OBJECTIVES

- Discuss the importance of consensus standards for public reporting of patient safety events.
- Describe environmental hazards that pose risks to a person’s safety.
- Discuss methods to reduce physical hazards and the transmission of pathogens.
- Discuss the specific risks to safety related to developmental age.
- Identify the factors to assess when a patient is in restraints.
- Describe the four categories of safety risks in a health care agency.
- Describe assessment activities designed to identify patients’ physical, psychosocial, and cognitive status as it pertains to their safety.
- Identify relevant nursing diagnoses associated with risks to safety.
- Develop a nursing care plan for patients whose safety is threatened.
- Describe nursing interventions specific to a patient’s age for reducing risk of falls, fires, poisonings, and electrical hazards.
- Define the knowledge, skills and attitudes necessary to promote safety in a healthcare setting.

KEY TERMS

- Ambularm, p. 421
- Aura, p. 423
- Food and Drug Administration, p. 412
- Immunization, p. 413
- Pathogen, p. 413
- Poison, p. 413
- Pollutant, p. 414
- Rear-facing car safety seat, p. 412
- Restraint, p. 420
- Seizure, p. 423
- Seizure precautions, p. 423
- Status epilepticus, p. 423

Safety, often defined as freedom from psychological and physical injury, is a basic human need. Health care, provided in a safe manner, and a safe community environment are essential for a patient’s survival and well-being. A safe environment reduces the risk for illness and injury and helps to contain the cost of health care by preventing extended lengths of treatment and/or hospitalization, improving or maintaining a patient’s functional status, and increasing the patient’s sense of well-being. The Institute of Medicine’s report “To Err Is Human: Building a Safer Health System” (2000) was a pivotal publication that brought patient safety to the forefront of health care in the United States. This report indicated that 44,000-98,000 people die each year as a result of preventable medical errors. In an effort to improve patient safety, many organizations have become devoted to developing and monitoring key health care safety initiatives and providing information to health care organizations and to the public (Box 27-1). Health care organizations foster a patient-centered safety culture by continually focusing on performance improvement endeavors, risk management findings and safety reports; providing current reliable technology; integrating evidence-based practice into procedures; designing a safe work environment and atmosphere; and providing adequate staff educational opportunities. As part of the health care team, the nurse has the professional responsibility to be engaged in activities that support a patient-centered safety culture. There has also been considerable emphasis on improving the education of student nurses so that they become more competent in promoting safe healthcare practices. The Quality and Safety Education for Nurses (QSEN) project was developed to meet the challenge of preparing future nurses who will have the knowledge, skills and attitudes (KSAs) necessary to continuously improve the quality and safety of the healthcare systems within which they work (Quality and Safety Education for Nurses, 2011). The QSEN safety competency for a nurse is defined as “Minimizes risk of harm to patients and providers through both system effectiveness and individual performance.” As a nurse you are responsible for incorporating critical thinking skills when using the nursing process, assessing each patient and their environment for hazards that threaten safety, as well as planning and intervening appropriately to maintain a safe environment. By doing this, you will be a provider of safe acute, restorative, and continuing care, but also an active participant in health promotion.

SCIENTIFIC KNOWLEDGE BASE

Environmental Safety

A patient’s environment includes all of the many physical and psychosocial factors that influence or affect the life and survival of that patient. This broad definition of environment crosses the continuum of care for settings in which the nurse and patient interact.
such as in the hospital, long-term care facility, clinic, community center, school and the home. A safe environment protects the staff as well, allowing them to function optimally. Vulnerable groups who often require help in achieving a safe environment include infants, children, older adults, the ill, the physically and mentally disabled, the illiterate, and the poor. A safe environment includes meeting basic needs, reducing physical hazards and the transmission of pathogens, and controlling pollution.

**Basic Needs.** Physiological needs, including the need for sufficient oxygen, nutrition, and optimum temperature influence a person’s safety. According to Maslow’s hierarchy of needs, these basic needs must be met before physical and psychological safety and security can be addressed (see Chapter 6).

**Oxygen.** Use of oxygen may be required to meet a person’s oxygenation needs. Oxygen is not flammable but fire needs oxygen to start and to keep burning. When more oxygen is in the air, a fire will burn hotter and faster. Strict codes regulate the use and storage of medical oxygen in health care facilities. This is not necessarily true in the home environment. Hospital emergency rooms see an estimated average of 1,190 thermal burns per year caused by ignitions associated with home medical oxygen (National Fire Protection Association, 2008). Smoking was by far the leading cause of burns, reported fires, deaths and injuries involving home medical oxygen.

Be aware of factors in a patient’s environment that decrease the amount of available oxygen. A common environmental hazard in the home is an improperly functioning heating system. A furnace, stove or fireplace that is not properly vented introduces carbon monoxide into the environment. Carbon monoxide affects a person’s oxygenation by binding with hemoglobin, preventing the formation of oxyhemoglobin and thus reducing the supply of oxygen delivered to tissues (see Chapter 40). Low concentrations cause nausea, dizziness, headache, and fatigue. Very high concentrations cause death after 1 to 3 minutes of exposure (National Fire Protection Association, 2010a).

**Nutrition.** Meeting nutritional needs adequately and safely requires environmental controls and knowledge (see Chapter 44). Health care facilities and restaurants are required to meet State Board of Health regulations. To protect consumers, commercially processed and packaged foods are subject to Food and Drug Administration (FDA) regulations. The FDA is a federal agency responsible for the enforcement of federal regulations regarding the manufacture, processing, and distribution of foods, drugs, and cosmetics to protect consumers against the sale of impure or dangerous substances. While food supply in the United States is one of the safest in the world, each year about 76 million illnesses occurs, more than 300,000 persons are hospitalized and 5,000 die from food-borne illness (Centers for Disease Control and Prevention, 2009). Groups at the highest risk are children, pregnant women, older adults and people with compromised immune systems. Foods that are inadequately prepared or stored, or that are subject to unsanitary conditions, increase the patient’s risk for infections and food poisoning.

**Temperature.** A person’s comfort zone is usually between 18.3° and 23.9°C (65° and 75°F). Temperature extremes that frequently occur during the winter and summer affect comfort, productivity, and safety. Exposure to severe cold for prolonged periods causes frostbite and accidental hypothermia. Frostbite occurs when a surface area of the skin freezes as a result of exposure to extremely cold temperatures. Hypothermia occurs when the core body temperature is 35°C (95°F) or below. Older adults, the young, patients with cardiovascular conditions, patients who have ingested drugs or alcohol in excess, and the homeless are at high risk for hypothermia. Exposure to extreme heat changes the body’s electrolyte balance and raises the core body temperature, resulting in heatstroke or heat exhaustion. Chronically ill patients, older adults, and infants are at greatest risk for injury from extreme heat. These patients need to avoid extremely hot, humid environments (see Chapter 29).

**Physical Hazards.** An average of 33.5 million injuries takes place each year, with the majority occurring inside or outside of the home (Centers for Disease Control and Prevention, 2010a). Physical hazards in the environment threaten a person’s safety and can result in physical or psychological injury or death. Unintentional injuries are the fifth leading cause of death for Americans of all ages (National Center for Injury Prevention, 2010a). Motor vehicle accidents are the leading cause, followed by poisonings and falls. Additional hazards consist of fire and disasters. A nurse plays a role in educating patients about common safety hazards and how to prevent injury while placing emphasis on those hazards to which patients are more vulnerable.

**Motor Vehicle Accidents.** Vehicle design and equipment such as seat belts, air bags and laminated windshields (remain in one piece when impacted) has improved safety for vehicle occupants. State specific laws relating to young driver licensing, safety belt use, child restraint use and motor cycle helmets exist for protection. Child safety seats and booster seats appropriate for the child’s age and weight and the type of car should be utilized (Figure 27-1) The American Academy of Pediatrics (2011) recommends that all infants and toddlers should ride in the back seat with a rear-facing seat.
car safety seat until they are 2 years of age or until they reach the highest weight or height allowed by their car safety seat’s manufacturer. The Academy’s website Healthy Children at http://www.aap.org/healthtopics/carseatsafety.cfm has information for all children’s ages and the type of safety seat to use. The back seat of a car is the safest part of the vehicle in the event of a crash and prevents injury from deployment of passenger and side air bags. According to the Centers of Disease Control and Prevention (2010b), the risk of motor vehicle accidents is higher among 16-19 year old drivers than any other age-group. Teens are more likely to underestimate dangerous situations or not be able to recognize hazardous situations, to speed and allow shorter headways, ride with intoxicated drivers, and drive after using alcohol and drugs. Teens also have the lowest rate of seat belt use. Older drivers are keeping their licenses longer and driving more miles than in the past. Per mile traveled, fatal crash rates increase starting at age 75 and increase markedly after age 80 (Insurance Institute for Highway Safety, 2008). An older adult is not always able to quickly observe situations in which an accident is likely to occur. Decreased hearing acuity alters the older patient’s ability to hear emergency vehicle sirens or vehicle horns. Because of decreased nervous system response, older adults are unable to react as quickly as they once could to avoid an accident. A decline in these skills accounts for the most common types of accidents, including right-of-way and turning accidents.

Poison. A poison is any substance that impairs health or destroys life when ingested, inhaled, or absorbed by the body. Any substance can be poisonous if too much is taken. Sources in a person’s home include drugs, medicines, other solid and liquid substances and gases and vapors. Poisons can impair the function of every major organ system. Health care providers are at risk from chemicals, such as toxic cleaning agents. In the home, accidental poisoning is a greater risk for the toddler, preschooler, and young school-age child, who often ingest household cleaning solutions, medications, or personal hygiene products. Emergency treatment is necessary when a person ingest a poisonous substance or comes in contact with a chemical that is absorbed through the skin. In 2008, more than 2000 people a day were seen in emergency departments after a poison incident (Centers for Disease Control and Prevention, 2010c). Specific antidotes or treatments are available for only some types of poisons. A poison control center is the best resource for patients and parents needing information about the treatment of an accidental poisoning.

Although lead has not been used in house paint or plumbing materials since the U.S. Consumer Product Safety Commission banned it in 1978, older homes in poorer communities continue to contain high lead levels. Soil and water systems are sometimes contaminated. Poisoning occurs from swallowing or inhaling lead. Fetuses, infants, and children are more vulnerable to lead poisoning than adults because their bodies absorb lead more easily and small children are more sensitive to the damaging effects of lead. Exposure to excessive levels of lead affects a child’s growth or causes brain and kidney damage (Agency for Toxic Substances and Disease Registry, 2010).

Falls. Falls are a major public health problem. Among older adults 64 years and above, falls are the leading cause of unintentional death (Centers for Disease Control and Prevention, 2010a). There are numerous factors that increase the risk for falls, including a history of falling, being age 65 or over, reduced vision, orthostatic hypotension, gait and balance problems, urine incontinence, use of walking aids, and the effects of various medications (e.g. anticonvulsants, hypnotics, sedatives, certain analgesics) (Deandrea et al, 2010). Common physical hazards that lead to falls include inadequate lighting, barriers along normal walking paths and stairways, and a lack of safety devices in the home. Often a fall leads to serious injury such as fractures or internal bleeding. Patients most at risk for injury are those with bleeding tendencies due to disease or medical treatments, and osteoporosis. Injuries frequently result from accidental contact with objects on stairs, floors, bedside tables, closet shelves, refrigerator tops and bookshelves. Children fall from anywhere; trees, wall/fences, playground equipment, furniture and moving objects such as skateboards and bicycles. Forces from falls can lead to injury with variable severity depending on the height of the fall, body position upon impact, and impact surface.

Fire. There were 386,500 reported home fires in the United States in 2008, resulting in 2,755 deaths and 13,160 injuries (National Fire Protection Association, 2010b). The leading cause of fire-related death is careless smoking, especially when people smoke in bed at home. The improper use of cooking equipment and appliances, particularly stoves, are the main sources for in-home fires and fire injuries. Patients should have smoke detectors along with carbon monoxide detectors, placed strategically throughout their homes. Multipurpose fire extinguishers need to be near the kitchen and any workshop areas.

Disasters. When they strike, natural disasters such as floods, tsunamis, hurricanes, tornadoes, and wildfires are a major cause of death and injury. These types of disasters result in death and can leave many people homeless. Every year, millions of Americans face disaster and its terrifying consequences (Federal Emergency Management Agency, 2010). Bioterrorism attack is another cause of disaster. Threats of this type come in the form of biological, chemical, and radiological attacks. Bioterrorism, or the use of biological agents to create fear and threat, is the most likely form of a terrorist attack to occur. Although terrorists could use any agent, health officials are most concerned with biological agents such as anthrax, smallpox, pneumonic plague, botulism, Tularemia and Viral hemorrhagic fevers (American Medical Association, 2010).

Transmission of Pathogens. Pathogens and parasites pose a threat to patient safety (see Chapter 28). A pathogen is any microorganism capable of producing an illness. The most common means of transmission of pathogens is by the hands. For example, if an individual infected with hepatitis A does not wash his or her hands thoroughly after having a bowel movement, the risk for transmitting the disease during food preparation is great. One of the most effective methods for limiting the transmission of pathogens is the medical aseptic practice of hand hygiene (see Chapter 28). The human immunodeficiency virus (HIV), the pathogen that causes acquired immunodeficiency syndrome (AIDS), and the hepatitis B virus are transmitted through blood and other select body fluids. High risk behaviors that include sexual contact and drug use are common risk factors for HIV. Drug abusers frequently share syringes and needles, which increase the risk of acquiring these viruses. Some states and many nonprofit organizations fund syringe exchange programs as a means to slow down the spread of infectious diseases obtained through needle sharing (Coalition for Safe Community Needle Disposal, 2010).

Immunizations can reduce, and in some cases prevent, the transmission of disease from person to person. Individuals acquire active immunity by an injection of a small amount of attenuated (weakened) or dead organisms or modified toxins from the organism (toxoids) into the body. Passive immunity occurs when antibodies produced by other persons or animals are introduced into a person’s bloodstream for protection against a pathogen.
Insects and rodents are carriers of pathogens. For example, some mosquitoes are carriers of malaria and West Nile virus. Rats and mice carry rat-bite fever. Uncontrolled mosquito and rodent populations increase the risk for these diseases. Persons living at the poverty level sometimes live in unmaintained homes or housing. Rat and roach infestations are common problems. Mosquito repellent and rodent traps help eliminate this risk.

Proper disposal of human waste controls the transmission of disease and parasites. Without a satisfactory sewer and waste system in a community, the population is at risk for illnesses such as typhoid fever and hepatitis.

**Pollution.** A healthy environment is free of pollution. A pollutant is a harmful chemical or waste material discharged into the water, soil, or air. People commonly think of pollution only in terms of air, land, or water pollution, but excessive noise is also a form of pollution that presents health risks. Air pollution is the contamination of the atmosphere with a harmful chemical. Prolonged exposure to air pollution increases the risk of pulmonary disease. In urban areas, industrial waste and vehicle exhaust are common contributors to air pollution. In the home, school, or workplace, cigarette smoke is the primary cause of air pollution. Improper disposal of radioactive and bioactive waste products (e.g., dioxin) can cause land pollution. Water pollution is the contamination of lakes, rivers, and streams, usually by industrial pollutants. Water treatment facilities filter harmful contaminants from the water, but these systems sometimes contain flaws. If water becomes contaminated, the public should use bottled or boiled water for drinking and cooking. Flooding frequently causes damage to water treatment stations and also requires the use of bottled or boiled water.

**NURSING KNOWLEDGE BASE: FACTORS INFLUENCING SAFETY**

In addition to being knowledgeable about the home and health care environment and the inherent safety risks, nurses need to be familiar with a patient’s developmental level; mobility, sensory, and cognitive status; lifestyle choices; and knowledge of common safety precautions. They also need to be aware of the special risks to safety that are found in health care settings.

**Risks at Developmental Stages**

A patient’s developmental stage creates threats to safety as a result of lifestyle, cognitive and mobility status, sensory impairments, and safety awareness. With this information, safety prevention programs can be tailored to the needs, preferences and life circumstances of particular age groups. Unfortunately, all age groups are subject to abuse. Child abuse, domestic violence, and elder abuse are serious threats to safety. Chapters 12 through 14 discuss these topics.

**Infant, Toddler, and Preschooler.** Injuries are the leading cause of death in children over age 1 and cause more death and disabilities than do all diseases combined (Hockenberry, 2009). The nature of the injury sustained is closely related to normal growth and development. For example, the incidence of lead poisoning is highest in late infancy and toddlerhood. Children at this stage explore the environment and because of a child’s increased level of oral activity put objects in their mouths. This increases risk for poisoning and choking. Their curiosity can result in fire from playing with matches. In addition, limited physical coordination can contribute to falls from bicycles and playground equipment. Additional injuries at this age are related to riding unrestrained in a motor vehicle, drowning and head trauma from objects. Accidents involving children are largely preventable, but parents need to be aware of specific dangers at each stage of growth and development. Accident prevention thus requires health education for parents and the removal of dangers whenever possible.

**School-Age Child.** When a child enters school, the environment expands to include the school, transportation to and from school, school friends, and after-school activities. School-age children are learning how to perform more complicated motor activities and often times are uncoordinated. Parents, teachers, and nurses need to instruct the child in safe practices to follow at school or play, including what to do if approached by strangers. Teach school-age children, involved in team and contact sports, the rules for playing safely and how to use protective safety equipment such as helmets and other protective gear. Head injuries are a major cause of death, with bicycle accidents being one of the major causes of such injuries (Hockenberry, 2009). Bikes need to be the proper size for the child and helmets must be worn (Figure 27-2). Additional injuries in this age group can be decreased by properly utilizing seat belts and booster seats in motor vehicles and providing pedestrian safety education.

**Adolescent.** As children enter adolescence, they develop greater independence and begin to develop a sense of identity and their own values. The adolescent begins to separate emotionally from their family and peers generally have a stronger influence. Wide variations that swing from childlike to mature behavior are characteristic of adolescent behavior (Hockenberry, 2009). In an attempt to relieve the tensions associated with physical and psychosocial changes, as well as peer pressures, some adolescents engage in risk-taking behaviors such as smoking, drinking alcohol and using drugs. This increases the incidence of accidents such as drowning and motor vehicle accidents. When adolescents learn to drive, their environment expands and so does their potential for injury. Fortunately, teen motor vehicle crashes are preventable by avoiding distractions such as using cell phones, texting, eating, and drinking while driving.

To assess for possible substance abuse, have parents look for environmental and psychosocial clues from their children. Environmental clues include the presence of drug-oriented magazines, beer and liquor bottles, drug paraphernalia, blood spots on clothing, and the continual wearing of long-sleeved shirts in hot weather and dark glasses indoors. Psychosocial clues include failing grades,
change in dress, increased absenteeism from school, isolation, increased aggressiveness, and changes in interpersonal relationships. Because adolescence is a time when mature sexual physical characteristics develop, some adolescents begin to have physical relationships with others which present the risk of sexually transmitted diseases.

**Adult.** The threats to an adult’s safety are frequently related to lifestyle habits. For example, the patient who uses alcohol excessively is at greater risk for motor vehicle accidents. The long-term smoker has a greater risk of cardiovascular or pulmonary disease as a result of the inhalation of smoke and the effect of nicotine on the circulatory system. Likewise, the adult experiencing a high level of stress is more likely to have an accident or illness such as headaches, gastrointestinal (GI) disorders, and infections.

**Older Adult.** The physiological changes associated with aging, effects of multiple medications, psychological factors, and acute or chronic disease increases the older adults risk for falls and other types of accidents. Falls can result in bruises, hip fractures or head trauma. The risk of being seriously injured in a fall increases with age. Older patients are more likely to fall in the bedroom, bathroom, and kitchen. Environmental factors such as broken stairs, icy sidewalks, inadequate lighting, throw rugs and exposed electrical cords cause many of the accidents. Inside falls most often occur while transferring from beds, chairs, and toilets; getting into or out of bathtubs; tripping over items, such as cords covered by rugs or carpets, carpet edges, or doorway thresholds; slipping on wet surfaces; and descending stairs. Fear of falling is a concern of community dwelling elderly and many experience associated avoidance of activity (Zijlstra et al 2007). Falls can be decreased by multiple component group exercise, Tai Chi, having a physician or pharmacist review all medications, having an eye exam annually, and decreasing hazards in the home that increase falls (Gillespie et al, 2009).

**Individual Risk Factors**

Other risk factors posing threats to safety include lifestyle, impaired mobility, sensory or communication impairment, and the lack of safety awareness.

**Lifestyle.** Some lifestyle choices increase safety risks. People who drive or operate machinery while under the influence of chemical substances (drugs or alcohol), who work at inherently dangerous jobs, or who are risk takers are at greater risk of injury. In addition, people experiencing stress, anxiety, fatigue, alcohol or drug withdrawal, or those taking prescribed medications are sometimes more accident-prone. Because of these factors, some people are too preoccupied to notice the source of potential accidents, such as cluttered stairs or a stop sign.

**Impaired Mobility.** A patient with impaired mobility has many kinds of safety risk. Muscle weakness, paralysis, and poor coordination or balance are major factors in falls. Immobilization predisposes patients to additional physiological and emotional hazards, which in turn further restricts mobility and independence. Physically challenged persons are at greater risk for injury when entering motor vehicles and buildings not equipped for the handicapped.

**Sensory or Communication Impairment.** Cognitive impairments associated with delirium, dementia, and depression place patients at greater risk for injury. These conditions contribute to altered concentration and attention span, impaired memory, and orientation changes. Patients with these alterations become easily confused about their surroundings and are more likely to have falls and burns. Patients with visual, hearing, tactile, or communication impairment, such as aphasia or a language barrier are not always able to perceive a potential danger or express their need for assistance (see Chapter 49).

**Lack of Safety Awareness.** Some patients are unaware of safety precautions, such as keeping medicine or poisons away from children or reading the expiration date on food products. A complete nursing assessment, including a home inspection, will help you identify the patient’s level of knowledge regarding home safety so that you can correct deficiencies with an individualized nursing care plan.

**Risks in the Health Care Agency**

Patient safety continues to be one of the Nation’s most pressing healthcare challenges. Medical errors are the eighth leading cause of death (Agency for Healthcare Research and Quality, 2010). Medical errors happen when something that was planned as part of medical care doesn’t work out or when the wrong plan was used. Medical errors occur in all health care settings. You must be aware of regulatory and organizational safety initiatives as well as individual patient risk factors. The Joint Commission (TJC) and the Centers for Medicare and Medicaid Services (CMS) have placed an increased emphasis on error prevention and patient safety. Their “Speak Up” Campaign encourages patients to take a role in preventing health care errors by becoming active, involved and informed participants on the health care team. For example, patients are encouraged to ask healthcare workers if they have washed their hands before providing care. TJC’s National Patient Safety Goals (2011) are specifically directed to reduce the risk of medical errors (Box 27-2). The goals are designed to promote specific improvements in patient safety and highlight ongoing

---

**BOX 27-2 THE JOINT COMMISSION 2011 NATIONAL PATIENT SAFETY GOALS FOR HOSPITALS**

- Identify patients correctly
- Use of at least two patient identifiers
- Eliminate Transfusion Errors
- Improve staff communication
- Timely reporting of important test results
- Use medicines safely
- Labeling medications
- Reducing harm to patients who take anticoagulation therapy
- Reduce the risk of health care associated infections
- Meeting hand hygiene guidelines
- Preventing multidrug-resistant organism infections
- Preventing central line-associated blood stream infections
- Use safe practices to treat the part of the body where surgery was done
- Check patient medicines
- Identify current medicines and make sure it is ok for patients to take any new medicines with current medicines.
- Give a list of patient’s medicines to the next provider prior to discharge
- Give a list of the patient’s medicines to the patient and their family before discharge, explain the list.
- Identify Patient safety risks
- Identify individuals at risk for suicide


problematic areas in health care. These evidence-based recommendations require health care facilities to focus their attention on a series of specific actions.

The National Quality Forum (NQF) (2011a) has the mission of improving the quality of healthcare in America by:

- Building consensus on national priorities and goals for performance improvement and working in partnership to achieve them;
- Endorsing national consensus standards for measuring and publicly reporting on performance; and
- Promoting the attainment of national goals through education and outreach programs.

Recently, the NQF released its National Voluntary Consensus Standards for Public Reporting of Patient Safety Events (NQF, 2011b). The report provides a framework for publicly reporting patient safety information—including events, indicators, and measures—about healthcare organizations to consumers. It is important for nurses to understand the NQF standards and their intent, as ultimately they influence the types of priorities patient care organizations (e.g., hospitals, community health centers) set to improve the quality of care delivered to patients. Many of the NQF measures of patient safety (e.g., patient fall with injury, incidence of pressure ulcers and central line blood stream infection) have become standards for judging healthcare organizations' quality of care. The measures are also used by other organizations such as the Joint Commission and the Centers for Medicare and Medicaid Services (CMS). Among the safety measures, the NQF endorsed a select list of serious reportable events (SRE's) which was updated in 2006.

The 28 events (Box 27-3) have become a major focus of healthcare providers for patient safety initiatives. The CMS names select SRE's as "Never Events", those adverse events that should never occur in a health care setting (Department of Health and Human Services, 2008). The CMS now denies hospitals higher payment for any hospital acquired condition resulting from or complicated by the occurrence of certain “Never Events” (Box 27-4). Many of the hospital acquired conditions (e.g., fall or stage III pressure ulcer) are now considered as "Never Events". The CMS now denies hospitals higher payment for any hospital acquired condition resulting from or complicated by the occurrence of certain “Never Events” (Box 27-4). Many of the hospital acquired conditions (e.g., fall or stage III pressure ulcer) are now considered as "Never Events".

Be aware of and engaged in activities focused on the prevention of these conditions will not only impact patient safety but also contribute to the health care facility's overall success. The CMS believes that the Never Events will strengthen hospitals' incentives to develop safety practices and reduce health care costs in the long term. Health care facilities may conduct a Failure Mode and Effect Analysis (FMEA) to identify problems with processes and products before they occur.

Should an actual or potential adverse event occur, the health care provider involved completes an incident or occurrence report. An incident report is a confidential document that completely describes any patient accident occurring on the premises of a health care agency (see Chapter 23). Reporting allows the organization to identify trends/patterns throughout the facility and areas to improve. Focusing on the root cause of an event instead of the
individual involved promotes a “culture of safety” that helps in specifically identifying what contributed to an error. The probability of an accident occurring declines with adherence to evidence based principles of safety (Taylor-Adams et al, 2009).

Nurses face specific environmental risks in health care facilities. An example is the various forms of chemicals used in health care settings. Chemicals found in some medications (e.g. chemotherapy), anesthetic gases, cleaning solutions, and disinfectants are potentially toxic if ingested, absorbed into the skin, or inhaled. The MSDS provides detailed information about the chemical, any health hazards imposed, first aid guide-

Accidents that are equipment-related result from the malfunction, disrepair, or misuse of equipment or from an electrical hazard. To avoid rapid infusion of IV fluids, all general use and patient-controlled analgesic pumps need to have free-flow protection devices. To avoid accidents, do not operate monitoring or therapy equipment without adequate instruction. If faulty equipment is discovered, place a tag on it to prevent it from being used on another patient, and promptly report any malfunctions. Assess potential electrical hazards to reduce the risk of electrical fires, electrocution, or injury from faulty equipment. In health care settings, the clinical engineering staff makes regular safety checks of equipment. Facilities must report all suspected medical device-related deaths to both the Federal Drug Administration and the product’s manufacturer, if known (Federal Drug Administration, 2009). This is usually done in conjunction with the Risk Management Department after tagging and removing the piece of equipment.

Accidents that are medical device-related deaths to both the Federal Drug Administration and the product’s manufacturer, if known (Federal Drug Administration, 2009). This is usually done in conjunction with the Risk Management Department after tagging and removing the piece of equipment.

**Building Competency in Safety** The nurse manager on an oncology unit has learned that the hospital has purchased new intravenous infusion pumps or “smart pumps” that provide a mechanism to deliver chemotherapy drugs more safely. In order to promote a “Culture of Safety”, what should the manager do to ensure quality patient care?

Answers to questions can be found on the Evolve website.
CRITICAL THINKING

Successful critical thinking requires a synthesis of knowledge, experience, information gathered from patients, critical thinking attitudes, and intellectual and professional standards. Clinical judgments require the nurse to anticipate necessary information, analyze the data, and make decisions regarding patient care. Critical thinking is an ongoing process. During assessment (Figure 27-3) you consider all critical thinking elements, as well as information about the specific patient, to make appropriate nursing diagnoses.

In the case of safety, the nurse integrates knowledge from nursing and other scientific disciplines, previous experiences in caring for patients who had an injury or were at risk, critical thinking attitudes such as responsibility and discipline, and any information about the specific patient, to make appropriate nursing diagnoses.

CRITICAL THINKING

Successful critical thinking requires a synthesis of knowledge, experience, information gathered from patients, critical thinking attitudes, and intellectual and professional standards. Clinical judgments require the nurse to anticipate necessary information, analyze the data, and make decisions regarding patient care. Critical thinking is an ongoing process. During assessment (Figure 27-3) you consider all critical thinking elements, as well as information about the specific patient, to make appropriate nursing diagnoses.

In the case of safety, the nurse integrates knowledge from nursing and other scientific disciplines, previous experiences in caring for patients who had an injury or were at risk, critical thinking attitudes such as responsibility and discipline, and any information about the specific patient, to make appropriate nursing diagnoses.

SAFETY AND THE NURSING PROCESS

Apply the nursing process and use a critical thinking approach in your care of patients. The nursing process provides a clinical decision making approach for you to develop and implement an individualized plan of care.

FIGURE 27-3 Critical thinking model for safety assessment.

Knowledge
- Basic human needs
- Potential risks to patient safety from physical hazards, lifestyle, risks associated with health care environment, environmental risks, and biohazards
- Influence of developmental stage on safety needs
- Influence of illness/medications on patient safety

Experience
- Caring for patients whose mobility, cognitive, or sensory impairments increase threats to safety
- Personal experience in caring for younger siblings or children

ASSESSMENT
- Identify patient’s perceptions of safety needs and risks
- Identify actual and potential threats to the patient’s safety
- Determine impact of the underlying illness on the patient’s safety
- Identify the presence of risks for the patient’s developmental stage and patient’s environment
- Determine impact of environmental influence on the patient’s safety

Standards
- Apply intellectual standards such as accuracy, significance, and completeness when assessing for threats to the patient’s safety
- Apply ANA standards for nursing practice
- Apply agency practice standards (e.g., fall prevention or restraint protocols)
- Review and apply the most TJC patient safety goals

Attitudes
- Demonstrate perseverance when necessary to identify all safety threats
- Be responsible for collecting unbiased, accurate data regarding threats to the patient’s safety
- Show discipline in conducting a thorough review of the patient’s home environment

During the assessment process, thoroughly assess each patient and critically analyze findings to ensure you make patient-centered clinical decisions required for safe nursing care.

Through the Patient’s Eyes. Patients generally expect to be safe in health care settings and in their homes. However, there are times when a patient’s view of what is safe does not agree with that of the nurse and the standards he or she hopes to enforce. For this reason, your assessment needs to be patient-centered and include the patient’s own perceptions of his or her risk factors, knowledge of how to adapt to such risks, and previous experience with any accidents. This is important if you need to make changes in the patient’s environment. Patients usually do not purposefully put themselves in jeopardy. When patients are uninformed or inexperienced, threats to their safety will occur. You will always need to consult patients or family members on ways to reduce hazards in their environment. To conduct a thorough patient assessment, consider possible threats to a patient’s safety, including the immediate environment and any individual risk factors. Ask the patient specific questions related to safety (Box 27-5).

Nursing History. A nursing history includes data about the patient’s level of wellness to determine if any underlying conditions exist that pose threats to safety. For example, give special attention to assessing the patient’s gait, lower body muscle strength and coordination, balance, and vision. Consider a review of the patient’s developmental status as you analyze assessment information. Also review if the patient is taking any medications or undergoing any procedures that pose risks. For example, use of diuretics increases the frequency of voiding and results in the patient having to use toilet facilities more often. Falls often occur with patients who have to get out of bed quickly because of urinary urgency.

Health Care Environment. When the patient is cared for within a health care facility, you need to determine if any hazards exist in the immediate care environment. Does the placement of equipment (e.g., drainage bags, IV pumps) or furniture pose barriers when the patient attempts to ambulate? Does positioning of the patient’s bed allow the patient to easily reach items on a bedside table or stand? Does the patient need assistance with ambulation? Does the patient have multiple tubes or IV lines? Is the patient’s call bell within reach? The nurse collaborates with clinical

engineering staff to make sure that equipment has been assessed to ensure proper function and condition.

**Risk for Falls.** Assessment of a patient’s fall risk factors is essential in determining specific needs and developing targeted interventions to prevent falls. There are many different fall assessment instruments available, use the tool chosen by your health care agency. A fall assessment tool (Table 27-1) helps you assess important risk factors. At a minimum, the assessment needs to be completed on admission, following a change in the patient’s condition, after a fall, and when transferred. If it is determined that the patient is at risk for falling, then regular assessment must continue. In many cases family members are important resources in assessing a patient’s fall risk. Families often are able to report on the patient’s level of confusion and ability to ambulate. Based upon the results of a fall risk assessment, multiple evidence-based interventions should be implemented. It is very important to inform a patient and family members about the patient’s risks. Often younger patients are not aware of how medications and treatment effects can cause dizziness, orthostatic hypotension or changes in balance. When patients are unaware of their risks, they are less likely to ask for assistance. If family members are informed, they can call for help (when they are visiting patients) to be sure patients are appropriately assisted.

**BOX 27-5 NURSING ASSESSMENT QUESTIONS**

**Activity and Exercise**
- Do you use any assistive devices such as a wheelchair, walker, or cane to help you move or get around? Did someone show you how to use them safely?
- Do you have any difficulty bathing? Dressing? Eating? Using the bathroom? Transferring out of the bed or chair?
- What type of exercise or physical activity do you get? How often?
- How do you handle meal preparation? (Being able to use stove, appliances safely)
- Do you do your own laundry? How do you do this, and where are these appliances located?
- Do you drive an automobile? When do you normally drive? How far?
- How often do you wear a safety belt when in the car?
- Have you recently been involved in a motor vehicle accident?

**Medication History**
- What medications (prescription, over-the-counter, herbal) do you take?
- Has your doctor or pharmacist reviewed your medicines with you?
- Do any medications make your dizzy or light-headed?

**History of Falls**
- Have you ever fallen or tripped over anything in your home?
- Have you ever suffered an injury from a fall? What was it, and how did it happen?
- Did you have any symptoms right before you fell? What were they?
- What activity were you performing before the fall?

**Home Maintenance and Safety**
- Who does your simple home maintenance or minor home repairs?
- Who shovels your snow? Tends to your lawn?
- Do you feel safe in your home? What things in your environment make you feel unsafe?
- Do you have someone to call in case of an emergency?
- How do you feel about making modifications to your home to make it safer?
- Do you need help finding resources to help you do this?

**Risk for Medical Errors.** Be alert to factors within your own work environment that create conditions in which medical errors are more likely to occur. Studies have shown that overwork and fatigue cause a significant decrease in alertness and concentration, leading to errors (Trinkoff et al, 2006). It is important for nurses to be aware of these factors and to include checks and balances when working under stress. For example, to reduce the potential for a medical error, it is essential for you to check the patient’s identification bracelet before beginning any procedure or administering a medication (see Chapter 31).

**Disasters.** Hospitals must be prepared to respond and care for a sudden influx of patients at the time of a community disaster. Guidelines for a disaster response can be found in a facility emergency management plan. All hospitals conduct disaster drills on a routine basis. Communication is a key to any emergency management plan. Nurses must know what happened, how many patients to expect, and when patients will begin to arrive so they can prepare both themselves and their facility. Although the occurrence of a bioterrorist attack has been limited to the anthrax deaths following September 11, 2001, the threat is very real. Be prepared to make accurate and timely assessments in any type of setting. A bioterrorist attack would likely resemble a natural outbreak initially. Acutely ill patients representing the earliest cases after a covert attack will seek care in emergency departments. Less-ill patients at the onset of an illness will possibly seek care in primary care settings. There are basic epidemiological principles to assess whether a patient’s presentation of symptoms is typical of an endemic disease or is an unusual event that should raise concern. Features that alert nurses to the possibility of a bioterrorism-related outbreak include the following (Dire, 2008):
- Disease (or strain) not endemic
- Unusual antibiotic resistance patterns
- Atypical clinical presentation
- Case distribution geographically (from same location) and/or temporally inconsistent
- Other inconsistent elements (e.g., number of cases, mortality and morbidity rates, deviations from disease occurrence baseline)

**Patient’s Home Environment.** When caring for a patient in the home, a home hazard assessment is necessary. An example can be found at http://homesafetycouncil.org/safetyguide. A thorough hazard assessment covers topics such as adequacy of lighting (insides and outdoors), presence of safety devices, placement of furniture or other items that will possibly create barriers, condition of flooring, and safety in the kitchen and bathrooms. Know where medications and cleaning supplies are located. Walk through the home with the patient, and discuss how the patient normally conducts daily activities and whether the environment poses problems. Assess for the presence of locks on doors and windows that make the home susceptible to intruders. When assessing the adequacy of lighting, inspect the areas where the patient moves and works, such as outside walkways, steps, interior halls, and doorways. Getting a sense of the patient’s routines helps you recognize hazards that are not as obvious.

Assessment for risk of food infection or poisoning includes assessing a patient’s knowledge of food preparation and storage practices. For example, does a patient know to check expiration dates of prepared food and milk products? Does the person keep foods in the refrigerator that are fresh and not spoiled? Does the patient clean fresh fruits and vegetables correctly before consumption? Assess for clinical signs of infection by conducting an examination of GI and central nervous system (CNS) function;
TABLE 27-1  Fall Assessment Tool

<table>
<thead>
<tr>
<th>Fall Risk Factor Category</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scoring not completed for the following reason(s) (check any that apply). Enter risk category [i.e. Low/High] based on box selected.</td>
<td></td>
</tr>
<tr>
<td>• Complete paralysis, or completely immobilized. Implement basic safety (low fall risk) interventions.</td>
<td></td>
</tr>
<tr>
<td>• Patient has a history of more than one fall within 6 months before admission. Implement high fall risk interventions throughout hospitalization.</td>
<td></td>
</tr>
<tr>
<td>• Patient has experienced a fall during this hospitalization. Implement high fall risk interventions throughout hospitalization.</td>
<td></td>
</tr>
<tr>
<td>COMPLETE THE FOLLOWING AND CALCULATE FALL RISK SCORE.</td>
<td></td>
</tr>
</tbody>
</table>

IF NO BOX IS CHECKED, SCORE FOR CATEGORY IS 0

<table>
<thead>
<tr>
<th>AGE (single-select)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ 60-69 years (1 point)</td>
<td></td>
</tr>
<tr>
<td>□ 70-79 years (2 points)</td>
<td></td>
</tr>
<tr>
<td>□ ≥80 years (3 points)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FALL HISTORY (single-select)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ One fall within 6 months before admission (5 points)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELIMINATION, BOWEL AND URINE (single-select)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Incontinence (2 points)</td>
<td></td>
</tr>
<tr>
<td>□ Urgency or frequency (2 points)</td>
<td></td>
</tr>
<tr>
<td>□ Urgency/frequency and incontinence (4 points)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEDICATIONS: INCLUDES PCA/OPiates, ANTI-CONVULSANTS, ANTI-HYPERTENSIVES, DIURETICS, HYPNOTICS, LAXATIVES, SEDATIVES, AND PSYCHOTROPICS (single-select)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ On 1 high fall risk drug (3 points)</td>
<td></td>
</tr>
<tr>
<td>□ On 2 or more high fall risk drugs (5 points)</td>
<td></td>
</tr>
<tr>
<td>□ Sedated procedure within past 24 hours (7 points)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PATIENT CARE EQUIPMENT: ANY EQUIPMENT THAT Tethers PATIENT, E.G., IV Infusion, Chest Tube, Indwelling Catheters, SCDS, etc. (single-select)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ One present (1 point)</td>
<td></td>
</tr>
<tr>
<td>□ Two present (2 points)</td>
<td></td>
</tr>
<tr>
<td>□ 3 or more present (3 points)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MOBILITY (multi-select, choose all that apply and add points together)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Requires assistance or supervision for mobility, transfer, or ambulation (2 points)</td>
<td></td>
</tr>
<tr>
<td>□ Unsteady gait (2 points)</td>
<td></td>
</tr>
<tr>
<td>□ Visual or auditory impairment affecting mobility (2 points)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COGNITION (multi-select, choose all that apply and add points together)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Altered awareness of immediate physical environment (1 point)</td>
<td></td>
</tr>
<tr>
<td>□ Impulsive (2 points)</td>
<td></td>
</tr>
<tr>
<td>□ Lack of understanding of one’s physical and cognitive limitations (4 points)</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL

Moderate risk = 6-13 total points
High risk = > 13 total points

This tool was created by John Hopkins Hospital. Copyright 2006.

observing for a fever; and analyzing the results of cultures of feces and emesis. In the home, inspect suspected food and water sources, and assess the patient’s hand-washing practices. It is useful to ask patients when they routinely wash their hands. This will then prompt a helpful discussion about the purpose and importance of hand washing.

Assessment of the environmental comfort of a patient’s home includes a review of when the patient normally has heating and cooling systems serviced. Does the patient have a functional furnace or space heater? Does the home have air conditioning or fans? You need to inform patients who use space heaters of the risk for fires. Are smoke detectors, carbon monoxide detectors and fire extinguishers present, placed strategically throughout the home and checked routinely?

When patients live in older homes, encourage patients to have inspections for the presence of lead in paint, dust, or soil. Because lead also comes from the solder or plumbing fixtures in a home, patients should have water from each faucet tested. Local health offices can assist a homeowner in locating a trained lead inspector who will take samples from various locations and have them analyzed at a laboratory for content of lead.

It is important that your assessment help individuals focus on preparations and mitigation to avoid losses and to reduce their risk for injury associated with disasters. The Federal Emergency Management Agency (FEMA) [http://www.fema.gov/] and the American Red Cross [http://www.redcross.org/] provide national wide efforts to help community members prepare for disasters of all types.
PLANNING

Patients with actual or potential risks to safety require a nursing care plan with interventions that prevent and minimize threats to their safety. Design your interventions to help a patient feel safe to care plans, with interventions that prevent and minimize threats to safety. Patients with actual or potential risks to safety require a nursing care plan with interventions that prevent and minimize threats to their safety. Design your interventions to help a patient feel safe to return home back only to return with an additional injury. Nursing diagnoses for patients with safety risk include the following:

- Risk for falls
- Impaired home maintenance
- Risk for injury
- Deficient knowledge
- Risk for poisoning
- Disturbed sensory perception
- Risk for suffocation
- Disturbed thought processes
- Risk for trauma

PLANNING

Knowledge
- Role of community resources in safety promotion
- Safety risks posed in use of home care therapies (e.g., home oxygenation, IV therapy)
- Safety interventions suited to patient’s risks and condition
- Services available from other disciplines to promote safety

Experience
- Previous patient responses to planned nursing therapies to improve safety (e.g., what worked and what did not work)

Standards
- Establish interventions individualized to the patient’s safety needs
- Apply ANA and TJC standards of providing interventions in a safe and appropriate manner
- Apply ANA code of ethics to safeguard the patient from incompetent or unethical care

Attitudes
- Use creativity to assist in designing interventions suited to patient needs and available resources
- Take risks to implement interventions that explore new resources or use current resources in new ways

Goals and Outcomes. Planning by setting goals and expected outcomes needs to be done in collaboration with the patient, family, and other members of the health care team (see Care Plan). The patient who is an active participant in reducing threats to safety becomes more alert to potential hazards and is more likely to adhere to the plan. Make sure goals and outcomes for each nursing diagnosis are measurable and realistic, with consideration of the resources available to the patient. For example, in the case of the nursing diagnosis of impaired mobility related to left sided paralysis, the goal would be that the patient “remains free of injury by discharge.” Examples of expected outcomes include:

- Involve patient as a partner in planning care
- Select nursing interventions to promote safety according to the patient’s developmental and health care needs
- Consult with occupational and physical therapists for assistive devices
- Select interventions that will improve the safety of the patient’s home environment

FIGURE 27-4 Critical thinking model for safety planning.
• Patient uses tripod cane correctly within 24 hours.
• Patient describes approach to rise up from bed correctly with assistance by end of the teaching session today.

Setting Priorities. Prioritize a patient’s nursing diagnoses and interventions to provide safe and efficient care. For example, the patient described in the concept map (Figure 27-5) has several nursing diagnoses. The patient’s mobility problem is an obvious priority because of its influence on risk for falls as well as skin integrity. Plan individualized interventions based on the severity of risk factors and the patient’s developmental stage, level of health, lifestyle, and cultural needs (Box 27-7). Planning involves an understanding of the patient’s need to maintain independence within physical and cognitive capabilities. Collaborate to establish ways of maintaining the patient’s active involvement within the home and health care environment. Education of the patient and family is also an important intervention to plan for reducing safety risks over the long term.

Teamwork and Collaboration. Collaboration with the patient, family and other disciplines such as social work and occupational and physical therapy become an important part of the patient’s plan of care. For example, a hospitalized patient may need to go to a rehabilitation facility to gain strength and endurance before being discharged home. Communication is essential. Risk factors and the plan of care should be clearly communicated with the patient, family and other health care providers including other disciplines and nurses on other shifts. Use of permanent dry erase boards in the patient room with patient information such as activity and level of assistance can be used to communicate information to all health care providers. A standard approach to communication, such as SBAR (Situation, Background, Assessment, Recommendation) or a variation there of, helps you to organize information and obtain needed information (Chapter 26).

Patients need to be able to identify, select, and know how to use resources within their community (e.g., neighborhood block homes, local police departments, and neighbors willing to check on a patient’s well-being) that enhance safety. Make sure the patient and family understand the need for these resources and are willing to make changes that will promote their safety.

---

### NURSING CARE PLAN

**Risk for Falls**

**ASSESSMENT**

Mr. Key, a visiting nurse, is seeing Ms. Cohen, an 85-year-old woman, at her home. The patient is recovering from a mild stroke affecting her left side. Ms. Cohen lives alone but receives regular assistance from her daughter Peggy and son Michael, who both live within 10 miles. Mr. Key’s assessment included a discussion of Ms. Cohen’s health problem and how the stroke has affected her, as well as a pertinent physical examination and home hazard assessment.

**Assessment Activities**

- Ask how the stroke has affected her mobility.
- Conduct a home hazard assessment.
- Observe gait and posture.
- Assess muscle strength.
- Assess visual acuity with corrective lenses.

**Findings/Defining Characteristics**

- Ms. Cohen has decreased visual acuity with current glasses.
- Has trouble reading and seeing familiar objects at a distance.
- Cabinet in kitchen are cluttered and full of breakable items that could fall out.
- Throw rugs are on floors; bathroom lighting is poor (40-watt bulbs);
- bathtub lacks safety strips or grab bars; home cluttered with furniture and small objects.
- Has kyphosis and a hesitant, uncoordinated gait. Frequently holds walls for support.
- Left arm and leg weaker than right.

**NURSING DIAGNOSIS:** Risk for falls related to impaired mobility, decreased visual acuity, and physical environmental hazards.

**PLANNING**

**Goal**

Home will be free of hazards within 1 month.

Ms. Cohen and family will be knowledgeable of potential hazards for Ms. Cohen’s age-group within 1 week.

Ms. Cohen will express greater sense of feeling safe from falling in 1 month.

Ms. Cohen will be free of injury within 1 week.

**Expected Outcomes (NOC)**

**Risk Control**

- Modifiable hazards in kitchen and hallway will be reduced in the home within 1 week.
- Revisions to bathroom completed in 1 month.

**Knowledge: Personal Safety**

- Ms. Cohen and daughter will identify risks for falls and prevention methods to avoid falls in the home at the conclusion of a teaching session next week.

**Fall Prevention Behavior**

- Ms. Cohen will report improved vision with the aid of new eyeglasses in 2 weeks.
- Ms. Cohen will be able to safely ambulate throughout the home within 1 week.

---


NURSING CARE PLAN—cont’d

Risk for Falls

INTERVENTIONS (NIC)†
Fall Prevention

- Review findings from home hazard assessment with Ms. Cohen and daughter and collaborate on proposed changes.
- Establish a list of priorities to modify, and have Ms. Cohen’s son assist in installing bathroom safety devices.
- Discuss with Ms. Cohen and daughter the normal changes of aging, effects of recent stroke, associated risks for injury, and how to reduce risks.
- Encourage daughter to schedule vision testing for new prescription within 2 to 4 weeks.
- Refer to a physical therapist to assess need for strengthening and endurance training and use of assistive devices for kyphosis, left-sided weakness, and gait.

Rationale
- Home hazard assessment will highlight extrinsic factors that lead to falls and that can be changed.
- Implementing home modifications based on a home assessment can decrease falls (Pynoos, 2010).
- Education regarding hazards reduces fear of falling (Banez, 2008).
- Improved visual acuity reduces incidence of falls (Edelman and Mandle, 2010).
- Exercise is effective in reducing falls and should include a comprehensive program combining muscle strengthening, balance and/or endurance training for a minimum of 12 weeks (Costello, 2008).

†Intervention classification labels from Bulechek GM, Butcher HK, and Dochterman JM: Nursing interventions classification (NIC), ed 5, St. Louis, 2008, Mosby.

EVALUATION
Nursing Actions
- Ask Ms. Cohen and daughter to identify fall risks.
- Observe environment for elimination of hazards.
- Reassess Ms. Cohen’s visual acuity.
- Observe Ms. Cohen’s gait and posture.

Patient Response/Finding
- Ms. Cohen and daughter able to identify risks during a walk through the home and expressed a greater sense of safety as a result of changes made.
- Throw rugs have been removed. Lighting has increased to 75 watts except in bathroom and bedroom.
- Ms. Cohen has new glasses and says she is able to read better, as well as see distant objects more clearly.
- Ms. Cohen’s gait remains hesitant and uncoordinated; she reports that her daughter has not had time to take her to the physical therapist.

Achievement of Outcome
- Ms. Cohen and daughter are more knowledgeable of potential hazards.
- Environmental hazards have been partially reduced.
- Ms. Cohen’s vision has improved, enabling her to ambulate more safely.
- Outcome of safe ambulation has not been totally achieved; continue to encourage Ms. Cohen and daughter to go to physical therapy appointment.

BOX 27-7 CULTURAL ASPECTS OF CARE

A Patient-Centered Care Approach

Being hospitalized places patients at risk for injury in an unfamiliar and confusing environment. The experience is usually at least minimally frightening. Normal life cues such as a bed without side rails and the direction one usually takes to the bathroom are absent. Thought processes and coping mechanisms are affected by illness and its accompanying emotions. Thus patients are more vulnerable to injury. For patients of diverse backgrounds, this vulnerability may be intensified. It is a nurse’s responsibility to diligently protect all patients regardless of their socio-economic status and cultural background. Most untoward events are related to failures of communication. Health care providers must be particularly attentive regarding communication with persons of diverse backgrounds. This is especially important during assessment, when a nurse must use an approach that recognizes a patient’s cultural background so appropriate questions can be raised to clearly reveal health behaviors and risks. Safety is enhanced when nurses consider patients in light of the whole person and value their preferences such as using a jacket versus arm restraints.

Implications for Practice
- When restraints are needed, assess the meaning of restraints to the patient and family. Some Asian families, for example, view the restraining of elders as disrespectful. Similarly, some survivors of war or persecution view restraints as imprisonment or punishment.
- Collaborate with family members in accommodating a patient’s cultural perspectives about restraints. Removing the restraints when family members are present will show respect and caring for the patient.
- Define the nursing unit’s protocol on the use of restraints. Identify potential areas for negotiation with the patient/family’s preferences such as using a jacket versus arm restraints.
- When seizure precautions are necessary, explain and demonstrate the therapeutic regimen to the patient/family. Some cultures observe different caring practices for a person with seizures.

IMPLEMENTATION
The Quality and Safety Education for Nurses (QSEN) (2011) project outlines recommend skills to ensure nurse competency in patient safety. Among those skills are those involving safe nursing practice during direct care:
- Demonstrate effective use of technology and standardized practices that support safety and quality
- Demonstrate effective use of strategies to reduce risk of harm to self or others
- Use appropriate strategies to reduce reliance on memory (such as forcing functions, checklists)

Direct your nursing interventions toward maintaining the patient’s safety in all types of settings. You will implement health promotion and preventive measures in the community setting while prevention is a priority in the acute care setting.

Health Promotion. To promote an individual’s health, it is necessary for the individual to be in a safe environment and to practice a lifestyle that minimizes risk of injury. Edelman and Mandle (2010) describe passive and active strategies aimed at health promotion. Passive strategies include public health and government legislative interventions (e.g., sanitation and clean water laws) (see Chapter 3). Active strategies are those in which the individual is actively involved through changes in lifestyle (e.g., wearing seat belts or installing outdoor lighting) and participation in wellness programs.

Nurses participate in health promotion activities by supporting legislation, by acting as positive role models, and working in community-based settings. Because environmental and community values have the greatest influence on health promotion, community and home health nurses are able to assess and recommend safety measures in the home, school, neighborhood, and workplace.

Developmental Interventions

Infant, Toddler, and Preschooler. Growing, curious children need adults to protect them from injury. Children are trusting of their environment and do not perceive themselves to be in danger. Educate parents or guardians about reducing risks of injuries to children and ways to promote safety in the home (Table 27-2). Nurses working in prenatal and postpartum settings can easily incorporate safety into the care plan of the childbearing family. Community health nurses are able to assess the home and show parents how to promote safety in their homes. Educate parents about the importance of immunizations and how they protect a child from life-threatening disease.

School-Age Child. School-age children increasingly explore their environment (see Chapter 12). They have friends outside their immediate neighborhood, and they become more active in school, church, and community activities. The school-age child needs specific teaching regarding safety in school and at play. See Table 27-2 for nursing interventions to help guide the parent in providing for the safety of the school-age child.

Adolescent. Risks to the safety of adolescents involve many factors outside the home because much of their time is spent away from home and with their peer group (see Chapter 12). Adults serve as role models for adolescents and, through providing
<table>
<thead>
<tr>
<th>INTERVENTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infants and Toddlers</strong></td>
<td></td>
</tr>
<tr>
<td>Have infants sleep on their backs or sides. Teach parents the mnemonic “back to sleep.”</td>
<td>Placing infants on their backs confers the lowest risk of sudden infant death syndrome (SIDS) and is the preferred position (American Academy of Pediatrics, 2005)</td>
</tr>
<tr>
<td>Do not fill cribs with pillows, large stuffed toys, or comforters. Sheets should fit snugly.</td>
<td>Possibility for infants to become entwined in sheets and other bedding and suffocate.</td>
</tr>
<tr>
<td>Pacifiers should not be attached to string or ribbon and placed around a child’s neck.</td>
<td>Reduces risk for choking.</td>
</tr>
<tr>
<td>All instructions for preparing and storing formula must be followed.</td>
<td>Proper formula preparation and storage prevents contamination. Following product directions ensures proper concentration of the formula. Undiluted formula causes fluid and electrolyte disturbances; very diluted formula will not provide sufficient nutrients.</td>
</tr>
<tr>
<td>Use large, soft toys without small parts, such as buttons.</td>
<td>Small parts become dislodged, and choking and aspiration will possibly occur.</td>
</tr>
<tr>
<td>Playpens with mesh sides should not be left with a side down; spaces between crib slats should be less than 2 3/8 inches (6 cm) apart.</td>
<td>Possibility for a child’s head becoming wedged in the lowered mesh side or in between crib slats, and asphyxiation may occur.</td>
</tr>
<tr>
<td>Never leave crib sides down or leave babies unattended on changing tables or in infant seats, swings, strollers, or high chairs.</td>
<td>Infants and toddlers roll or move and fall from changing tables or out of accessories such as infant seats or swings. When physically active or too big, the child will possibly fall out of or tip over these accessories and suffer an injury.</td>
</tr>
<tr>
<td>Discontinue using accessories such as infant seats, and swings when the child becomes too active, physically too big, and/or according to the manufacturer’s directions.</td>
<td></td>
</tr>
<tr>
<td>Never leave a child alone in the bathroom, tub, or near any water source (e.g., pool).</td>
<td>Reduces risk for accidental drowning.</td>
</tr>
<tr>
<td>Baby-proof the home; remove small or sharp objects and toxic or poisonous substances, including plants; install safety locks on floor-level cabinets.</td>
<td>Babies explore their world with their hands and mouth. Choking and poisoning will possibly occur.</td>
</tr>
<tr>
<td>Remove plastic bags from the cleaners or grocery store from the home.</td>
<td>Reduces risk for suffocation from plastic bags.</td>
</tr>
<tr>
<td>Electrical outlets should have covers.</td>
<td>Reduces opportunity for crawling babies to insert objects into outlets and experience an electrical shock.</td>
</tr>
<tr>
<td>Window guards should be on all windows.</td>
<td>Prevents children from falling out of windows.</td>
</tr>
<tr>
<td>Install keyless locks (e.g., deadbolts) on doors above a child’s reach, even when they are standing on a chair.</td>
<td>Prevents a toddler from leaving the house and wandering off. Death from exposure, car accidents, and drowning will possibly occur. Keyless locks allow for rapid exit in case of fire.</td>
</tr>
<tr>
<td>Children weighing less than 80 pounds or under 8 years of age should always be in an age/weight-appropriate car seat that has been installed according to the manufacturer’s instructions (see Figure 27-1). This includes car seats and booster seats. In cars with a passenger air bag, children under 12 should be in the back seat. All passengers should have seat belts on.</td>
<td>In case of a sudden stop or crash, an unrestrained child will possibly suffer severe head injuries and death.</td>
</tr>
<tr>
<td>Caregivers should learn cardiopulmonary resuscitation (CPR) and the Heimlich maneuver.</td>
<td>Caregivers should be prepared to intervene in acute emergencies, such as choking.</td>
</tr>
<tr>
<td><strong>Preschoolers</strong></td>
<td></td>
</tr>
<tr>
<td>Teach children to swim at an early age, but always provide supervision near water.</td>
<td>Learning to swim is a useful skill that will possibly someday save a child’s life. However, all children need constant supervision near water.</td>
</tr>
<tr>
<td>Teach children how to cross streets and walk in parking lots. Instruct them to never run out after a ball or toy.</td>
<td>Pedestrian accidents involving young children are common.</td>
</tr>
<tr>
<td>Teach children not to talk to, go with, or accept any item from a stranger.</td>
<td>Reduces the risk of injury and stranger abduction.</td>
</tr>
<tr>
<td>Teach children basic physical safety rules, such as proper use of safety scissors, never running with an object in their mouth or hand, and never attempting to use the stove or oven unassisted.</td>
<td>Risk of injury is lower if children know basic safety procedures.</td>
</tr>
<tr>
<td>Teach children not to eat items found in the street or grass.</td>
<td>Reduces risk for possible poisoning.</td>
</tr>
<tr>
<td>Remove doors from unused refrigerators and freezers. Instruct children not to play or hide in a car trunk or unused appliances.</td>
<td>If a child cannot freely exit from appliances and car trunks, asphyxiation will possibly occur.</td>
</tr>
</tbody>
</table>

Continued
examples, setting expectations, and providing education, help adolescents minimize risks to their safety. This age-group has a high incidence of suicide because of feelings of decreased self-worth and hopelessness. Be aware of the risks posed at this time, and be prepared to teach adolescents and their parents measures to prevent accidents and injury.

### Adult

Risks to young and middle-age adults frequently result from lifestyle factors such as child rearing, high stress levels, inadequate nutrition, use of firearms, excessive alcohol intake, and substance abuse (see Chapter 13). In this fast-paced society there also appears to be more expression of anger, which will possibly quickly precipitate accidents related to “road rage.” Help adults understand their safety risks, and guide them in making lifestyle modifications by referring them to resources such as classes to help quit smoking and for stress management including employee assistance programs. Also encourage adults to exercise regularly, maintain a healthy diet, practice relaxation techniques, and acquire adequate sleep.

### Older Adult

Nursing interventions for older adults reduce the risk of falls and other accidents and compensate for the physiological changes of aging (Box 27-8). Most injuries to older adults involve falls, automobile accidents, and those related to burns or fires (National Center for Injury Prevention and Control, 2010b). Advancing age and the concurrent physiological changes in vision,
hearing, mobility, reflexes, circulation, and the ability to make quick judgments all predispose older adults to falls (see Chapter 14). Certain disease states common to older adults, such as arthritis or strokes, increase the chance of injury. The effects of many medications, such as sedatives, diuretics, and anticoagulants, also increase the chance of injury. The American Geriatrics Society (2009) has developed an algorithm on prevention of falls (Figure 27-6). When a patient is hospitalized, confused, has multiple medical problems, receives various medications, has immobility concerns, urinary urgency, age-related sensory changes, postural instability, and being in an unfamiliar environment are major contributors to falling (Meiner, 2011). Provide information about neighborhood resources to help the older adult maintain an independent lifestyle. Older adults frequently relocate to new neighborhoods and must get acquainted with new resources such as modes of transportation, church schedules, and food resources (e.g., Meals on Wheels).

Educate patients regarding safe driving tips (e.g., driving shorter distances or only in daylight, using side and rearview mirrors carefully, and looking behind them toward their “blind spot” before changing lanes). If hearing is a problem, have the patient try to keep a window rolled down while driving or reduce the volume of the radio or CD player. Counseling may be necessary to help older patients make the decision of when to stop driving. At that time help locate resources in the community that provide transportation.
Burns and scalds are also more apt to occur with older people because they sometimes forget and leave hot water running or become confused when turning the dials on a stove or other heating appliance. Nursing measures for preventing burns minimize the risk from impaired vision. Hot water faucets and dials are color coded to make it easier for the adult to know what has been turned on. Recommending a reduction in temperature of the hot water heater is also very beneficial.

Older adults love to walk. Reduce pedestrian accidents for older adults and for all other age-groups by persuading people to wear reflectors on garments when walking at night; to stand on the sidewalk and not in the street when waiting to cross a street; to always cross at corners and not in the middle of the block (particularly if the street is a major one); to cross with the traffic light and not against it; and to look left, right, and left again before entering the street or crosswalk.

Environmental Interventions. Nursing interventions directed at eliminating environmental threats include those associated with a person's basic needs and general preventive measures.

Basic Needs. Nurses contribute to a safer environment by helping patients meet basic needs related to oxygen, nutrition, and temperature. When oxygen is in use, precautions need to be taken to prevent fire. Contact with heat or a spark is required to trigger combustion therefore certain precautions are needed regardless of the setting where oxygen is in use. Post "No Smoking" and "Oxygen in Use" signs in patient rooms. Do not use oxygen around electrical equipment or flammable products. Store oxygen tanks upright in carts or stands to prevent tipping or falling, or place the tanks flat on the floor when not in use. Check tubing for kinks which would affect the oxygen flow. Maintain oxygen at the prescribed liter flow and do not change without a physician's order. Additional precautions are indicated for liquid or pressurized oxygen and when traveling with home oxygen. Refer to the oxygen supplier. In the home, recommend that the patient be sure to have annual inspections of heating systems, chimneys and fuel-burning appliances. Teach patients and families how to reduce the risk for electrical injury in the home (Box 27-9). To reduce the risk for fires in the home, instruct patients to quit smoking or smoke outside the home. Have patients inspect the condition of cooking equipment and appliances, particularly irons and stoves. For patients with visual deficits, it helps to have dials installed with large numbers or symbols on temperature controls. Make sure smoke detectors are in strategic positions throughout the home so that the alarm will alert the occupants in a home when a fire breaks out. Make sure all patients, even young children are familiar with the phrase "stop, drop and roll," which describes what to do when a person's clothing or skin is burning.

Teach basic techniques for food handling and preparation so that nutritional needs are met safely:

- Proper refrigeration, storage and preparation of food decrease the risk of food-borne illness. Store perishable foods in refrigerators to maintain freshness.
- Wash hands prior to preparing foods.
- Rinse fruits and vegetables thoroughly.
- Pay attention to prevent cross contamination of one food with another during food preparation, especially with poultry.
- Use a separate cutting board for vegetables, meats and poultry.
- Adequately cook foods to kill any residual organisms. Refrigerate leftovers promptly. Bacteria can grow quickly at room temperature.
- Have family caregivers label the date when leftovers are saved.

General Preventive Measures. Adequate lighting and security measures in and around the home, including the use of night-lights, exterior lighting, and locks on windows and doors, enable patients to reduce the risk of injury from crime. The local police department and community organizations often have safety classes available for residents to learn how to take precautions to minimize the chance of becoming involved in a crime. For example, some useful tips include always parking the car near a bright light or busy public area, carrying a whistle attached to the car keys, keeping car doors locked while driving, and always paying attention while driving to notice if anyone starts to follow the car.

Modifications in the environment will easily reduce the risk of falls. To reduce the risk of injury in the home, remove all obstacles from halls and other heavily traveled areas. Necessary objects such as clocks, glasses, or tissues remain on bedside tables within reach of the patient but out of the reach of children. Take care to ensure that end tables are secure and have stable, straight legs. Place nonessential items in drawers to eliminate clutter. If small area rugs are used, secure them with a nonslip pad or skid-resistant adhesive strips. Make sure any carpeting on the stairs is secured with carpet tacks. If patients have a history of falling and live alone, recommend that they obtain and electronic safety alert device to wear. This device, when activated by the wearer, alerts a monitoring site to call emergency services for assistance.

Accidental home fires typically result from smoking in bed, placing cigarettes in trash cans, grease fires, improper use of candles or space heaters, or electrical fires resulting from faulty wiring or appliances. Teach patients and families how to reduce the risk for electrical injury in the home (Box 27-9). To reduce the risk for fires in the home, instruct patients to quit smoking or smoke outside the home. Have patients inspect the condition of cooking equipment and appliances, particularly irons and stoves. For patients with visual deficits, it helps to have dials installed with large numbers or symbols on temperature controls. Make sure smoke detectors are in strategic positions throughout the home so that the alarm will alert the occupants in a home when a fire breaks out. Make sure all patients, even young children are familiar with the phrase "stop, drop and roll," which describes what to do when a person's clothing or skin is burning.

Help parents reduce the risk for accidental poisoning by teaching them to keep hazardous substances such as medications, cleaning fluids, and batteries out of the reach of children. Drug and

---

**BOX 27-9  PATIENT TEACHING**

**Prevention of Electrical Hazards**

**Objective**
- Patient will recognize and eliminate electrical hazards in the home.

**Teaching Strategies**
- Discuss importance of checking for grounding of electrical appliances and other equipment.
- Provide examples of common hazards: frayed cords, damaged equipment, and overloaded outlets.
- Discuss guidelines to prevent electrical shocks:
  - Use extension cords only when necessary, and use electrical tape to secure the cord to the floor where it will not be stepped on.
  - Do not run wires under carpeting.
  - Grasp the plug, not the cord, when unplugging items.
  - Keep electrical items away from water.
  - Do not operate unfamiliar equipment.
  - Disconnect items before cleaning.

**Evaluation**
- Have patient list electrical hazards existing in the home.
- Review steps the patient will take to eliminate these hazards.
- Check the home after the patient has had an opportunity to eliminate hazards.
other substance poisonings in adolescents and adults are commonly related to suicide attempts or drug experimentation. Teach parents that calling a poison control center for information before attempting home remedies will save their child’s life. There are guidelines for accepted interventions for accidental poisonings that you teach a parent or guardian (Box 27-10). Older adults are also at risk for poisoning because diminished eyesight may cause an accidental ingestion of a toxic substance. In addition, the impaired memory of some older adults results in an accidental overdose of prescription medications.

Be sure medications are kept in their original containers and labeled in large print. Recommend the use of medication organizers that are filled once a week by the patient and/or family. Have patients keep poisonous substances out of the bathroom and discard old or unused medications. In the health care setting it is important for you to know how to respond when exposure to a poisonous substance occurs. Also, adhere to guidelines for intervening in accidental poisoning. The poison control center phone number needs to be visible on the telephone in homes with young children. In all cases of suspected poisoning, patients should call this number immediately.

To prevent the transmission of pathogens, nurses teach aseptic practices. Medical asepsis, which includes hand hygiene and environmental cleanliness, reduces the transfer of organisms (see Chapter 28). Patients and family members need to learn thorough hand hygiene (hand washing or use of hand rub) and when to use it (e.g., before and after caring for a family member, before food preparation, before preparing a medication for a family member, after using the bathroom, and after contacting any body fluids). Patients also need to know how to dispose of infected material such as wound dressings and used needles in the home setting. For example, heavy plastic containers such as hard, colored plastic liquid detergent bottles are excellent for needle disposal. The Environmental Protection Agency (EPA) encourages disposal of used needles by way of community drop-off programs, household hazardous waste facilities or sharps mail-back programs or using home needle destruction devices (Coalition for Safe Community Needle Disposal, 2010). Teach patients “safe sex” practices, including abstinence, correct use of condoms and engaging in monogamous relationships to reduce the risk for sexually transmitted diseases.

**Acute Care.** Nurses use standard precautions for all patients to protect themselves from contact with blood and other potentially infectious body fluids (see Chapter 28). There are a number of other specific safety measures applicable to patients in the acute care environment. Nurses are responsible for making a patient’s bedside safe. Explain and demonstrate to patients how to use the call light or intercom system, and always place the call device close to the patient at the conclusion of every nurse patient interaction. Respond quickly to call lights and bed/chair alarms. Keep the environment free from clutter around the bedside. Many health care organizations are implementing hourly rounding to reduce falls (Box 27-11). In addition, color-coded wristbands are applied to patients and family members need to learn thorough hand hygiene (hand washing or use of hand rub) and when to use it (e.g., before and after caring for a family member, before food preparation, before preparing a medication for a family member, after using the bathroom, and after contacting any body fluids). Patients also need to know how to dispose of infected material such as wound dressings and used needles in the home setting. For example, heavy plastic containers such as hard, colored plastic liquid detergent bottles are excellent for needle disposal. The Environmental Protection Agency (EPA) encourages disposal of used needles by way of community drop-off programs, household hazardous waste facilities or sharps mail-back programs or using home needle destruction devices (Coalition for Safe Community Needle Disposal, 2010). Teach patients “safe sex” practices, including abstinence, correct use of condoms and engaging in monogamous relationships to reduce the risk for sexually transmitted diseases.

**Acute Care.** Nurses use standard precautions for all patients to protect themselves from contact with blood and other potentially infectious body fluids (see Chapter 28). There are a number of other specific safety measures applicable to patients in the acute care environment. Nurses are responsible for making a patient’s bedside safe. Explain and demonstrate to patients how to use the call light or intercom system, and always place the call device close to the patient at the conclusion of every nurse patient interaction. Respond quickly to call lights and bed/chair alarms. Keep the environment free from clutter around the bedside. Many health care organizations are implementing hourly rounding to reduce falls (Box 27-11). In addition, color-coded wristbands are applied to patients and family members need to learn thorough hand hygiene (hand washing or use of hand rub) and when to use it (e.g., before and after caring for a family member, before food preparation, before preparing a medication for a family member, after using the bathroom, and after contacting any body fluids). Patients also need to know how to dispose of infected material such as wound dressings and used needles in the home setting. For example, heavy plastic containers such as hard, colored plastic liquid detergent bottles are excellent for needle disposal. The Environmental Protection Agency (EPA) encourages disposal of used needles by way of community drop-off programs, household hazardous waste facilities or sharps mail-back programs or using home needle destruction devices (Coalition for Safe Community Needle Disposal, 2010). Teach patients “safe sex” practices, including abstinence, correct use of condoms and engaging in monogamous relationships to reduce the risk for sexually transmitted diseases.

**Acute Care.** Nurses use standard precautions for all patients to protect themselves from contact with blood and other potentially infectious body fluids (see Chapter 28). There are a number of other specific safety measures applicable to patients in the acute care environment. Nurses are responsible for making a patient’s bedside safe. Explain and demonstrate to patients how to use the call light or intercom system, and always place the call device close to the patient at the conclusion of every nurse patient interaction. Respond quickly to call lights and bed/chair alarms. Keep the environment free from clutter around the bedside. Many health care organizations are implementing hourly rounding to reduce falls (Box 27-11). In addition, color-coded wristbands are applied to patients and family members need to learn thorough hand hygiene (hand washing or use of hand rub) and when to use it (e.g., before and after caring for a family member, before food preparation, before preparing a medication for a family member, after using the bathroom, and after contacting any body fluids). Patients also need to know how to dispose of infected material such as wound dressings and used needles in the home setting. For example, heavy plastic containers such as hard, colored plastic liquid detergent bottles are excellent for needle disposal. The Environmental Protection Agency (EPA) encourages disposal of used needles by way of community drop-off programs, household hazardous waste facilities or sharps mail-back programs or using home needle destruction devices (Coalition for Safe Community Needle Disposal, 2010). Teach patients “safe sex” practices, including abstinence, correct use of condoms and engaging in monogamous relationships to reduce the risk for sexually transmitted diseases.

**Acute Care.** Nurses use standard precautions for all patients to protect themselves from contact with blood and other potentially infectious body fluids (see Chapter 28). There are a number of other specific safety measures applicable to patients in the acute care environment. Nurses are responsible for making a patient’s bedside safe. Explain and demonstrate to patients how to use the call light or intercom system, and always place the call device close to the patient at the conclusion of every nurse patient interaction. Respond quickly to call lights and bed/chair alarms. Keep the environment free from clutter around the bedside. Many health care organizations are implementing hourly rounding to reduce falls (Box 27-11). In addition, color-coded wristbands are applied to patients and family members need to learn thorough hand hygiene (hand washing or use of hand rub) and when to use it (e.g., before and after caring for a family member, before food preparation, before preparing a medication for a family member, after using the bathroom, and after contacting any body fluids). Patients also need to know how to dispose of infected material such as wound dressings and used needles in the home setting. For example, heavy plastic containers such as hard, colored plastic liquid detergent bottles are excellent for needle disposal. The Environmental Protection Agency (EPA) encourages disposal of used needles by way of community drop-off programs, household hazardous waste facilities or sharps mail-back programs or using home needle destruction devices (Coalition for Safe Community Needle Disposal, 2010). Teach patients “safe sex” practices, including abstinence, correct use of condoms and engaging in monogamous relationships to reduce the risk for sexually transmitted diseases.
patients’ wrists to communicate a patient’s fall risk. In 2008, the American Hospital Association issued an advisory recommending that hospitals standardize wristband colors; red for patient allergies, yellow for fall risk, and purple for do-not-resuscitate preferences. This recommendation came after a near-miss incident in which a nurse, working in two different hospitals, placed a wrong-colored band on a patient. Many state hospital associations and communities are now standardizing colors to reduce confusion both within and across the health care organizations (American Hospital Association, 2008). The nurse takes measures to help patients avoid falls, injuries from use of restraints and side rails, fires, poisoning, and electrical hazards. Special precautions are necessary to prevent injury in patients susceptible to having seizures. Radiation injuries are also a specific safety concern. Finally, be prepared to respond to the emergency of a disaster including bioterrorist attack.

Building Competency in Patient-Centered Care

A 68-year-old male patient experienced a stroke two weeks ago. The patient has weakness and reduced sensation in his right leg and arm. The patient is returning home from the hospital and will have ongoing rehab. What are this patient’s risks for injury upon returning home and in what way should the nurse involve the family in the patient’s care?

Answers to questions can be found on the Evolve website.

**Falls.** When a patient is assessed as a fall risk, most hospitals have fall prevention protocols instituted. For example, a patient will receive a fall risk identification bracelet (yellow in color), be given information about fall risks, and then receive additional nursing interventions (e.g., hourly rounding, placement on a low safety bed, yellow gown). Family members should be included in safety discussions. For patients who need assistance with ambulation, a gait belt provides a secure way to steady or guide patients when transferring or walking. Use additional safety equipment as needed when moving patients (Chapter 47). When patients use assistive aids such as canes, crutches, or walkers, it is important to routinely check the condition of rubber tips and the integrity of the aid. Remove excess furniture and equipment, and make sure a weakened patient wears rubber-soled shoes or slippers for walking or transferring. Respond quickly when call lights are on so that patients do not try to get out of bed unassisted. Safety bars on toilets (Figure 27-7), locks on beds and wheelchairs (Figure 27-8), and call lights are additional safety features found in health care settings. In the health care environment, frequent observations of the patient at risk for falls are important to reduce the potential for injury (Meade et al, 2006).

**Restraints.** Confused and disoriented patients or patients who repeatedly fall or try to remove medical devices (e.g., oxygen equipment, IV lines, or dressings) often require the temporary use of restraints to keep them safe. Restraints are not a solution to a patient problem, but rather a temporary means to maintain patient safety. Restraints are either chemical or physical. Chemical restraints are medications, such as anxiolytics and sedatives, that are used to manage a patient’s behavior and are not a standard treatment or dosage for the patient’s condition. A physical restraint is any manual method, physical or mechanical device, material or equipment that immobilizes or reduces the ability of a patient to move his or her arms, legs, body, or head freely (The Joint Commission, 2011). A restraint does not include devices, such as orthopedically prescribed devices, surgical dressings or bandages, protective helmets, or other methods that involve the physical holding of a patient for the purpose of conducting routine physical examinations or tests, or to protect the patient from falling out of bed, or to permit the patient to participate in activities without the risk of physical harm (TJC, 2011).

The use of restraints is associated with serious complications resulting from immobilization, such as pressure ulcers, pneumonia, constipation and incontinence. In some cases death has resulted because of restricted breathing and circulation. There have been cases in which patients have been strangled while trying to get out of bed while restrained in a jacket or vest restraint. As a result, many health care facilities have eliminated the use of the jacket (vest) restraint because of this risk (Capezuti et al, 2008). Loss of self-esteem, humiliation, and agitation are also serious concerns. Because of these risks, legislation emphasizes reducing the use of restraints. Regulatory agencies such as the Joint Commission (TJC) and Centers for Medicare and Medicaid Services (CMS) enforce standards for the safe use of restraint devices. The optimal goal for all patients is a restraint-free environment. Always consider and implement alternatives to restraints first. Individualize your approaches for each patient. Restraint alternatives include more frequent observations, involvement of family during visitation, fre-
BOX 27-12 ALTERNATIVES TO RESTRAINTS

- Orient patients and families to environment; explain all procedures and treatments.
- Provide companionship and supervision; use trained sitters, adjust staffing and involve family.
- Offer divertory activities, such as music or something to hold; enlist support and input from the family.
- Assign confused or disoriented patients to rooms near the nurses’ station; observe these patients frequently.
- Use calm, simple statements and physical cues as needed.
- Use de-escalation, time-out, and other verbal intervention techniques when managing aggressive behaviors.
- Provide appropriate visual and auditory stimuli (e.g., family pictures, clock, radio).
- Remove cues that promote leaving (e.g., elevators, stairs, or street clothes).
- Promote relaxation techniques and normal sleep patterns.
- Institute exercise and ambulation schedules as allowed by the patient’s condition; consult physical therapist for mobility and exercise programs.
- Attend frequently to needs for toileting, food, and liquid.
- Camouflage IV lines with clothing, stockinette, or Kling dressing.
- Evaluate all medications patient is receiving, and ensure effective pain management.
- Reassess physical status, and review laboratory findings.


quent reorientation, and the introduction of familiar and meaningful stimuli (e.g., knitting or crocheting or looking at family photos) within the environment to reduce behaviors such as wandering that often leads to restraint use (Box 27-12).

In nursing homes it has been shown that outcomes related to behavior issues, cognitive performance, falls, walking dependence, activities of daily living, pressure ulcers and contractures are significantly worse when a restraint is used compared to no restraint (Castle, 2009). An interdisciplinary approach that includes individualized assessments and development of structured treatment plans reduces restraint use.

The use of restraints involves a psychological adjustment for the patient and family. If restraints are necessary, the nurse assists family members and patients by explaining their purpose, expected care while the patient is restrained, precautions taken to avoid injury, and that the restraint is temporary and protective. Informed consent from family members is sometimes required before using restraints, as is the case in long-term care settings.

For legal purposes, know agency-specific policy and procedures for appropriate use and monitoring of restraints. The use of a restraint must be clinically justified and be a part of the patient’s prescribed medical treatment and plan of care. A physician’s order is required, based on a face-to-face assessment of the patient. The order must be current and state the type and location of restraint, and specify the duration and circumstances under which the restraint will be used. These orders need to be renewed within a specific time frame according to the agency’s policy. In the hospital, each original restraint order and renewal is limited to 4 hours for adults, 2 hours for ages 9 through 17 and 1 hour for under age 9 (CMS, 2009 and TJC, 2011). Orders may be renewed to the time of the patient response, is essential. Restraints must be periodically removed, and the nurse assesses the patient to determine if the restraints continue to be necessary. Skill 27-1 includes guidelines for the proper use and application of restraints. Use of restraints must meet one of the following objectives:

- Reduce the risk of patient injury from falls.
- Prevent interruption of therapy such as traction, IV infusions, nasogastric (NG) tube feeding, or Foley catheterization.
- Prevent the confused or combative patient from removing life support equipment.
- Reduce the risk of injury to others by the patient.

In keeping with current trends toward health promotion, improved assessment techniques and modifications of the environment are alternatives to restraints. The patient can wear a device called the Ambularm on the leg. It signals when the leg is in a dependent position, such as over the side rail or on the floor (Figure 27-9). There are also weight-sensitive sensor mats that you can place on patients’ mattresses or in the chair. This device sounds an audible alarm at the bedside when pressure is released off the sensor mat. The alarm can be designed to signal at the central nurses’ station so that staff is alerted quickly when a patient is up and out of bed. There are also alarms that you can place on doors to alert staff or family members when a confused or disoriented patient, prone to wandering, opens a door.

A less-restrictive restraint is the Posey Stay Safe Bed (Figure 27-10). The bed is a soft-sided, self-contained enclosed bed that is much less restrictive than chemical or physical restraints. It allows for freedom of movement and thus reduces the side effects caused by physical restraints such as pressure ulcers and loss of dignity. A vinyl top covers the padded upper frame of the bed and the nylon-net canopy surrounds the mattress and completely encloses the patient in the bed. Zippers on the four sides of the enclosure provide access to the patient. The Posey bed enclosure works well for patients who are restless and unpredictable, cognitively impaired, and at risk for injury if they were to fall or get out of bed, such as patients on anticoagulant therapy at risk for intracranial bleed. The bed is also a safer alternative to side rails.

**Side Rails.** Side rails help to increase a patient’s mobility and/or stability when in bed or when moving from bed to chair.

However, side rails are the most commonly used physical restraint. There are a variety of beds with different side rail designs. Basically the patient needs to have a route to exit a bed safely and including the behaviors that necessitated the application of restraints, the procedure used in restraining, the condition of the body part restrained (e.g., circulation to hand), and the evaluation of the patient response, is essential. Restraints must be periodically removed, and the nurse assesses the patient to determine if the restraints continue to be necessary. Skill 27-1 includes guidelines for the proper use and application of restraints. Use of restraints must meet one of the following objectives:

- Reduce the risk of patient injury from falls.
- Prevent interruption of therapy such as traction, IV infusions, nasogastric (NG) tube feeding, or Foley catheterization.
- Prevent the confused or combative patient from removing life support equipment.
- Reduce the risk of injury to others by the patient.

In keeping with current trends toward health promotion, improved assessment techniques and modifications of the environment are alternatives to restraints. The patient can wear a device called the Ambularm on the leg. It signals when the leg is in a dependent position, such as over the side rail or on the floor (Figure 27-9). There are also weight-sensitive sensor mats that you can place on patients’ mattresses or in the chair. This device sounds an audible alarm at the bedside when pressure is released off the sensor mat. The alarm can be designed to signal at the central nurses’ station so that staff is alerted quickly when a patient is up and out of bed. There are also alarms that you can place on doors to alert staff or family members when a confused or disoriented patient, prone to wandering, opens a door.

A less-restrictive restraint is the Posey Stay Safe Bed (Figure 27-10). The bed is a soft-sided, self-contained enclosed bed that is much less restrictive than chemical or physical restraints. It allows for freedom of movement and thus reduces the side effects caused by physical restraints such as pressure ulcers and loss of dignity. A vinyl top covers the padded upper frame of the bed and the nylon-net canopy surrounds the mattress and completely encloses the patient in the bed. Zippers on the four sides of the enclosure provide access to the patient. The Posey bed enclosure works well for patients who are restless and unpredictable, cognitively impaired, and at risk for injury if they were to fall or get out of bed, such as patients on anticoagulant therapy at risk for intracranial bleed. The bed is also a safer alternative to side rails.

**Side Rails.** Side rails help to increase a patient’s mobility and/or stability when in bed or when moving from bed to chair.

However, side rails are the most commonly used physical restraint. There are a variety of beds with different side rail designs. Basically the patient needs to have a route to exit a bed safely and
maneuver freely within the bed; in this case side rails are not considered a restraint. For example, raising only the top two side rails so that the lower part of the bed is open gives the patient room to exit a bed safely. Side rails used to prevent a patient, such as one who is sedated, from falling out of bed is not considered a restraint. Always check agency policy about the use of side rails. Be sure a bed is in the lowest position possible when side rails are raised. Always assess the risk of using side rails compared to not using them. Check the condition of side rails; bars between the bed rails should be closely spaced to prevent entrapment, the space between bed rails and mattress and space between headboard and mattress should be filled to prevent patients from falling in between, and latches securing bed rails should be stable.

The use of side rails alone for a disoriented patient may cause more confusion and further injury. A confused patient who is determined to get out of bed attempts to climb over the side rail or climbs out at the foot of the bed. Either attempt usually results in a fall or injury. Nursing interventions to reduce a patient’s confusion first focus on the cause of the confusion, such as a response to a new medication, dehydration, pain. Frequently nurses mistake a patient’s attempt to explore his or her environment or to self-toilet as confusion. Additional safety measures include the use of a low bed with a nonskid mat placed alongside the bed on the floor. A low bed reduces the distance between the bed and floor, facilitating a roll rather than a fall from the bed.

**Fires.** Although smoking is usually not allowed in hospital settings, smoking-related fires continue to pose a significant risk due to unauthorized smoking in the bed or bathroom. Institutional fires typically result from an electrical or anesthetic-related fire. The best intervention is to prevent fires. Nursing measures include complying with the agency’s smoking policies and keeping combustible materials away from heat sources. Box 27-13 discusses additional fire intervention guidelines for nurses in health care agencies. Regardless of where a fire occurs, it is important to have an evacuation plan in place. Know where fire extinguishers and oxygen shut-off valves are located and know how to activate a fire alarm.

If a fire occurs in a healthcare agency, protect patients from immediate injury, report the exact location of the fire, contain the fire and extinguish it if possible. Some agencies have fire doors that are held open by magnets and close automatically when a fire alarm sounds. It is important to keep equipment away from blocking these doors. All personnel are mobilized to evacuate patients. Patients who are close to the fire, regardless of its size, are at risk of injury and need to be moved to another area. If the patient is on life support, you will need to maintain the patient’s respiratory status manually with a bag-valve-mask device (e.g., Ambu-bag) until the patient is moved away from the fire. Direct all ambulatory patients to walk by themselves to a safe area. In some cases, they will be able to assist in moving patients in wheelchairs. You generally move bedridden patients from the scene of a fire by a stretcher, their bed, or a wheelchair. If none of these methods is appropriate, patients need to be carried from the area. If you have to carry a patient, do so correctly (e.g., two man carry). If you overextend your physical limits for lifting, injuring yourself will result in further injury to the patient. If fire department personnel are on the scene, they will help evacuate the patients.

After a fire has been reported and patients are out of danger, nurses and other personnel take measures to contain or put out the fire, such as closing doors and windows, placing wet towels along the base of doors, turning off sources of oxygen and electrical equipment, and using a fire extinguisher. Fire extinguishers are categorized as type A, used for ordinary combustibles (e.g., wood, cloth, paper, and many plastic items); type B, used for flammable liquids (e.g., gasoline, grease, paint, and anesthetic gas); and type C, used for electrical equipment. Box 27-14 discusses the correct use of an extinguisher, and Figure 27-11 demonstrates the process as well.

**Electrical Hazards.** Much of the equipment used in health care settings is electrical and needs to be well maintained. The clinical engineering departments of hospitals inspect biomedical equipment, such as a hospital bed, infusion pump or ventilator regularly. You will know a piece of equipment is safe to use by looking for a safety inspection sticker with an expiration date. Decrease the risk for electrical injury and fire by using properly grounded and functional electrical equipment. The ground prong of an electrical outlet carries any stray electrical current back to the ground. Remove equipment that is not in good working order or that spark when plugged in for service and notify the appropriate hospital staff.

**Seizures.** Patients who have experienced some form of neurological injury or metabolic disturbance are at risk for a seizure. A seizure is hyperexcitation and disorderly discharge of neurons in the brain leading to a sudden, violent, involuntary series of muscle contractions that is paroxysmal and episodic, causing loss of con-
BOX 27-14 PATIENT TEACHING

Correct Use of a Fire Extinguisher in the Home

Objective
- Patient will correctly use a fire extinguisher in the home.

Teaching Strategies
- Discuss how to choose a correct location for an extinguisher. It is recommended that one be placed on each level of the home, near an exit, in a clear view, away from stoves and heating appliances, and above the reach of small children. Keep a fire extinguisher in the kitchen, near the furnace, and in the garage. Make sure patients read instructions after purchasing the extinguisher and keep them for periodic review.
- Describe the steps to take before using the extinguisher. Attempt to fight the fire only when all occupants have left the home, the fire department has been called, the fire is confined to a small area, there is an exit route readily available, the extinguisher is the right type for the fire (see discussion in text for a description of the types of extinguishers), and the patient knows how to use the extinguisher.
- Instruct the patient to memorize the mnemonic PASS: Pull the pin to unlock handle, Aim low at the base of the fire, Squeeze the handles, and Sweep the unit from side to side (see Figure 27-12).

Evaluation
- Patient is able to describe when it is appropriate to use a home fire extinguisher.
- Patient correctly lists the steps to take before attempting to use an extinguisher.
- Patient demonstrates correct use of the extinguisher while reciting the instructions with the mnemonic PASS.

sciency, falling, tonic (rigidity of muscles), and clonicity (jerking of muscles). A generalized tonic-clonic, or grand mal, seizure lasts approximately 2 minutes (no longer than 5) and is characterized by a cry, loss of consciousness with falling, tonicity, clonicity, and incontinence. During a fall, or as a result of muscle jerking, musculoskeletal injuries can occur. Before a convulsive episode, a few patients report an aura, which serves as a warning that a seizure is about to occur. An aura is a bright light, smell, or taste. During the seizure activity the patient will possibly have shallow breathing, cyanosis, and loss of bladder and bowel control. Following the seizure there is a postictal phase during which the patient often has amnesia or confusion and falls into a deep sleep. In the community, if repeated seizures occur or if a single seizure lasts longer than 5 minutes without any sign of slowing down, is unusual in some way, or if a person has trouble breathing afterwards, appears to be injured or in pain, or recovery is different from usual, the person needs to be taken to a medical facility immediately (Epilepsy Foundation, 2010). Prolonged or repeated seizures indicate status epilepticus. This condition is a medical emergency and requires intensive monitoring and treatment. It is important that you observe the patient carefully before, during, and after the seizure so that you are able to document the episode accurately. Seizure precautions encompass all nursing interventions to protect the patient from traumatic injury, positioning for adequate ventilation and drainage of oral secretions, and providing privacy and support following the seizure (Skill 27-2).

Radiation. Radiation is a health hazard in health care settings where radiation and radioactive materials are used in the diagnosis and treatment of patients. Hospitals have strict guidelines on the care of patients who are receiving radiation and radioactive materials. Be familiar with established agency protocols. To reduce your exposure to radiation, limit the time spent near the source, make the distance from the source as great as possible, and use shielding devices such as lead aprons. Staff regularly working near radiation will wear devices that track the accumulative exposure to radiation.

Disasters. If a disaster occurs, nurses working in hospital settings need to be prepared to respond and care for a sudden influx of patients. The Joint Commission (2011) requires hospitals to have an emergency management plan that addresses identification of possible emergency situations and their probable impact, maintaining adequate amount of supplies, a formal response plan which includes actions to be taken by staff and steps to restore essential services and resume normal operations following the emergency.

Infection control practices are critical in the event of a biological attack. You need to manage all patients symptomatic with suspected or confirmed bioterrorism-related illnesses using standard precautions (see Chapter 28). For certain diseases, such as smallpox or pneumonic plague, additional precautions are necessary, such
as airborne or contact isolation precautions. Although most infections associated with biological agents cannot be transmitted from patient to patient, in general you limit the transport and movement of patients to movement that is essential for treatment and care. An important aspect of care for patients who have a bioterrorism-related illness is post exposure management.

**EVALUATION**

**Through the Patient’s Eyes.** Patient-centered care requires a thorough evaluation of the patient’s perspective related to safety and if his or her expectations have been met. Ask the patient questions such as, are you satisfied with the changes made to your home? Do you feel safer as a result of the changes? Have you had any falls or injury? Are you still afraid of falling? Involve the family in your evaluation, especially if they live with the patient and provide assistance in the home.

**Patient Outcomes.** Evaluation involves monitoring the actual care delivered by the health care team based on the expected outcomes (Figure 27-12). For each nursing diagnosis, measure whether the outcomes of care have been met. If you have met the patient’s goals, the diagnosis is resolved and your nursing interventions were effective and appropriate. If not, you determine whether new safety risks to the patient have developed or whether previous risks remain. For example, if the patient has a recurrent fall, reassess the conditions surrounding that fall and determine whether contributing factors can be removed or managed. The patient and family need to participate to find permanent ways to reduce risks to safety. Continually assess the patient’s and family’s need for additional support services such as home care, physical therapy, counseling, and further teaching. A safe environment is essential to promoting, maintaining, and restoring health. Overall, your expected outcomes include a safe physical environment, a patient whose expectations have been met, a patient who is knowledgeable about safety factors and precautions, and a patient free of injury.

**SAFETY GUIDELINES FOR NURSING SKILLS**

Ensuring patient safety is an essential role of the professional nurse. To ensure patient safety, communicate clearly with members of the health care team, assess and incorporate the patient’s priorities of care and preferences, and use the best evidence when making decisions about your patient’s care. When performing the skills in this chapter, remember the following points to ensure safe, individualized patient care:

- Always try restraint alternatives before using a restraint.
- Protect patients from injury. Follow assessment guidelines while patients are restrained to avoid injury from inappropriate placement. Position and monitor a patient having a seizure to reduce risk of aspiration and physical injury.
- Reduce risk of falls when seizures are recurrent.

**SKILL 27-1 APPLYING RESTRAINTS**

**Delegation Considerations**

The skill of applying restraints can be delegated to nursing assistive personnel (NAP). However the nurse must first assess the patient’s behavior, level of orientation, need for restraints, and appropriate type to use. The assessment while a restraint is in place cannot be delegated to NAP. The nurse directs NAP by:

- Reviewing correct placement of the restraint
- Reviewing when and how to change patient’s position
- Instructing NAP to notify nurse if there is a change in skin integrity, circulation or extremities, or patient’s breathing
- Instructing to provide range of motion (ROM), nutrition and hydration, skin care, toileting, and opportunities for socialization

**Equipment**

- Proper restraint
- Padding (if needed)
# Chapter 27: Patient Safety

## Steps

### Assessment

1. Assess patient’s behavior, such as confusion; disorientation; agitation; restlessness; combativeness; repeated removal of tubing, dressing, or other therapeutic devices; creating a risk to other patients, and inability to follow directions.

2. Review agency policies regarding restraints. Check healthcare provider’s order for purpose, type, location, and duration of restraint. Determine if signed consent for use of restraint is necessary.

### Rationale

If patient’s behavior continues despite treatment or restraint alternatives, use of restraint will be indicated. The least restrictive type of restraint should be utilized.

A physician or licensed independent practitioner who is responsible for the care of the patient orders restraints. The physician must be authorized to order restraints by the hospital’s policy. Consult the attending physician as soon as possible if he or she did not write the original order. Unless state law is more restrictive, orders for the use of restraint used for the management of violent or self-destructive behavior that jeopardizes the immediate physical safety of the patient, staff, or others may be renewed within the following time frame: 4 hours for adults, 2 hours for children ages 9 through 17, and 1 hour for children under age 9. Orders may be renewed to the time limits for a maximum of 24 consecutive hours (CMS, 2009 and TJC, 2011).

### Clinical Decision

A physician, clinical psychologist or other licensed independent practitioner responsible for the care of the patient evaluates the patient in-person within one hour of the initiation of restraint used for the management of violent or self-destructive behavior that jeopardizes the physical safety of the patient, staff, or others. A registered nurse or a physician assistant may conduct the in-person evaluation if trained in accordance with the requirements and consults with the above responsible person after the evaluation, as determined by hospital policy (TJC, 2011).

3. Review manufacturer’s instructions for restraint application before entering patient’s room. Determine the most appropriate size restraint.

4. Inspect area where restraint is to be placed. Note if there is any nearby tubing or devices. Assess condition of skin, sensation, adequacy of circulation, and range of joint motion.

### Planning

1. Expected outcomes following completion of procedure:

   - Patient will maintain intact skin integrity and normal pulses, temperature, color, and sensation of restrained body part
   - Patient will be free from musculoskeletal injury.
   - Patient’s therapy (e.g., IV tube, catheters) is uninterrupted.

### Implementation

1. Gather equipment and perform hand hygiene.

2. Approach patient in a calm, confident manner. Identify the patient using two identifiers (e.g. name and birthday or name and account number, according to facility policy.

3. Explain what you plan to do. Provide privacy. Be sure patient is comfortable and in correct anatomical position.

4. Adjust bed to proper height, and lower side rail on side of patient contact.

5. Pad skin and bony prominences (as necessary) that will be under the restraint.

6. Apply proper-size restraint.

    **NOTE:** Refer to manufacturer’s directions

   **A Belt restraint:** have patient in a sitting position. Apply belt over clothes, gown, or pajamas. Make sure you place restraint at the waist, not the chest or abdomen. Remove wrinkles or creases in clothing. Bring ties through slots in belt. Help patient lie down if in bed. Avoid applying the belt too tightly (see illustrations).
**SKILL 27-1 APPLYING RESTRAINTS—cont’d**

**STEPS**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B</strong> Extremity (ankle or wrist) restraint: Restraint designed to immobilize one or all extremities. Commercially available limb restraints are composed of sheepskin with foam padding. Wrap limb restraint around wrist or ankle with soft part toward skin, and secure snugly (not tightly) in place by Velcro straps. Insert two fingers under secured restraint (see illustration).</td>
<td><strong>RATIONALE</strong> Maintains immobilization of extremity to protect patient from fall or accidental removal of therapeutic device (e.g., IV tube, Foley catheter). Tight application will interfere with circulation and potentially cause neurovascular injury.</td>
</tr>
<tr>
<td><strong>C</strong> Mitten restraint: Thumbless mitten device restrains patient's hands. Place hand in mitten, being sure Velcro strap(s) are around the wrist and not the forearm (see illustration).</td>
<td>Prevents patient from dislodging invasive equipment, removing dressings, or scratching, yet allows greater movement than a wrist restraint.</td>
</tr>
<tr>
<td><strong>D</strong> Elbow restraint (freedom splint): Restraint consists of piece of fabric with slots in which you place tongue blades. Insert patient's arm so that elbow joint rests against padded area with tongue blades, keeping joint rigid.</td>
<td>Commonly used with infants and children to prevent elbow flexion (e.g., when IV placed in antecubital fossa).</td>
</tr>
</tbody>
</table>

**CLINICAL DECISION:** This text does not address application of vest restraints. Many health care agencies have banned the use of jacket (vest) restraints because of their association with fatal injuries.

7 Attach restraint straps to portion of bed frame that moves when raising or lowering head of bed. Do not attach to side rails. Attach a restraint to chair frame for patient in chair or wheelchair, being sure tie is out of patient’s reach. Patient will be injured if restraint is secured to side rail and it is lowered.

---

**STEP 6a** A, Apply belt restraint with patient sitting. B, A properly applied belt restraint allows a patient to turn in bed. (From Sorrentino SA: Mosby’s textbook for long-term care nursing assistants, ed 6, St. Louis, 2011, Mosby).

**STEP 6b** Securing an extremity restraint. Check restraint for constriction by inserting two fingers under restraint.

**STEP 6c** Mitten Restraint. (Courtesy Posey Company, Arcadia, Ca.)

**STEP 6d** Freedom Elbow Restraint (Courtesy Posey Company, Arcadia, Ca.)
### STEPS RATIONALE

**8** Secure restraints with a quick-release tie (see illustrations). Do not tie in a knot. Be sure tie is out of patient reach.

*Allows for quick release in an emergency.*

**9** Assess proper placement of restraint, skin integrity, pulses, skin temperature and color and sensation of the restrained body part.

*Provides baseline to later evaluate if injury develops from restraint.*

**10** Remove restraint at least every 2 hours (TJC, 2010) or more frequently as determined by agency policy. If patient is violent or noncompliant, remove one restraint at a time and/or have staff assistance while removing restraints.

*Removal provides opportunity to change patient’s position, offer nutrients, perform full ROM, toilet, exercise patient and assess condition of site and need for continuation.*

**11** Secure call light or intercom system within reach

*Allows patient, family, or caregiver to obtain assistance quickly.*

**12** Leave bed or chair with wheels locked. Keep bed in lowest position.

*Locked wheels prevent bed or chair from moving if patient tries to get out. If patient falls with bed in lowest position, this will reduce chance of injury.*

**13** Perform hand hygiene.

*Reduces transmission of microorganisms.*

### EVALUATION

1. Following application, monitor patient’s condition according to facility policy. Use judgment, and consider the patient’s condition and the type of restraint when selecting physical assessment measures (e.g., circulation, nutrition and hydration, ROM in extremities, vital signs, hygiene and elimination, physical and psychological status, and readiness for discontinuation). Perform visual checks if the patient is too agitated (TJC, 2010).

2. The physician, licensed independent practitioner (LIP), or RN trained according to CMS requirements needs to evaluate the patient within either 1 or 4 hours after initiation of restraints, depending on hospital’s Medicare status (see agency policy).

3. After 24 hours, before writing a new order, a physician or LIP who is responsible for the patient’s care must see and assess the patient.

4. Observe IV catheters, urinary catheters, and drainage tubes to determine that they are positioned correctly and that therapy remains uninterrupted.

### RECORDING AND REPORTING

- Record patient’s behavior before restraints were applied.
- Record restraint alternatives attempted and the patient’s response.
- Record patient’s level of orientation, and patient’s or family member’s understanding of purpose of restraint and consent (when required).
- Record the reason for the restraint, the type of restraint used, the time of starting and ending the restraints, the times restraint was released, and the routine observations (e.g., skin color, pulses, sensation, vital signs, behavior) in the nurses’ notes and flow sheets.

### UNEXPECTED OUTCOMES AND RELATED INTERVENTIONS

1. Patient experiences impaired skin integrity.
   - Reassess need for continued use of restraint and if you can use alternative measures. If restraint is necessary to protect patient or others from injury, ensure you applied restraint correctly and provide adequate padding.
   - Check skin under restraint for abrasions and remove restraints more frequently
   - Institute appropriate skin/wound care (Chapter ).
   - Change wet or soiled restraints to prevent skin maceration.

*CLINICAL DECISION: Do not leave violent or aggressive patient unattended while restraints are off.*
SKILL 27-1 APPLYING RESTRAINTS—cont’d

2 Patient has altered neurovascular status of an extremity, such as cyanosis, pallor and coldness of skin, or complaints of tingling, pain or numbness.
   • Remove restraint immediately, and notify physician

3 Patient exhibits increased confusion and disorientation.
   • Evaluate cause for altered behavior, and attempt to eliminate cause.
   • Provide appropriate sensory stimulation, reorient, and try restraint alternatives.

4 Patient releases restraint and suffers a fall or other traumatic injury.
   • Attend to patient’s immediate physical needs, inform physician of fall or injury, and reassess type of restraint and its correct application.

HOME CARE CONSIDERATIONS

• A physical restraint is a device that requires a physician’s order. Do not send a patient home with intent of restraining unless device is necessary to protect patient from injury. If patient’s family wishes to use restraint at home, a physician’s order is required and you need to give clear instructions regarding proper application, care needed while in restraints, and complications to look for. Carefully assess the family for competency and understanding of intent for using restraint.

SKILL 27-2 SEIZURE PRECAUTIONS

Delegation Considerations
The skill of seizure precautions cannot be delegated to nursing assistive personnel (NAP). However, the skills for making the environment safe can be delegated. The nurse directs NAP by:
• Explaining the patient’s prior seizure history and factors that may trigger a seizure.
• Emphasizing not to try to restrain the patient or place anything in the patient’s mouth.

Equipment
• Suction machine
• Oral airway
• Oral Yankauer suction catheter
• Oxygen via nasal cannula or face mask
• Stethoscope, sphygmomanometer, pulse oximeter
• Equipment for intravenous access
• Emergency medications (e.g., IV diazepam, lorazepam, valproate, phenytoin)
• Clean gloves

ASSESSMENT

1 Assess patient’s seizure history and knowledge of precipitating factors. Note the frequency of past seizures, presence and type of typical aura (e.g., metallic taste, perception of breeze blowing on face, or noxious odor), and body parts affected, if known. Use family as resource if necessary.

2 Assess for medical and surgical conditions, including electrolyte disturbances such as hypoglycemia, hyperkalemia; heart disease; excess fatigue; alcohol or caffeine consumption.

3 Assess medication history and patient’s adherence. Also assess therapeutic drug levels of anticonvulsants if test results available.

4 Inspect patient’s environment for potential safety hazards (e.g., extra furniture) if seizure occurs. Keep bed in low position, side rails up at head of bed, patient in side-lying position when possible.

5 For patients with a history of generalized seizures, have oxygen setup, suction apparatus, and clean gloves available for immediate use.

6 Assess a patient’s cultural perspective about the meaning of seizures and their treatment.

RATIONALE

Knowledge about seizure history enables nurse to anticipate onset of seizure activity and take appropriate safety measures.

Common conditions that lead to seizures or exacerbate existing seizure condition.

If patient does not take seizure medications as prescribed and stops them suddenly, this often precipitates seizure activity.

Protects patient from injury sustained by striking head or body on furniture or equipment.

This ensures prompt intervention directed toward maintaining a patent airway.

Some cultures follow different caring practices for a person with seizures.

PLANNING

1 Expected outcomes following completion of procedure:
   • Patient remains free of traumatic injury during seizures
   • Patient’s airway remains patent during seizure activity
   • Patient does not experience a lowered sense of self-esteem following seizure episode.

Seizure precautions prevent patients from incurring injury from a fall or the tonic-clonic seizure activity.
Airway occlusion and aspiration are potential complications of seizure activity.
Loss of bowel or bladder control is common in tonic-clonic seizures, causing patient to feel embarrassment or shame.

IMPLEMENTATION

1 When seizure begins, note the time, stay with patient, and call for help. Track the duration of the seizure. Notify health care provider immediately. Have staff member bring emergency cart to bedside.

2 Position patient safely. If standing or sitting, guide patient to floor and protect head by cradling in nurse’s lap or placing a pad under head. Do not lift patient from floor to bed while seizure is in progress. Clear surrounding area of furniture. If patient is in bed, remove pillows and raise side rails.

To document the episode accurately.
Provides for patient safety.
Provides access to emergency medications and IV equipment as needed.
Measures to prevent traumatic injury. Suffocation will possibly occur with use of pillow.
CHAPTER 27  Patient Safety

STEPS RATIONALE

3 If possible, turn patient onto one side, head tilted slightly forward. Allows tongue to fall away from the airway and allows drainage of saliva.

4 If possible, provide privacy. Have staff control flow of visitors in area. Embarrassment is common after a seizure, especially if others witnessed the seizure.

5 Do not restrain patient; if patient is flailing the limbs, hold limbs loosely. Place something soft under the head. Loosen clothing such as a collar or belt. Prevents musculoskeletal injury. Promotes free ventilatory movement of chest and abdomen.

6 Never force apart a patient’s clenched teeth. Do not place any objects into patient’s mouth such as fingers, medicine, tongue depressor, or airway when teeth are clenched. Prevents injury to mouth and possible aspiration.

**CLINICAL DECISION:** Injury will possibly result from forcible insertion of hard object. Soft objects will break and become aspirated. Insert a bite-block or oral airway in advance if you recognize the possibility of a tonic-clonic seizure.

7 Maintain the patient’s airway, and suction as needed. Check patient’s level of consciousness and oxygen saturation. Check vital signs. Provide oxygen by nasal cannula or mask if ordered. Use oral airway only if you can easily access oral cavity. Prevents hypoxia during seizure activity.

8 Stay with patient, observing sequence and timing of seizure activity. Note the following: type of seizure; parts of body affected; if there was a loss of consciousness; presence of autonomic signs of lip smacking, mastication, or grimacing; rolling of eyes; presence of incontinence or diaphoresis; presence of apnea. Continued observation assist in documentation, diagnosis, and treatment of seizure disorder.

9 As patient regains consciousness, reorient and reassure. Explain what happened and answer patient’s questions. Stay with patient until full recovery. Informing patients of type of seizure activity experienced will assist them in participating knowledgeably in their care. Some patients remain confused for a period of time or become violent.

10 Following seizure, assist patient to position of comfort in bed with side rails up (one rail down for easy exit) and bed in lowest position (see illustration). Place call light or intercom system within reach, and provide a quiet, non-stimulating environment. Provides for continued safety. Patients are often confused and sleepy following a seizure.

**STEP 10** Position of patient following seizure and when on seizure precautions

Privacy provided

Side rails up

Pillow under head

Loosened clothing

Bed in lowest position

Client in side-lying position

(i immediately postseizure)

11 Offer psychosocial support; provide time for patient to express feelings and concerns. Patients who accept the reality of their disease integrate it into their own self-concept and have higher levels of self-esteem.

12 Perform hand hygiene. Reduces transmission of microorganisms.

EVALUATION

1 Conduct a head-to-toe evaluation, including an inspection of oral cavity for breaks in mucous membranes from bites or broken teeth, look for bruising of skin or injury to bones and joints. Determines presence of any traumatic injuries resulting from seizure activity.

**CLINICAL DECISION:** If onset of seizure was not witnessed and you suspect patient fell and struck head, treat as a closed head injury or spinal injury. Place a cervical collar on patient before attempting to turn.

### SKILL 27-2  SEIZURE PRECAUTIONS—cont’d

#### STEPS

2. Evaluate patient’s mental status after seizure (level of consciousness, confusion, hallucinations).

3. Check patient’s oxygen saturation and vital signs.

4. If possible, ask patient to verbalize feelings after seizure.

#### RATIONALE

Temporary mental status changes are common following a seizure.

Determine stability of oxygenation and circulation.

Therapeutic interaction enables patient to recognize feelings associated with having a seizure disorder.

#### RECORDING AND REPORTING

- Record thoroughly in nurses’ notes what you observed before, during, and after seizure. Provide detailed description of type of seizure activity and sequence of events (e.g., presence of aura [if any], level of consciousness, posture, color, movement of extremities, incontinence, and patient’s status immediately following seizure).

- Report to primary health care provider immediately as seizure begins. Status epilepticus is an emergency situation requiring immediate medical therapy.

#### HOME CARE CONSIDERATIONS

- Instruct family members in steps to take when patient experiences a seizure.

- Assess patient’s home for environmental hazards in light of seizure condition.

- Until seizure condition is well controlled (usually for at least 1 year), make sure patient does not take a tub bath or engage in activities such as swimming unless knowledgeable family member is present. Driving will be restricted until permitted by state regulations.

- Refer patient to the Epilepsy Foundation or a similar community resource for support groups.

### KEY POINTS

- In the community a safe environment means basic needs are achievable, physical hazards are reduced, transmission of pathogens and parasites is reduced, pollution is controlled and sanitation is maintained.

- A safe health care environment is one that reduces the risk of injury including minimizing falls, patient-inherent accidents, procedure-inherent accidents, and equipment-related accidents.

- Reduction of physical hazards in the environment includes providing adequate lighting, decreasing clutter, and securing the home.

- Reduce the transmission of pathogens through medical and surgical asepsis, immunization, adequate food sanitation, insect and rodent control, and appropriate disposal of human waste.

- Every developmental age involves specific safety risks.

- Children less than 5 years of age are at greatest risk for home accidents that result in severe injury and death.

- The school-age child is at risk for injury at home, at school, and while traveling to and from school.

- Adolescents are at risk for injury from automobile accidents, suicide, and substance abuse.

- Threats to an adult’s safety are frequently associated with lifestyle habits.

- Risks for injury for older patients are directly related to the physiological changes of the aging process.

- Nursing interventions for promoting safety are individualized for patients’ developmental stage, lifestyle, and environment.

- Continually evaluate the patient’s safety risk and update the nursing care plan appropriately.

- Use physical restraints only as a last resort, when patients’ behavior places them or others at risk for injury.

### CLINICAL APPLICATION QUESTIONS

#### Preparing for Clinical Practice

1. Ms. Cohen, an 85-year-old woman, has been recovering from a mild stroke affecting her left side. Ms. Cohen lives alone but receives regular assistance from her daughter Peggy and son Michael, who both live within 10 miles. While making a routine visit, Peggy finds Ms. Cohen at the bottom of her porch steps after a fall. Ms. Cohen is complaining of hip pain and cannot get up. Peggy calls 911. A few hours later, Ms. Cohen is hospitalized for repair of her right hip fracture.

   a. List three environmental interventions to recommend for the outside porch area to promote Ms. Cohen’s safety.

   b. Ms. Cohen’s bed has four side rails. What position would you put the rails in and why?

   c. What risk factors make Ms. Cohen prone to fall while in the hospital?

2. Ms. Cohen requires IV antibiotics to be delivered postoperatively. Shortly after the first dose, she became restless and started picking at her IV and frequently attempting to get out of bed.

   a. What might be precipitating Ms. Cohen’s behavior?

   b. Why should the nurse avoid using physical restraints on Ms. Cohen?

   c. List two interventions that can be utilized to prevent the use of restraints on Ms. Cohen.

3. Several restraint alternatives were attempted, but due to Ms. Cohen’s restlessness she was successful at pulling out her IV and getting out of bed. It becomes necessary to restrain Ms. Cohen.

   a. You know that a physician’s or health care provider’s order is required for the restraint. What are essential components of the restraint order?

   b. What assessment should be performed on Ms. Cohen while she is restrained?
c. The physician orders a belt restraint. Your assessment of Ms. Cohen the next day reveals that during the day she is alert and pleasantly confused but not attempting to get out of bed. Should the restraint be continued? Explain.

### REVIEW QUESTIONS

**Are You Ready to Test Your Nursing Knowledge?**

1. The nurse discovers an electrical fire in a patient’s room. The nurse’s first action would be to:
   1. Activate the fire alarm
   2. Confine the fire by closing all doors and windows
   3. Remove all patients in immediate danger
   4. Extinguish the fire by using the nearest fire extinguisher

2. A parent calls the pediatrician’s office frantic about the bottle of cleaner that her 2-year-old son drank. Which of the following is the most important instruction the nurse can give to this parent?
   1. Give the child milk.
   2. Give the child syrup of ipecac.
   3. Call the poison control center.
   4. Take the child to the emergency department.

3. The nurse has just completed a gait assessment on a 78-year-old woman. The assessment reveals shuffling gait, decreased balance, and instability. Based on the patient’s data, which one of the following nursing diagnoses indicates an understanding of the assessment findings?
   1. Activity intolerance
   2. Impaired bed mobility
   3. Disturbed sensory perception
   4. Risk for falls

4. A couple is with their adolescent daughter for a school physical. The parents state they are worried about all the safety risks affecting this age. What is the greatest risk for injury for an adolescent?
   1. Home accidents
   2. Physiological changes of aging
   3. Poisoning and child abduction
   4. Automobile accidents, suicide, and substance abuse

5. During the evening, the nurse has just found a 68-year-old woman wandering in the hall exhibiting confused behavior. The patient says she is looking for the bathroom. Which interventions are appropriate to ensure the safety of the patient? (Select all that apply.)
   1. Insert a urinary catheter
   2. Leave a night light on in the bathroom
   3. Ask the physician to order a restraint
   4. Keep the bed in low position with upper and lower side rails up.
   5. Assign a staff member to stay with the patient
   6. Provide scheduled toileting during the night shift
   7. Keep the pathway from the bed to the bathroom clear

6. The family of a confused, ambulatory patient insists that all four side rails be up when the patient is alone. What is the best action to take in this situation? (Select all that apply.)
   1. Contact the nursing supervisor
   2. Restrict their visiting privileges
   3. Ask them to stay with the patient
   4. Inform them of the risks associated with side rail use
   5. Thank them for being conscientious and put the four rails up
   6. Discuss alternatives with the family that would be appropriate for this patient

7. A physician writes an order to apply a wrist restraint to a patient who has been pulling out a surgical wound drain. Place the following steps for applying the restraint in the correct order.
   ___ 1. Explain what you plan to do
   ___ 2. Wrap limb restraint around wrist or ankle with soft part toward skin and secure
   ___ 3. Inspect the condition of the skin of the wrist
   ___ 4. Identify the patient using proper identifier
   ___ 5. Pad the patient’s wrist

8. A child you are caring for in the hospital starts to have a grand mal seizure while playing in the playroom. What is the most important intervention you can do during this situation?
   1. Begin cardiopulmonary respiration.
   2. Restrain the child to prevent injury.
   3. Place a tongue blade over the tongue to prevent aspiration.
   4. Clear the area around the child to protect the child from injury.

9. A 62-year-old woman is being discharged to home with her husband after surgery for a hip fracture from a fall at home. When providing discharge teaching about home safety to this patient and her husband, the nurse knows that:
   1. A safe environment promotes patient activity
   2. Assessment focuses on environmental factors only
   3. Teaching home safety is difficult to do in the hospital setting
   4. Most accidents in the older adult are due to lifestyle factors

10. A fragile, 87-year-old nursing home resident has just been admitted to the hospital with dehydration and increased confusion. The patient has upper limb restraints to prevent her from pulling out her nasogastric tube. What instructions should the nurse give to nursing assistant personnel (NAP)?

11. An 80-year-old patient who demonstrates some confusion but without anxiety was recently admitted to the medical unit. The nursing assessment reveals that she is a fall risk because she continues to get out of bed without help despite frequent reminders. The initial nursing intervention to prevent falls is to:
   1. Place a bed alarm device on the bed
   2. Place the patient in a belt restraint
   3. Provide one-to-one observation of the patient
   4. Apply wrist restraints

12. A 72-year-old patient is going home on oxygen. In order to ensure the safe use of oxygen in the home, which of the following teaching points should be discussed? (Select all that apply.)
   1. Smoking is prohibited around oxygen
   2. How to adjust the oxygen flow rate based on patient symptoms
   3. Not to use electrical equipment around oxygen
   4. Special precautions may be required when traveling with oxygen

13. How does the nurse support a culture of safety? (Select all that apply.)
   1. Completing incident reports when appropriate
   2. Completing incident reports for a near miss
   3. Communicating product concerns to an immediate supervisor
   4. Identifying the person responsible for an incident

14. You are admitting Mr. Jones, a 64-year-old right hemisphere stroke patient. His wife states that prior to his stroke, he was alert and oriented, he smoked a pack a day, used a cane to walk, and was continent of bowel and bladder. She stated he
has a history of high blood pressure which is controlled by an antihypertensive and a diuretic. He has a bruise on his right hip from a recent fall. Currently, he exhibits left sided neglect, problems with spatial and perceptual abilities and is impulsive. He requires assistance of two and use of a gait belt to transfer to a chair. His has moderate left-sided weakness which makes his gait unsteady. He currently has an IV and a urinary catheter in place. What aspects currently increase his fall risk? (Select all that apply.)

1. Smokes a pack a day
2. Used a cane to walk
3. Antihypertensive and diuretics
4. History of recent fall
5. Neglect, spatial and perceptual abilities, impulsive
6. Requires assistance with activity, unsteady gait
7. IV, urinary catheter

At 3a.m. the emergency room nurse hears that a tornado hit the east side of town. What should the nurse do first?

1. Prepare for an influx of patients
2. Contract the American Red Cross
3. Determine how to restore essential services
4. Evacuate patients per the disaster plan.

REFERENCES


Edelman, CL, Mandle CL: Health promotion through the life span, ed 7, St. Louis, 2010, Mosby.


RESEARCH REFERENCES


