may be outside of medicine, or to at least have references available (names and phone numbers of help centers - to be discussed later) to give the home care patient and family for issues that often arise in home care.

Mr. Deerly has been hospitalized for approximately 3 months after an episode of severe chest pain and dyspnea. His prior medical history reveals mild renal insufficiency and hypertension for the past 3 years. These conditions have been stable and well controlled by following a proper diet and taking his medication. Mr. Deerly Sr. had no other history of medical problems.

Mr. Deerly had been living alone, a widower, and was able to perform activities of daily living independently up until this hospitalization. He was fully capable of taking care of himself and his home. He was able to drive, and participated in frequent walks, golf, and fishing activities.

Upon his admission to the hospital three months ago, Mr. Deerly was diagnosed with severe coronary artery disease. He underwent coronary artery bypass surgery, followed by a long, slow, and complicated recovery time of three months. He developed respiratory failure requiring mechanical ventilation. He was successfully weaned from mechanical ventilation after two months, but still requires some ventilatory support due to respiratory insufficiency. He uses BIPAP every night and PRN for naps when he feels very fatigued. Oxygen is bled into the BIPAP machine at 2 liters/minute. He currently does not need supplemental oxygen during the daytime. During his hospitalization, his renal function deteriorated to complete renal failure, requiring hemodialysis three times per week. He and his family have begun orientation to peritoneal dialysis, in anticipation of performing this at home every night.

Mr. Deerly’s medical condition is now stable, and he is displaying gradual continuous improvements. He has been weaned from all IV fluids, and is ambulating in the hall for short walks three times per day with the aid of a walker. He uses a wheelchair when he is too fatigued to walk.

The plan now is for him to be discharged to the home of his daughter, Beth, as he can no longer take care of his house. He can perform much of his own self care, but needs help with meals, and other activities of daily living when he is too fatigued. His daughter is aged 64, widowed, and lives alone. She is in good health, and is willing and motivated to care for her father. She has already begun training and education in much of the medication, equipment, and supplies her father needs. Beth is retired and lives on a very modest retirement income. One of her main
concerns is the monetary expense needed to prepare the home for her father. Beth already has information from the insurance company on exactly what they will cover. The insurance will cover almost all of the medications, medical equipment, and medical supplies, but none of the home improvements that may be needed.

Both an RN and an RRT are involved in the home care plan for this patient since Mr. Deerly needs nursing and respiratory services in his home care. He requires at home peritoneal dialysis, several medications, home BIPAP, and home oxygen concentrator plus tanks for backup. With all of these factors in mind, the home safety assessment begins.

This is a single story home with 2 steps leading to the front door. Beth’s son, who works in construction, has already stated he will be happy to purchase and install the necessary access ramp and handrails. He and his friends will also take care of any moving around of furniture that needs to be done. Cost to Beth is $0.

The home is only ten years old, has ample electrical service, with good heating, cooling, and ventilation. There is hot and cold running water, and a newer refrigerator large enough to have one small area reserved for medications. The doorways are all standard size and are of adequate width for a wheelchair or a walker. There are no scatter rugs to hamper the patients’ mobility. There is minimal clutter throughout the home, which can be easily cleared away. The clinicians discuss with Beth the importance of a neatly organized home cleared of clutter. This will help to minimize fall hazards, improve the patients’ mobility, and maximizes quick access to the patient, equipment, supplies, and other necessities.

Jennifer RRT assesses the bedroom the patient will be using. It is small, but adequate for the necessary medical equipment and supplies if some things are moved. She discusses the need to move the bed to the other side of the room in order to easily access the electrical outlets needed for the medical equipment. She notes all electrical outlets are 3 prong grounded outlets. She informs Beth she will need to purchase two surge protectors. Approximate cost is $30.

The room contains a bed, chair, and television. There are also three large bookshelves in the room, which take up one entire wall of space. These shelves are piled high with old newspapers, magazines, books, pictures, and pretty nic nacs. The bookshelves and the contents need to be moved in order to make room for all of the medical equipment and supplies. In this room, space is needed for the wheelchair, walker, dialysis machine, oxygen concentrator, BIPAP machine, and miscellaneous equipment and supplies. Jennifer RRT gently discusses moving the bookshelves with Beth, knowing it may be a sensitive subject, and there may be memories contained therein. Beth quickly agrees that she could easily reduce the clutter to one bookshelf, which she will move to her own bedroom. The pictures and special nic nacs can be placed in the nice curio cabinet in the dining room. The unnecessary books, magazines, and newspapers can be placed in the recycle bin. One of the bookshelves can be cleaned and used to store the medical supplies. The third bookshelf can be placed in the garage and used for storage there. Cost is $0.
There is one smoke detector in the home, which is about two years old. Susan RN presses the test button and finds it does not work. With new batteries installed it works fine. Beth is instructed to replace the batteries twice yearly, and test the smoke detector monthly. A review of the manufacturer’s manual reveals one smoke detector can cover a maximum 600 square feet of space. This a 1000 square foot home, so at least one more smoke detector is needed. This smoke detector will be moved to one side of the home and another must be purchased and placed at the other side of the house. They should be strategically located near bedrooms, which this one is. The smoke detector is mounted approximately 2 inches down from the ceiling, near the corner, which is not the correct location. The manufacturers instructions should always be followed for proper installation of smoke detectors. This manufacturer recommends to install the smoke detector on the wall at least 12 inches away from the corner. Furthermore, for a flat ceiling, it must be mounted between four and twelve inches down from the ceiling to avoid deadspace air. For peaked ceilings, the manufacturers recommends the smoke detector be placed approximately 3 feet below the peak of the ceiling, depending on the angle. Beth is instructed to read over the manufacturers instructions, and install the smoke detectors correctly. For one new smoke detector the approximate cost is $20.

Susan RN notes there is no fire extinguisher in the home, and it is highly recommended by the home care company to have at least one in the home. Beth does not know where to buy one or how to use it. Susan RN came prepared with a list of places offering training in the use of a fire extinguisher. Among these are a local fire station, and a hospital offering free training once each month in the safe and proper use of a fire extinguisher. Basic instructions are given to Beth regarding the PASS method. Beth is told that most discount variety chain stores and home improvement places sell fire extinguishers. She is told to be sure to purchase the type rated for all types of fires in the home, and to read the instruction manual carefully prior to attending the class. Class cost is $0. Fire extinguisher cost is approximately $40.

Jennifer RRT notices while sitting in the living room, there are fleas in the home. She gently broaches the subject of pest control with Beth. Beth is quite embarrassed. She has 2 cats, and has tried many different kinds of flea control products on the cats, none of which are tolerated by the cats, and none of which provide long lasting results. Beth stated she cannot afford the products recommended by her veterinarian. Removing the carpet and replacing it with hardwood flooring is completely out of the budget. Jennifer RRT shares with Beth some pest control information. She has a list of local pest control companies, as well as a list of places to purchase pest control products at a discount. Having visited many home patients in this area, she learned that fleas, and especially the flea eggs that hatch in the carpet can become a very big problem. One product recommended time and again as effective and inexpensive by home care clients is 97% boric acid powder. This is a pest control product that is effective for once a year flea control treatment, by simply sweeping the white powder into the carpets. Treating a 1000 square foot home will cost about $30 for generic boric acid powder, about $150 for brand name flea control boric acid powder, and about $400 for professional once a year flea control. Beth agrees that sweeping this into the carpet once per year is a simple and inexpensive solution. She will need to also purchase a one-time flea control product to eliminate the already hatched fleas, as well as the boric acid powder in the carpet once a year for continued pest elimination. Total cost is about $30.
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Jennifer RRT next discusses home sanitation, instructing Beth on the importance of minimizing infections with proper disinfection. The home is very clean overall, but sanitation products will be needed for the medical equipment. Beth is not able to afford expensive brand name sanitation products. Jennifer RRT gives her a list of inexpensive disinfection products. Jennifer instructs Beth to always follow the manufacturer’s instructions for the proper products to use on each piece of medical equipment. Some may require using alcohol, while others may require soap and water only. Most can be cleaned and disinfected with inexpensive products. For Mr. Deerly’s bedroom, surface areas can be disinfected by wiping with a lint-free cloth, dampened with a bleach and water solution of 1:10 or ¼ cup bleach to 1 gallon water. Some of the medical supplies (nebulizer kits, Bipap mask and circuit) can be cleaned with mild fragrance-free soap, then soaked in a vinegar and water solution of 1:3 for half an hour, rinsed with water, then air dried. The cost of these sanitation supplies is very minimal with an estimated monthly cost of $2.

There are no smokers in this home, however, Beth’s son smokes, and he visits often. Jennifer RRT asks Beth to not allow him or other visitors to smoke in the home. This presents a health hazard of second-hand smoke, as well as a fire hazard, especially in this case where oxygen will be used in the home. Beth states she will ask any visitor who smokes to go outside when partaking of their habit. Beth also asks about smoking cessation programs, as she wants to help her son quit. Jennifer RRT is prepared with a list of national smoking cessation resources available on the internet. She also has as a list of local resources with ongoing smoking cessation programs, some of which are free.

All other components of the home safety assessment are acceptable. Beth is relieved to know her total cost for preparing her home is less than $200. She and the clinicians reach an agreement for a 2 week follow-up visit to assure the home meets the home safety guidelines. At the 2 week follow-up visit, all problems have been corrected, the home safety assessment is passed, and the home is deemed acceptably safe for a home care patient. Beth will now continue the intensive training needed to operate all the medical equipment, and perform all the required tasks competently.

APPENDIX A: TYPICAL MEDICAL EQUIPMENT THAT IS USED AND STORED IN THE HOME

The following is a list of equipment and supplies that sometimes must be kept in the home. This can give an idea of the space needed for the main area of clinical care, and extra storage space. Also, this gives an indication of the training that may be required of home care patients, family, or caregivers.

- Ventilator, CPAP, or BIPAP machine.
- Circuits.
- Ventilator humidifier with thermostat.
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- Tracheal tubes, masks.
- Tracheostomy care kits.
- Airway appliances.
- Alarm and monitoring devices.
- Gloves, gowns.
- 12-volt battery & battery charger.
- Circuits, filters.
- Air compressor.
- HME’s.
- Oxygen concentrator.
- Sterile distilled water.
- Large & small oxygen tanks.
- Nebulizer kits.
- Apnea monitor.
- Surge protectors.
- Suction machine and catheters.
- Wheelchair.
- Hospital bed.
- Bedside table.
- Bedside commode, bedpan, or urinal.
- Cleaning and disinfecting supplies.
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- Intravenous medication equipment and supplies.
- Portable generator (additional safety training is required).

Some equipment that may be needed in the home include a wheel chair, walker, hospital bed, oxygen tank, etc.
CONCLUSION

Providing medical care in the home environment is a challenging endeavor to all involved. The complexity of care varies from simple medication delivery with minimal follow-up care to complex invasive mechanical ventilation with intensive follow-up care. A professional multidisciplinary team approach is necessary in order to achieve successful medical care in the home care environment. Assessment of the home environment for safety is a priority first step to delivering safe and effective home care. This includes an assessment of the home environment as well as the individuals who will be involved in the daily care of the patient. The home safety assessment aids in identifying deficiencies that may adversely affect safe delivery of medical care. A corrective action plan can then be discussed and initiated to provide safe, high quality health care in the home environment.
SUGGESTED READING AND REFERENCES


HOME CARE: HOME SAFETY ASSESSMENT

POST TEST

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1. What is the purpose of performing a home safety assessment?
   a. The main purpose is for documentation of fire preparedness and fire safety as required by law.
   b. Safety assessments are only performed by social workers who are investigating claims of patient mistreatment, abuse, neglect, or unsanitary living conditions.
   c. To assure the home is a safe environment for delivering medical care, and to formulate corrective action plans for any home safety deficiencies.
   d. None of the above

2. Which of the following are true of home care?
   a. Family/caregiver support is of minimal importance in home care.
   b. The main goal is to provide safe, high quality healthcare in the home setting.
   c. Training the family/caregiver to operate the patients’ in-home medical equipment is not recommended as this leads to multiple problems.
   d. Medicaid is the only regulator of home care safety standards.

3. In a comprehensive home safety assessment all of the following are important: Basic home safety and patient safety issues, evaluation of the overall home environment, accessibility issues, fire preparedness/minimizing fire hazards, and patient/family/caregiver issues.
   a. True.
   b. False.

4. Which of the following help promote patient safety?
   a. Instruct the patient/family/caregiver on the safe and proper use of equipment used in the home.
   b. Instruct the family/caregiver in fall prevention for patients at risk.
   c. Minimize infections caused by contaminated equipment by instructing on proper cleaning and disinfecting of home equipment on a regular schedule.
   d. All of the above.
5. What are methods of minimizing fire hazards?

a. One or more smoke detectors present in the home, tested regularly, maintained, and working properly.
b. One or more fire extinguishers present in the home, and home occupants trained in proper use.
c. Home occupants educated on the fire hazards of oxygen and instructed not to smoke in the home.
d. All of the above.

6. Which of the following are accessibility concerns in the home evaluation?

a. Assess the width of doorways for patients in wheelchairs.
b. Question if a there are stairs the patient may no longer be able to use. Evaluate the need for ramps, or to have certain rooms moved from upstairs to downstairs.
c. Both a and b.
d. None of the above.

7. Which of the following is not true of an evaluation of the overall home environment?

a. The overall setup of each room should be assessed for optimal efficiency of care.
b. The home should be assessed for ample electrical service, with enough grounded electrical outlets for all the equipment that will be brought into the home.
c. Every evaluation requires the patient to pay for professional electricians, air conditioning technicians, and plumbers to certify the home is safe.
d. The home should be assessed for the required space needed for equipment and supplies.

8. What are the most common and inexpensive changes a home needs to accommodate a home care patient?

a. Adding a bathroom.
b. Enlarging all doorways and adding access ramps.
c. Moving furniture around to access electrical outlets, clearing the home of excess clutter, removing scatter rugs, and purchasing smoke detectors.
d. Upgrading electrical service.

9. The patient, family/caregiver are not expected to learn:

a. How to properly operate, maintain, and clean equipment used in the home.
b. How to troubleshoot equipment problems, and when to call professionals for help.
c. Medication administration schedules, indications, contraindications, and side effects.
d. How to perform pulmonary function tests and change in-home mechanical ventilator settings based on their calculations.
10. It is sometimes necessary to consult the physician or other medical professionals such as a social worker, dietician, or physical therapist based on the home safety assessment.
   
   a. True  
   b. False  

11. Which of the following is performed in the home by the patient/family, and is one of the most common methods of disinfecting home care equipment?
   
   a. Vinegar and water solution of 1:3.  
   b. Autoclaving.  
   c. Gamma wave radiation.  
   d. Pasteurization.  

12. For cleaning and disinfecting home care equipment, the best product to use is always:
   
   a. The product(s) recommended by the manufacturer of the equipment.  
   b. Phenol solution.  
   c. Hexachlorophene.  
   d. Quaternary ammonium compounds.  

13. A product or method that is inexpensive and effective as a home disinfectant for most counter tops and surfaces where home equipment will be stored is:
   
   a. Autoclaving.  
   b. Bleach and water solution of 1:10.  
   c. Ethylene oxide sterilization.  
   d. Gamma sterilization.  

14. The best type of fire extinguisher to recommend to a home care patient is:
   
   a. One rated for wood fires only.  
   b. One rated for grease & electrical fires only.  
   c. One rated for all common types of fires.  
   d. None of the above.  

15. Smoke detectors should always be mounted as follows:
   
   a. Exactly one inch from the ceiling.  
   b. Exactly one inch from the corner of the wall and ceiling.  
   c. Always in the center of the ceiling.  
   d. According to the manufacturer’s instructions.
16. The patient/family should be instructed to perform simple maintenance on smoke detectors as follows:
   a. Test monthly and change batteries annually.
   b. Test yearly and change batteries biannually.
   c. Test monthly and change batteries semi-annually.
   d. Test biannually and change batteries biannually.

17. Patient safety in the home includes minimizing clutter, and keeping the home and the medical equipment organized and sanitary. Good organization of the patient’s main area of care is important for:
   a. Quick and easy access to the patient, equipment, and other necessities.
   b. Minimize the chances of losing important equipment and supplies.
   c. Both a and b are important.
   d. None of the above.

18. In the sample case study of a home safety assessment, what medical problems does the patient have that can be treated in the home?
   a. Esophageal cancer and respiratory insufficiency.
   b. Renal failure and respiratory insufficiency.
   c. Bronchiectasis and centrilobular emphysema.
   d. Alveolar hyperventilation and renal insufficiency.

19. In the sample case study of a sample home safety assessment, what type of training and education will the patient/family need in order to provide safe and effective in-home care?
   a. Training for peritoneal dialysis.
   b. Training for utilization of BIPAP therapy.
   c. Education in the safe use of medications.
   d. All of the above.

20. Which of the following are good resources to have on hand for the patient/family when performing a home safety assessment?
   a. A list of local and national smoking cessation resources.
   b. A list of local hospitals or education centers that provide CPR training to the public.
   c. A list of emergency phone numbers.
   d. All of the above.

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