Special Medical Needs Shelter
General Medical Care Guidelines

Mississippi Department of Health
Office of Emergency Planning & Response

Mississippi Department of Health

Guidelines for the General Medical Care of Special Medical Needs Shelter (SMNS) Residents during Disasters

The following guidelines have been developed for use by licensed professional nurses, and other practitioners who serve in a Special Medical Needs Shelter during a disaster or emergency.

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BODY MECHANICS

PURPOSE:

To prevent undue strain and possible injury to one or more parts of the body during the required activities of a normal day

CONSIDERATIONS:

- Body mechanics is the coordinated use of body parts to produce motion and maintain balance. Proper use prevents injury and makes the best use of strength.
- Involves standing and sitting posture, bending and lifting, and prevention of fatigue.
- Factors which influence posture and body mechanics:
  - Nutrition;
  - Muscle tone;
  - Body build - slender, medium frame, stocky;
  - Properly fitting shoes, low-medium height heels; and
  - Properly fitting clothing, allowing freedom of motion.
- A broad base of support should provide for better balance and control in lifting.

PROCEDURE:

Standing: Head erect, chest upward and forward, and abdomen flat but not tense. The feet parallel, at least 6-8 inches apart, with one foot a half step ahead of the other. Maintain equal weight bearing with knees facing in the same direction. Never lock knees.
Sitting: Head erect, chest upward and forward, and abdomen flat but not tense. Hips flexed at right angles to the trunk, knees flexed, and feet resting flat and firmly on the floor. Arms and hands supported on arms of chair or resting in lap.
Bending: One leg placed slightly in front of the other, feet 12 inches apart to widen the base of support, knees and hips flexed. This is especially important when lowering or preparing to lift a heavy object.

Lifting: Same principle and position as in bending with increased hip and knee flexion. Have a wide base of support. Feet 12 inches apart. Keep the load close to body. Bend hips and knees keeping back straight. Do not twist neck and back. Shift feet to pivot. Never lift over head. Lift with thigh muscles.

Prevention of strain:

- Face in the direction of movement to avoid strain due to twisting;
- Take advantage of momentum;
- Push, pull, or roll object when possible rather than lift; and
- Keep object close to body and use thigh muscles rather than back when lifting is unavoidable. If the patient or object appears too large or heavy, get help.

ISOLATION PRACTICES

PURPOSE:

To prevent the spread of contagious conditions to other individuals and/or caregivers from individuals who would be inhibited from residing in the shelter among the general population.

CONSIDERATION:

Each individual should receive screening at the time they enter the shelter to detect any possible condition necessitating isolation.

EQUIPMENT:
Bleach (1:10 dilution)
Red-colored impervious plastic biohazard bags
Gloves
N-95 or N-100 Respirator Masks

PROCEDURE:

- Identify possible contagious individuals at the time of entrance to the shelter.
- If known TB and no treatment, the resident should be given a mask and isolated. Isolation should be in an area where there is NOT air exchange with the rest of the shelter. If known TB and on treatment for 2 weeks and not symptomatic, isolation and mask are not necessary. The local county Health Department or State TB control should be contacted as soon as possible to verify the resident's medical status and ensure continuation of therapy.
- Provide those with topical infestations an opportunity for bathing and decontamination. Assist as needed, utilizing appropriate protective equipment.
- The triage team assigns individuals to cots on entrance to the shelter.
- Escort those individuals requiring isolation to the designated area within the shelter.
- Gloves must be worn by those having contact and assisting in the decontamination of infected persons.

PERSONNEL - INJURY/ACCIDENTS

PURPOSE:

To provide a procedure for each person working in the shelter to follow for personal injuries or accidents while in the shelter

EQUIPMENT:
"Notice of Injury" Form

PROCEDURE:

- At the time of injury, evaluate and treat according to the injury. Determine if staff person can continue in role of shelter staff.
- Notify Emergency Operations Center (EOC) of injury, if not life threatening. If injury is life threatening, activate Emergency Medical Services (EMS) and then notify EOC.
- Document injury on agency's "NOTICE OF INJURY" Form and the name of the EOC person who was notified of the incident.
- After release from the shelter, deliver the "NOTICE OF INJURY" Form to immediate supervisor, unless otherwise instructed.

DRESSING CHANGE - Clean Technique

PURPOSE:

To protect a wound from trauma, infectious agents, and to enhance healing

CONSIDERATION:

- A clean dressing is indicated to cover:
  - Recently closed skin (sutured);
  - Lightly abraded skin; and/or
  - A stoma.

SUPPLIES:

- Dressings (as necessary)
- Tape (as necessary)
- Clean disposable gloves (non-sterile)
- Normal saline irrigation solution (as necessary)

PROCEDURE:

- Explain procedure to patient. *PROVIDE AS MUCH PRIVACY AS POSSIBLE.*
- Wash hands and don gloves.
- Remove old dressings (if present) carefully folding the dressing to contain the drainage; place in red-colored impervious plastic biohazard bags.
- Observe site for:
  - Size of wound;
  - Evidence of healing or deterioration; and/or
  - S/S of infection: redness, swelling, pain or discharge.
- Cleanse with normal saline (if indicated).
- Place new dressing over area. Secure new dressing with tape (use hypo-allergenic tape if available).
- Remove gloves and discard appropriately.
- WASH HANDS.
- Document dressing change on Medical Update Form.

DRESSING CHANGE - Sterile Technique

PURPOSE:

To protect a wound from trauma, infectious agents, and to enhance healing

CONSIDERATION:

- To be utilized for wounds with drainage.

SUPPLIES:

- Sterile dressings
- Hydrogen peroxide
- Sterile applicators
- One pair disposable gloves
- One pair sterile gloves
- Tape

PROCEDURE:

Soiled portion:

- Wash hands and put on sterile gloves.
- With both hands, remove the soiled dressings by carefully folding the dressing to contain the drainage in the center of the soiled dressing. Discard contaminated materials in appropriate manner.
- Remove gloves by first grasping below the cuff and pulling down over hand. Turn inside out. Insert ungloved fingers inside the cuff of the second glove. Grasp and pull down, turning the glove inside out before disposing into the garbage.

Sterile portion:

- Open the needed number of dressings and sterile applicators. Use the wrappers as a sterile field; pour cleaning solution on sterile 4x4.
- Open the sterile gloves and put them on, maintaining sterility. Keep one gloved hand free for sterile supplies and to serve second hand that is in contact with the wound.
- Cleanse the area from the center of the wound to the periphery.
- Apply sterile dressings to the area. 4 x 4's should be cut to fit around and support any drains so that they do not irritate underlying skin.
- Secure dressing with tape.

- Remove gloves and place in red-colored impervious plastic biohazard bag.
- WASH HANDS.
- Document on Medical Update Form.

OSTOMY CARE

PURPOSE:
To contain drainage and protect peristomal skin

POUCH APPLICATION

SUPPLIES:
- Warm water, if available
- Paper towels and/or wash cloth
- Scissors
- Skin barrier*
- Pouch*
- Unsterile gloves

*** Patient must supply appropriate supplies.**

PROCEDURE:
- Wash hands and don gloves.
- Remove old appliance gently with warm water.
- Cleanse skin and stoma with water; pat dry (if soap is used, rinse thoroughly).
- Cut skin barrier to fit 1/8" larger than stoma.
- If pre-cut pouch, assure correct size.
- Remove paper backing from pouch or wafer.
- Fill creases, scars, or other skin irregularities with leftover pieces of skin barrier, stomahesive, or karaya paste and allow drying.
- Press skin barrier or pouch to skin, running finger around edge closest to stoma to insure a secure seal.
- If two-piece system, snap pouch on to wafer.
- Fasten the end of drain with closure.
- Remove gloves and discard appropriately.
- WASH HANDS.
- Document on Medical Update Form.
- Empty pouch every 3-4 hours.

EMPTY POUCH EQUIPMENT:

- One pair non-sterile disposable gloves
- Wet and dry paper towels
- Warm water
- Container

PROCEDURE:

- Wash hands and don gloves.
- Obtain wet and dry paper towels, warm water, and container for drainage at bedside.
- Unfasten bottom of pouch, holding the end up so as to prevent drainage from coming out prematurely.
- Unfold pouch.
- Direct pouch towards container and empty.
- Rinse with warm water until clean. NOTE: If leakage occurs, pouch needs changing.
- Dry end with paper towel. Be sure that end of pouch and clamp are clean.
- Refasten end of pouch, as described previously.
- Remove gloves and discard appropriately.
- WASH HANDS.
- Document on Medical Update Form.

NOTE:

Pouches should be changed when leaking, odoriferous, and every 3-4 days to assess condition of stoma and skin. Patient complaints of burning or itching under appliance require investigation of skin condition and fit of appliance.

Types of pouches include Karaya seal with micropore tape or wafer and pouch. These require a clamp at the end to close. Skin barrier is provided attached to pouch. Directions for application of all pouches accompany pouches.

BITES - HUMAN

PURPOSE:
To prevent infection or complications from a human bite

CONSIDERATIONS:

Human bites that break the skin may become seriously infected because the mouth is a source of bacteria. Most human bites, especially if they are deep or penetrating, are extremely dangerous because of the high infection rate. Cultures of human bites most commonly grow streptococci, anaerobes, staphylococci and Eikenella corrodens. Only severe lacerations involving the face should be sutured. Other wounds can be managed by delayed primary closure or healing by granulation. A major complication of human bite wounds is infection of the metacarpophalangeal joints. Clenched-fist injuries from human bites should be evaluated by a hand surgeon.

EQUIPMENT:
- Gloves
- Soap and water
- Clean or sterile gauze
- Tape
- Td immunization (if over age 7)

PROCEDURE:
- Wash hands and don gloves.
- If wound is bleeding freely, let it do so for 3-4 minutes. Then irrigate the wound thoroughly under running water.
- Wash wound with soap and water.
- Let wound dry and apply a sterile dressing.
- If bite drew blood and either the inflictor of the bite or the person bitten is considered at risk for transmitting Hepatitis B or C or possibly HIV, follow local policy for appropriate intervention.
- Remove gloves and discard appropriately.
- WASH HANDS.
- Administer tetanus vaccine (DtaP or DT for children, td for adults) if last vaccination was longer than 10 years ago or is due.
- Document on Medical Update Form.

AFTERCARE:
- Recheck for signs of infection within 48 hours.
- Educate about signs of infection and instruct on keeping wound clean and dry. Wash wound twice daily with soap and water. Change dressing at least daily. If bite drew

blood, discuss the possibility of transmission of Hepatitis B or C and the smaller chance of HIV, if either the inflictor of the bite or the person bitten has one or more of those infections. If a risk of transmission is ascertained, consult with the District Health Director. Instruct to contact personal physician or primary care provider.

- Document:
  - The incident on the incident reporting form;
  - Patient's condition;
  - Care provided; and
  - Patient/resident personal record of immunizations.
- Refer for follow-up treatment:
  - Large or dirty bite;
  - Sign of infection;
  - Facial or hand bite, or any bite occurring in a joint;
  - If at risk for Hepatitis B or C, or HIV, after being bitten by person with known infection;
  - Any immunocompromised or asplenic patient; consider for patients with sickle cell disease or other major hemoglobinopathy; and
  - If the bitten person is HIV-infected, refer for administration of tetanus immune globulin (TIG) regardless of immunization status (Red Book, 1997, pp 520-521).

OXYGEN ADMINISTRATION

Residents may be permitted to follow their physician's instructions about the intermittent use of oxygen to relieve the symptoms of chronic obstructive lung disease or some related condition. Those requiring 24-hour oxygen and/or who are electric dependent, should be evaluated for transfer to a skilled health care facility. Use of the resident's own portable oxygen tanks is encouraged. Residents utilizing oxygen concentrators are encouraged to bring their equipment with them for use while electrical power is available. Whenever possible, residents should have battery backup and provide a small tank in case of power failure or switch to portable oxygen tanks for the duration of the shelter period.

The Nurse Coordinator in the Emergency Operations Center (EOC) should request oxygen delivery after the resident has been triaged or the need for oxygen has been determined. Instructions for the use of portable oxygen provided by the resident's own physician would be followed to the maximum extent possible.

The preferable method of administering oxygen in a shelter environment is through the use of liquid oxygen, particularly those residents who are receiving oxygen 24-hours per day or are being administered a high volume of oxygen.

TUBE FEEDINGS

Gravity or bolus tube feedings should be administered by the nursing staff as per the orders of the resident's personal physician. In general, the instructions of the resident's own physician should be followed to the maximum extent possible. Similarly, efforts should be made to provide the resident with a tube feeding product (baby formula) which meets the basic requirements as prescribed by the resident's physician, should the resident's own supply be fully utilized.

DEATH PROCEDURES

In the event that a resident expires in the shelter during the emergency, these procedures are to be followed. Once an official declaration of demise has occurred, quietly relocate the expired resident to a holding area away from the general area. Notify local law enforcement of the death. If no body bags are available, cover the body with a sheet. Notify the Nursing Coordinator. If a caregiver or next of kin is available in the shelter, their wishes should be expressed to the Nurse Coordinator. The body should not be removed until released by law enforcement. The resident's chart should be annotated with all information concerning the event and the directions received from the Nurse Coordinator.

OTHER PROCEDURES

All other necessary procedures that require a physician's order should be referred to the Nurse Manager. The Nurse Manager should contact the Incident Commander or the Medical Director for consultation and/or specific orders.

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Special Medical Needs Shelter Emergency Medical Care Guidelines

Introduction

Mississippi Community College & Subsidiary Allied Health Program licensed nurse's faculty instructors (RN /LPN/ Nurse Practitioner) and active program nursing and other allied health students will provide emergency and preventive health services in Special Medical Needs Shelter (SMNS) operations. The SMNS nurses and allied health program students are an integral part of SMNS Disaster Services. The primary responsibility for the general health of a community in a disaster rests with the local public health authorities and local medical, nursing, and health resources.

Ill or injured persons normally look to their own physicians or the usual community medical, nursing, health, and hospital facilities for the type of care they need. SMNS Services, as part of the SMNS disaster preparedness and relief program and as part of the community's emergency response system, supplements the existing service delivery system for special needs shelter (SMNS) health care at the regional level.

SMNS nurses and students should coordinate their efforts with those of the local health authorities and the medical and nursing communities. All activities and services provided by SMNS nurses and students reflect quality health care and current professional standards of health care. All SMNS nurses must have a current license or certificate in their field and all SMNS students must be under the direct supervision of a Registered Nurse at all times. All other medical professionals, including volunteers, should be credentialed.

General Purpose of SMNS Guidelines

The purpose of the SMNS Guidelines is to describe the parameters within which SMNS licensed professionals may deliver medical/nursing care when serving as SMNS staff during SMNS operations. The level of care provided by SMNS nurses and allied health student volunteers cannot exceed current first aid practices; however, all SMNS nursing staff is expected to use professional assessment and management skills in assisting with the health problems of those affected by a disaster and SMNS staff.

The information contained in these protocols applies to everyone serving in the SMNS function regardless of the professional credentials of the SMNS nurses or student. All health care professionals recruited for and assigned to the SMNS nurse's function must agree not to exceed the protocols. These protocols flow from, and are a companion document to, the base document for the SMNS function. Current medical/nursing, first aid, and public health standards, and Centers for Disease Control guidance have been researched in order to prepare this document.

Role of the Local SMNS Nurse Volunteer

The SMNS program should have a physician with a current active license to practice in the state who serves as the volunteer medical SMNS advisor. It is the responsibility of the SMNS volunteer nurses to review the protocols annually to ensure that they meet current medical/nursing, public health, and first aid standards of practice within Mississippi. The SMNS volunteer nurses may amend the guidelines based on new research findings and/or procedures that have been adopted as the current accepted standard of care in the community before signing, but may not add medical responsibilities or more advanced types of treatment. If the SMNS does not have a volunteer medical physician advisor, the guidelines may be signed by a physician associated with the Mississippi Department of Health that has jurisdiction over the area covered by the SMNS unit. All SMNS volunteer nurses and students should not be liable for damages:

- while they are serving as agents of the MDH and SMNS;
- if they are working under the control and supervision of authorized SMNS staff, and if they do not exceed the level of care described in the guidelines.

Therefore, it is critical to the immediate disaster relief response of the SMNS that guidelines are reviewed and signed annually so SMNS nursing staff can begin to respond immediately.

General Guidelines Information

The approved guidelines are to be followed in any of the following situations:

- In an emergency when no physician is available.
- When specific orders for individual patients have not been written by attending physician.
- When the nurse is not able to reach the responsible physician for specific orders.
- When access to local ambulance or hospital is delayed.
- When patients have minor health problems which do not require the attention of a physician.

Orders by attending physicians for their patients supersede any MDH protocols and must be documented appropriately and clearly. Should these orders exceed the level of care described in the protocols, the SMNS nurses should make arrangements for the patient to be transported to an appropriate health care facility. As appropriate and as soon as possible, all patients are referred to their own health care provider or other usual source of medical care. The need for emergency treatment should be determined by the patient's condition rather than by the type of injury or illness.

Before administering medications, it is important to check with the patient or family to find out about allergic reactions to medications, what medication the patient is currently taking, and any contraindications.

Standard Guidelines
History and Clinical Assessment

A history must be taken, clinical assessment made, and both must be recorded for all patients seen for treatment. The history and clinical assessment should determine how the symptoms and conditions should be classified and managed. If lifesaving measures are indicated, proceed with them before completing the entire assessment.

The history may be obtained from the patient, the family, or an observer. The history usually includes the following:

- Time of the incident or onset of symptoms
- Subjective symptoms, such as location and description of pain or discomfort
- How the injury occurred
- Self-treatment given and the results
- Pertinent medical history, which may include
  - General state of health
  - Previous health problems and conditions
  - Routine medications taken (prescription and over-the-counter)
  - Allergies
  - Name and telephone number of personal physician
  - Date and reason for last hospitalization

The clinical assessment usually includes the following:

- General appearance, age, sex, and weight
- Vital signs as appropriate, such as pulse, respiration, temperature, and blood pressure
- Objective signs, such as level of consciousness, skin temperature and color, and pupil status

Priorities in Giving Emergency Care

At the time of assessment, serious life-threatening conditions require that primary attention be focused on detecting and treating the most important disorders that threaten life. SMNS nurses workers should follow these priorities:

1. Remove the patient and themselves from any potentially hazardous situation (survey the scene).
2. Determine if patient is conscious. If the patient is unconscious, check the airway, breathing, and circulation (primary survey). If patient is not breathing, rescue breathing should be started immediately. If there is no pulse, activate EMS, then start cardio-pulmonary resuscitation (CPR).

3. Check for and control severe external bleeding.
4. Summon advanced medical personnel as needed.
5. Treat for shock.
6. Do not move the head, neck, and spine in cases of suspected spinal cord injuries unless not moving would risk the life of the victim.
7. Do a secondary survey.
8. Give first aid for poisoning or ingestion of harmful chemicals.
   Detailed descriptions of these first aid procedures are found in American Red Cross *Emergency Response (Mosby Stock No. 652014)* which may be obtained through any American Red Cross chapter.

Classification of Symptoms and Conditions

After assessment, all patients are assigned a priority based on the following classifications:

Classification 1:

Critical illness or injury that needs immediate attention. A delay in treatment may endanger the patient's life. Appropriate lifesaving actions must be carried out while another person notifies the EMS ambulance to transfer the person to an emergency department. Classification 1 conditions include, but are not limited to:

- Cardiac arrest and respiratory arrest
- Respiratory distress (respiratory rate >24 per minute in adults; for children: Newborn >50 per minute, 1 mo – 12 yrs. >30 per minute)
- Unstable vital signs, or chest pain and unstable vital signs.
  Adult: pulse <50 or >120, systolic blood pressure <90 or >200, respiratory rate <10 or >24;
  Children:
  - Newborn - pulse <120 or >160; systolic blood pressure <50 or >70; respiratory rate <30 or >50;
  - Infant (1-12 mo) pulse < 80 or > 140; systolic blood pressure < 70 or > 100; respiratory rate <20 or >30;
  - Toddler (1-3 yrs.) pulse <80 or >130; systolic blood pressure <80 or >110, respiratory rate <20 or >30;
  - Preschooler (3-5 yrs.) pulse <80 or >120, systolic blood pressure <80 or >110; respiratory rate <20 or >30
  - School Age (6-12 yrs.) pulse <70 or >110; systolic blood pressure <80 or >120; respiratory rate <20 or >30

- Trauma involving multiple systems and/or any of the following conditions:
  - Clinical shock (Adult: lightheadedness, syncope, diaphoretic or cool skin, change in mental status, systolic blood pressure less than 80 or pulse more than 120. Child: blood pressure below the lower range and pulse above the upper limit described in the "Vital Signs".
  - Uncontrolled bleeding or bleeding leading to shock.
  - Penetrating wound to head, chest, or abdomen.
  - Allergic reaction with respiratory distress, hypotension, and lightheadedness.
  - Burns involving respiratory problems, or second or third degree burns over more than 20% of the body, or over more than 10% of the body of a patient under 10 years of age or over 50 years of ago.
  - Drug overdose involving loss of consciousness, excessive combativeness, or threats to self or other persons.
- Chest or upper abdominal pain or pressure.
- Acute asthma attack.

Classification 2:

Less serious condition that requires urgent medical attention but does not immediately endanger the patient's life. The patient should be transported to an emergency department by EMS ambulance as soon as possible, and the physician notified. Conditions include, but are not limited to:

- Drug overdose in a patient who is conscious and has stable vital signs
- Symptoms of hypoglycemia or hyperglycemia
- Shortness of breath with edema of extremities (symptoms of congestive heart failure)
- Second or third degree burns over less than 20% of the body, or over less than 10% of. the body of a patient under 10 years of age or over 50 years of age
- Concussion with agitation on awakening or with projectile vomiting.

Classification 3:

Non-urgent condition that requires medical attention but not on an emergency basis. Conditions include:

- Closed fracture with stable vital signs.
- Minor burns.
- Lacerations with controlled bleeding that require suturing.
- Minor wounds which require tetanus shot.

Classification 4:

Condition that does not require immediate medical attention and may be managed by SMNS nurses using the SMNS nurses protocols. Patients classified as 3 or 4 should be monitored on a regular basis to determine the need for possible reclassification.

Management of Chronic Pre-existing Health Conditions

The physical and psychological stress of a disaster may aggravate a patient's chronic condition. Therefore, SMNS nurses should identify persons with chronic illnesses who are affected by a disaster and be on the alert for exacerbation of their symptoms. With support from SMNS nurses, affected persons with chronic or preexisting health conditions or disabilities can often be managed in shelter situations.

For residents with chronic health conditions, SMNS nurses may —

1. Assist in maintaining their current health regimen by:
   - Replacing or providing needed medications or supplies
   - Arranging for special diets (diabetic, low sodium, etc.) with the Mass Care function and providing assistance with feeding, such as providing straws, cutting up meats
   - Providing a private area for individuals needing assistance with their bathing and dressing
   - Arranging for a barrier-free environment
   - Referring to personal physician as needed
2. Follow procedures indicated in "Classifications of Symptoms and Conditions" above and in "Management of Specific Symptoms" below when a person has new problems or exacerbation of symptoms.
3. Plan to relocate certain persons from the shelter to alternative housing as necessary. Relocation may be recommended for a person who:
   - Has severe asthma (to prevent exacerbation of illness)
   - Has a compromised immune system due to disease or medication. This includes any serious chronic or terminal illness that would put the patient at risk if exposed to other shelter residents who have colds or other illnesses
   - Has a communicable disease and requires isolation
   - Is severely disabled, and the facility cannot be made a barrier-free environment.
   - Is mentally or physically unable to function in a shelter environment; may need to consult with local health authorities regarding appropriate placement
   - Is an active substance abuser. SMNS nurses may need to consult with MDH or local medical physician regarding relocation

Management of Specific Symptoms

The protocols that follow are to be used as guidelines in treating specific symptoms. They should be used in conjunction with the "Standard Protocols for History and Clinical Assessment" above. Findings from the history and physical assessment as well as management and follow-up should be recorded on required form.

Infection Control Guidelines for Protection against Bloodborne Pathogen Transmission in Emergency Aid Stations

The following infection control guidelines are based on the recommendations of the Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control. These precautions, also called "universal blood and body fluid precautions," are recommended for all paid and volunteer staff working in SMNS emergency aid stations, including those at shelters and service centers. The procedures should be used to minimize and prevent the transmission of all blood-borne infectious diseases, including HIV and Hepatitis B, and to protect patients from infections. It is important to remember that a medical history and examination cannot readily identify all patients infected with HIV or other blood borne organisms. Therefore, these precautions must consistently be used for all patients, including those at emergency aid stations where the risk of exposure by blood is possible and where the infectious status of the patient is usually unknown.

Protective Equipment*:*

SMNS nurses should:

- Wear disposable (single-use) gloves when contact with blood or other body fluids (urine, stool, semen, vomit, wounds, etc.), mucous membranes, or non-intact skin is anticipated. These gloves do not have to be sterile.
- Wear gloves when handling contaminated items (such as clothing or linen) or surfaces soiled with blood or other body fluids.
- Change gloves between each patient and dispose of them in an infectious waste container. Do not clean or reuse disposable gloves.
- Discard gloves that are peeling, discolored, torn, or punctured.
- Avoid handling items such as pens, combs, or radios when wearing soiled gloves.
- Cover any cuts, scrapes, or skin irritations on workers with protective clothing and/or bandages.
- Wash hands immediately after gloves are removed.
- Although splashing or spraying of blood or other body fluids is not likely to occur at SMNS sites, the following precautions should be taken:
    - Masks and protective eye wear or face shields should be worn during procedures that are likely to disperse droplets of blood or other body fluids so that exposure of mucous membranes of the mouth, nose, and eyes is prevented.

  - If the eye is splattered with blood or any other body fluid it should be flushed immediately with saline or water rinses. Goggles should be available for use in those situations where splattering of blood is anticipated.
  - Gowns or aprons should be worn during procedures that are likely to generate splashes of blood or other body fluids.
  - Remove soiled protective clothing as soon as possible and discard appropriately.
- There is no evidence that HIV or the Hepatitis B virus (HBV) have been transmitted during mouth-to-mouth resuscitation. However, disposable resuscitation masks with a one-way valve should be available at emergency aid stations for use whenever CPR or rescue breathing is administered. The worker must have had previous instruction to use these devices. After resuscitation is complete the devices are discarded.

Personal Hygiene

Personal hygiene habits, such as frequent hand washing, are as important in preventing infection as using personal protective equipment. Hand washing procedures should be followed even if gloves have been worn. **If an emergency situation precludes proper hand washing, hands should be washed as soon as possible after exposure.** Any skin surface that comes in contact with blood or other body fluids should be cleansed using the same procedures used for hands. Hands should be washed:

- Immediately and thoroughly on contact with any blood or blood fluids
- Before and after contact with a patient
- Before and after touching open wounds (even if gloves are worn)
- Before and after eating
- After removing gloves
- After handling soiled or contaminated items and equipment
- Before and after using the toilet
- After handling scissors, tweezers or other instruments

The method used for correct hand cleaning with water and plain soap is to:

- Use utility or restroom sink, not one in a food preparation area
- Wet hands
- Lather hands, preferably with liquid soap
- Rub repeatedly for at least 15 seconds
- Rinse
- Turn faucets off with dry paper towel

When hand washing facilities are not available, remove obvious soil with a wet towelette. Then use a waterless antiseptic hand cleaner, following manufacturer's directions for the product. Avoid eating, drinking, smoking, applying cosmetics or lip balm, handling contact lenses, and touching the mouth, nose, or eyes in work areas where exposure to infectious materials may occur.

Engineering and Work Practice Controls

All health care workers should take precautions to prevent injuries caused by scissors, needles, lancets, and other sharp instruments during use and during handling, cleaning or disposal. Used needles and pointed instruments are the medical instruments most frequently implicated in accidental exposure to blood-borne diseases. Health care workers should:

- Be extremely careful in handling all scissors, needles, and sharp instruments; minimize handling of such instruments.
- Never attempt to recap or bend any needles unless a procedure requires it. If so, use mechanical devices or a one-handed technique.
- Ensure that the person using sharp items (such as needles, syringes, lancets) places the item in a closed, puncture-resistant, leak proof, labeled container (hard plastic or metal can).
- Dispose of the container according to local regulations.
- Wash hands after handling scissors, tweezers, or other instruments.

Equipment Cleaning and Disinfecting

It is important to clean and disinfect equipment to prevent the spread of infections. The precautions described below must be followed for the care of all equipment. Proper disinfection procedures should be followed to decontaminate reusable medical equipment. The manufacturer's recommendations for cleaning must be followed for complex, expensive equipment. Disposable equipment meant for single use should be discarded after use.

These general principles of cleaning and disinfection should be followed:

- Personnel involved in the handling of contaminated linen or clothes should wear gloves.
- All patient-use equipment must be clean and free of obvious organic matter or other environmental contaminants.
- Disposable gloves must be worn when handling equipment contaminated by blood or other body fluids.
- Hand washing procedures must be followed after handling dirty equipment, even if gloves were used.

Equipment that cannot be decontaminated on site should be cleaned and transported to a proper handling facility in heavy gauge plastic bags labeled "Contaminated to be Cleaned." Medical equipment, such as wheelchairs, stretchers, blood pressure cuffs, and crutches that are soiled with blood or other body fluids should be precleaned of visible material, and then cleaned with a germicidal chemical: EPA registered "hospital disinfectant" chemical germicide that has a label claim for tuberculocidal activity OR commercially available hard-

surface germicide or solution containing at least 500 ppm free available chlorine (a 1:100 dilution of common household bleach approximately 1/4 cup bleach per gallon of tap water). Although soiled linen has been identified as a source of large numbers of certain pathogenic organisms, the risk of actual disease transmission is negligible. However, the following guidelines are recommended:

- All soiled sheets, pillowcases, towels, and blankets are to be changed after every use.
- Uniforms and other clothing that have been soiled with blood or other body fluid should be changed as soon as possible.
- Linens soiled with blood or other body fluids should be handled as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of persons handling the linen.
- All soiled linen should be placed in heavy gauge plastic bags at the location where it was used. It should not be sorted or rinsed in patient care areas. These bags must have label or warning signs such as "biohazard," to eliminate or minimize exposure of workers.
- Linen soiled with blood or body fluids should be placed in and transported to laundry facilities in heavy gauge plastic bags that prevent leakage.
- Normal laundry cycles should be used according to the washer and detergent manufacturer's recommendations.
- Wash and dry protective clothing and work uniforms according to the manufacturer's instructions. Scrub soiled boots, leather shoes, and other leather goods, such as belts, with soap, a brush, and hot water.
- Disposable linens and towels, if used, should be placed in heavy gauge plastic bags marked "Biohazard" and disposed of according to state and local regulations.
- Local, state, and federal laws that regulate the disposal of wastes exist in all jurisdictions. These laws must be followed. Wastes not contaminated with blood or other body fluids may be disposed of in regular trash cans. No special precautions are required.
- Blood, urine, vomit, and other body fluids can be poured down a sanitary drain or toilet. (However, blood-soaked gauze should not be thrown in a toilet). Wastes contaminated with blood or other body fluids, such as gloves, used bandages, gauzes, or "4x4s," must be placed in heavy gauge plastic bags. These wastes should be disposed of according to local regulations. Incineration is usually an acceptable method.
- Household bleach and chemical germicides that are approved for use as "hospital disinfectants" and that are capable of destroying the tuberculosis bacilli can be used to clean and decontaminate spills of blood or other body fluids. To be effective, these disinfectants must be mixed according to directions. A 1:100 solution of bleach (1/4 cup bleach to one gallon of tap water) is acceptable for use in emergency aid stations. **(Note: Never pour undiluted bleach straight from the bottle directly onto spills of blood, urine, sputum, or vomit. Dangerous levels of toxic chlorine nitrous oxide gases could result.)** Chlorine bleach solutions should not be prepared more than 6 hours before using.

The following procedures should be used to clean and decontaminate spills of blood or other body fluids:

- Wear gloves and other appropriate protective equipment when cleaning spills.
- Clean up spills immediately or as soon as possible after the spill occurs.
- Use tongs, broom and dust pan, or two pieces of cardboard to clean up spills mixed with sharp objects, such as broken glass or needles.
- Dispose of the absorbent material used to collect the spill in a labeled biohazard container (heavy gauge plastic bag).
- Flood the area with disinfectant solution, and allow it to stand at least 20 minutes.
- Use paper towels to absorb the solution, and put the towels in the biohazard container.
- Dispose of bagged cleanup material according to local regulation.
- Wash hands after removing gloves.

Management of Exposure

A health care worker may have accidental exposure to blood, either parenteral (such as a needle stick or cut) or by contact with a mucous membrane (such as a splash to the eye, nose, or mouth). The worker's skin may be directly exposed to large amounts of blood or may have prolonged contact with blood, especially when the exposed skin is chapped, abraded, has minor cuts, or is afflicted with acne or dermatitis, and that is why it is so important to wear gloves, safety goggles, and other protective equipment. In these cases, the following procedures should be followed:

- Immediately following exposure, the affected area and surrounding skin or tissue should be washed thoroughly.
- Antiseptic should be applied to any wound.
- The exposed eye should be flushed with saline or water rinses.
- Report to SMNS nurses and document all of the exposures described in the above paragraph.
- The exposed worker shall be offered the opportunity to be seen by a health care professional.
- A vaccine against hepatitis B and prophylactic antiviral agents for HIV or immune globulin may be medically recommended for the worker with the most beneficial effect occurring within a short period of time after the incident. Therefore, the medical follow-up should be offered **immediately** after the exposure incident. It is the worker's option whether or not to take advantage of this offer. Document the prophylaxis offered and, if declined, the exposed worker should also sign a statement to that effect.

- If the source of exposure is known, that person should be informed of the incident and, after consent has been obtained, referred for testing for serologic evidence of HIV and HBV infection. Arrangements should be made for the test results to be sent to the designated health care professional.
- There are some important additional guidelines which are mandated by OSHA. These guidelines can be found in the SMNS Blood-borne Pathogens Exposure Control Plan, in the section on Post-Exposure Evaluation and Follow-up Procedure.

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GUIDELINES

The following pages contain the guidelines to be followed by all persons serving in the SMNS function on a disaster relief operation. The guidelines should be revised by both the MDH District and Central Office as practice and procedures change.

Note: For the purposes of this document, the term "STAT" is defined as "as soon as possible, including by ambulance or EMS if indicated by the condition of the patient."

ABDOMINAL PAIN

History: Determine ---

- The location, character, duration of pain, and time of occurrence.
- Whether the patient has had any nausea, vomiting, diarrhea, fever, sweats or chills.
- Whether there have been changes in eating habits or appetite.
- Whether the patient has had any changes in bowel movements, e.g., bloody or tarry stools.
- Whether there have been any associated symptoms of shortness of breath, sweating and/or radiation to the neck, shoulder or arms.
- Whether the possibility of pregnancy exists.

Assessment:

- Take vital signs.
- Inspect the abdomen for distension.
- Palpate for tenderness, localization, guarding and rigidity.
- Points of Emphasis:
    - Do not administer enemas, laxatives or heat.
    - The symptoms can also be associated with cardiac, respiratory, gynecological, and urological problems.

Management:

- Advise the patient to rest and assume a comfortable position.
- Give nothing by mouth until the cause of pain is determined.
- Monitor vital signs.

Refer to Physician:

- **Stat** when associated with shortness of breath, chest pain, sweating or radiation of pain and where there are unstable vital signs.
- A pulsating mass is observed or palpated.
- The abdomen is tender, especially with guarding or rebound.
- Severe pain is present.
- The pain is localized, increases in intensity, or lasts more than 4-6 hours.
- There is persistent nausea, vomiting or diarrhea.
- There are changes in the stool that indicate GI bleeding (stools are dark, black, or maroon).
- There is an associated fever.

ARRHYTHMIA

History: Determine ---

- Whether there is a previous history of heart disease and/or arrhythmia, and any medication prescribed for the condition, such as digoxin.
- Whether the patient is lightheaded.
- When, where, and how the symptoms occurred and what their relationship is to activity and rest.
- The amount of caffeine consumed and cigarettes and medications used.

Assessment:

- Evaluate the patient's general appearance for signs of pallor, cyanosis, and sweating.
- Evaluate the patient's mental orientation.
- Check vital signs.
- Note the presence or absence of shortness of breath and/or chest pain and its location and radiation.
- Evaluate the patient's respiratory status for rate, depth, and effort.
- Count apical, radial, or carotid pulse and note the regularity and rate.
- Assess for signs of hypoperfusion; e.g. low blood pressure, tachycardia, and lightheadedness with standing.

Points of Emphasis:

- Arrhythmias occur when abnormal conduction or automaticity changes the heart rate or rhythm.
- Arrhythmias vary in severity from mild, asymptomatic disturbances which require no treatment to catastrophic ventricular fibrillation which necessitates immediate resuscitation.
- Occasional extra beats are generally benign unless associated with symptoms such as lightheadedness, shortness of breath, or chest pain; however, new onset should be evaluated.

Management:

- Monitor vital signs regularly. Check pulse for an entire minute.
- Allow the patient the position of choice for comfort and provide calm and privacy.
- If not symptomatic, observe for 1 hour after normal pulse returns.
- If previous history has been established, continue medication and notify physician.

Refer to Physician:

- **STAT** when occurrence is accompanied by unstable vital signs; a syncopal or near syncopal episode; or by chest pain, pallor, cyanosis, shortness of breath, sweating, nausea, decreased level of consciousness, or indigestion.
- If the patient maintains an irregular pulse with no symptoms and no previous history.
- If the patient has a sustained resting pulse of >150 beats/min. for more than 10 minutes; >120 for more than one hour.
- If the patient has a sustained resting pulse of <50 beats/min., especially with low blood pressure.

ASTHMA/COPD

(Chronic Obstructive Pulmonary Disease)

(Also see: "Shortness of Breath")

History:

- Determine ---Whether the patient has a history of asthma/COPD or emphysema or other causative factors.
- Whether the patient has a history of similar episode or heart disease.
- Whether symptoms are typical.
- Whether chest pain is present.
- Whether fever is present.

Assessment:

- Check the general appearance.
- Assess vital signs.
- Note the presence of wheezing, cough, shortness of breath, and complaints of chest tightness.
- Check lung sounds for wheezing or rales, if possible.

Points of Emphasis:

- Assess carefully and accurately to differentiate cause; may be associated with cardiac or other respiratory problems.
- Symptoms of severe shortness of breath include speaking in short sentences, sweating, and sitting bolt upright.

Management:

- Calm and reassure the patient.
- Assist with medication if needed.
- Monitor vital signs.
- Keep well hydrated.

Refer to Physician:

- **STAT** any case of atypical or severe asthma.
- **STAT** shortness of breath and/or wheezing in a non-asthmatic
- **STAT** any shortness of breath with chest pain.
- Any case of typical asthma not immediately responsive to the patient's routine medications should be referred to the hospital.

BACK PAIN

History: Determine ---

- Whether the patient has had previous episodes of back pain.
- Whether the pain was precipitated by heavy lifting, twisting, or bending, or if it developed spontaneously.
- When, where, and how the pain occurs and its relationship to activity, rest or position.
- Any change in urination frequency, amount, color, or discomfort.
- Any symptom of numbness, weakness, or foot drop in the leg(s).
- Whether there is lumbosacral pain radiating down the leg.
- Whether there is pain on either side of the back radiating to the lower abdomen, groin, or inner thighs.

Assessment:

- Check gait and posture.
- Assess range of motion, balance, coordination, and smoothness of movement.
- Inspect the back for localized swelling and tenderness.
- Note weakness of extremities and/or sensory loss.
- Check the abdomen for tenderness.

Points of Emphasis:

- Angina may cause pain in the back near the shoulder blades.
- Severe pain may be a symptom of genitourinary, pancreatic, or vascular disease.
- Kidney stones are associated with severe flank/back pain radiating to the groin.

Management:

- Patients with mild pain should rest at regular intervals, avoid lifting heavy objects, and take over-the-counter analgesics.
- Patients with moderate to intense pain should:
    - Rest on a hard, flat surface with knees bent and with heat or cold packs applied to the affected area.
    - Take over-the-counter analgesic medication according to package directions.
    - Avoid prolonged standing or sitting.

Refer to Physician:

- **STAT** when there are symptoms of severe pain, elevated temperature, vomiting,
- shortness of breath, chills or sweats, or when there is a pulsating abdominal mass or any abdominal tenderness is noted.
- If the urine is blood-tinged or other urinary symptoms exist.
- If the pain persists or worsens.
- If there is severe pain and/or difficulty walking.

BACTERIAL SKIN INFECTIONS, BOILS, AND CARBUNCLES

History: Determine ---

- How long symptoms have been present.
- Whether the patient has a history of skin infections.
- Whether any prescription medications are being taken.
- Whether there is a history of fever, pain, or malaise.

Assessment:

- Observe for swelling, redness, drainage, and swollen lymph glands.
- Check temperature.

Points of Emphasis:

- Wear gloves and observe all other universal precautions.
- Dispose of contaminated materials properly.

Management:

- Wash with soap and water.
- Apply hot moist compresses for 30 minutes; then cover with a sterile dressing. Repeat compresses 4 times a day.
- Apply antibiotic ointment if not contraindicated.
- Instruct patient in measures to prevent spread of infection to self or others.

Refer to Physician:

- If the infection appears to be severe, extensive, of long duration, or if the patient is febrile or immuno-suppressed.
- If there are boils that may need to be drained.

BITES

History: Determine - -

- When the patient was bitten.
- The location of the incident and a description of the animal.
- Whether the patient has any allergies.
- The date of the patient's last tetanus immunization.

Assessment: Inspect the wound.

Points of Emphasis:

- Some animals, including dogs, cats, bats, foxes, raccoons, and skunks may carry rabies.
- In most states, animal bites must also be reported to animal control or other public health authorities.

Management:

- Wash the wound, flushing liberally with water.
- Apply a dressing and refer to a physician for prophylactic immunizations.
- Contact animal control or public health authorities as required.

Refer to Physician:

- All cases of animal or human bites that break the skin.

Bees, Wasps, and Other Insects

History: Determine ---

- The type of bite (bee, wasp, hornet, other).
- Whether the patient has allergies or a history of previous reactions to bites.
- Whether the patient has lightheadedness, shortness of breath, nausea or throat tightness.

Assessment:

- Observe the patient for signs of allergic reaction or anaphylaxis, respiratory distress, hypotension, tachycardia, vomiting, chills or joint pain.
- Observe the patient for hives or swelling of the face or neck.
- Check vital signs.

Points of Emphasis:

- A few people may have a severe, life-threatening allergic reaction (anaphylaxis) including 11-12% of people bitten by fire ants. These people may carry their own bee sting kit for self-injection of epinephrine.

Management:

- If the stinger is still present, remove it by scraping or with tweezers (avoid putting pressure on the venom sac as it may release further poison).
- Wash the site with soap and water.
- Use cold applications to reduce swelling and relieve itching and pain.
- Apply anti-pruritic lotion such as Calamine lotion if desired.
- Apply antibiotic ointment as needed.
- Cover to keep clean (optional).
- Observe for signs and symptoms of an allergic reaction.

Refer to Physician:

- **STAT** all cases of severe allergic reaction.
- If the patient has a history of allergic reaction or anaphylaxis.

Snake

History: Obtain a description of the snake, the time the patient was bitten, and the patient's history of allergies.

Assessment:

- Inspect the bite and count points of entry.
- Observe the patient for swelling, shortness of breath or vomiting.
- Check vital signs.

Points of Emphasis:

- If possible, take the dead snake to the hospital for identification.
- ***Note: Do not try to catch or kill the snake yourself.***
- Most deaths occur because the patient has an allergic reaction, a weakened body system, or too much time passes before the patient receives medical care. (Less than 1% of snake bites result in death.)

Management:

- Wash the wound.
- Immobilize the affected part.
- Keep the affected part lower than the heart, if possible.
- ***Do not apply ice, do not cut the wound, and do not apply a tourniquet.***

- Keep the patient quiet.
- Apply a wide constricting, but not tight, band 2-4" above bite if advanced care cannot be obtained within 30 minutes.
- Transport to the closest hospital emergency department **STAT.**

Refer to Physician:

- **STAT** all cases.

Spider

History:

- If possible, obtain a description of the spider.
- Determine whether the patient has --
  - Nausea, vomiting, and abdominal pain.
  - Difficulty breathing or swallowing.
  - Severe pain in the sting or bite area.

Assessment:

- Examine the bite area.
- Observe for:
  - Profuse sweating and salivation.
  - Swelling on or around the site.
  - A mark indicting a possible sting or bite.
- Check vital signs.

Points of Emphasis:

- Some reactions can produce severe symptoms, often appearing after several days, or cause tissue necrosis.
- Spider and scorpion bites are almost never fatal, although black widow bites can cause considerable discomfort and brown recluse bites cause local tissue damage.

Management:

- Wash the area.
- Apply a cold pack to the site.

Refer to Physician:

- **STAT** all cases of severe allergic reaction.
- If the spider is identified as a black widow, scorpion or a brown recluse. (Antivenin is available for black widow bites).

Tick

History: Determine ---

- What type of ticks are prevalent in the geographic area.
- How long the tick may have been attached.

Assessment:

- Examine the patient for other ticks.
- Have the patient look for ticks in hair-bearing areas (head, axilla, and groin).

Points of Emphasis:

- Ticks can be as small as the head of a pin, or as big as an apple seed. Some ticks (most commonly deer ticks) carry Lyme disease. Ticks can also carry Rocky Mountain Spotted Fever.
- The first sign of infection may appear a few days or weeks after a tick bite.
- Watch for symptoms such as fever, headache, weakness, rash, and joint and muscle pain.

Management:

- Grasp the tick as close to the skin as possible with fine-tipped tweezers.
- Remove the tick by pulling steadily and firmly. If you do not have tweezers, use a glove or plastic wrap to protect your fingers. **Do not** try to burn a tick with a hot match. Do not attempt to remove tick with other home remedies, such as Vaseline or nail polish.
- Wash the site with soap and water and apply antiseptic or antibiotic ointment.
- Advise the patient to observe the site for a rash.

Refer to Physician:

- **STAT** all cases of severe allergic reaction.
- If in an area endemic for Lyme Disease, particularly if the tick may have been in place for >12 hours.
- If you are unable to remove the tick or if its mouth stays in the skin.

Lyme Disease

History: Determine ---

- The history of the tick bites, if possible.
- Whether the patient has a headache, weakness, muscle and joint pain, or other flu-like symptoms.

Assessment:

- Look for a red rash which may resemble a bull's eye.
- Check vital signs, especially temperature.

Points of Emphasis:

- Disease is transmitted through the bite of an infected tick. Transmission does not occur until the tick has fed for several hours (usually more than 24 hours).
- Distinctive skin lesions may appear 3-32 days after bite. Early stages of the disease may be asymptomatic and the patient may present with later manifestation of illness.
- Lyme disease can worsen if not treated. In its advanced stages, it can cause arthritis, numbness, memory loss, problems in seeing or hearing, high fever, stiff neck, or an irregular or rapid heartbeat. A person can get Lyme disease at any time of the year; however, the risk is greatest between May and late August.

Management:

- Refer to physician for diagnosis and treatment.

Refer to Physician:

- All suspected cases.

BLEEDING, EXTERNAL

(Also see: "Shock")

History:

- Determine how the injury occurred and the date of patient's last tetanus immunization.

Assessment:

- Wear gloves and observe other universal precautions. If there is a chance of splashing blood, use a gown and eye or face mask barriers.
- Determine whether the wound is an incision, puncture, or avulsion.
- Examine the wound for foreign matter.
- Determine if the bleeding is arterial (spurting, bright red) or venous (darker, slower flow).
- Assess for signs of shock.

Points of Emphasis:

- Severe bleeding can result in death.
- A tourniquet is rarely used as part of emergency care as it often does more harm than good.
- Wash hands thoroughly after providing care even if wearing gloves.

Management:

- Cover the wound with a dressing and apply direct pressure with your gloved hand for at least 5 minutes. If the bleeding does not stop after 5 minutes continue pressure and refer immediately to the hospital.
- Elevate the injured area above the level of the heart if fracture is not suspected.
- Apply a pressure bandage.
- If necessary, slow the flow of blood by applying pressure to the artery at the appropriate pressure point.
- Do not disturb clot(s) by removing the dressing; reinforce with additional dressings if needed.
- Use a tourniquet only as a last resort, then refer to physician STAT.
- Monitor airway, breathing, and vital signs.
- Treat for shock as needed.
- Examine minor wounds (those that stop bleeding after 5 minutes) for the need for sutures. If sutures are not needed, clean the wound with soap and water, remove any foreign bodies, and dress with an antibiotic ointment.

Refer to Physician:

- **STAT** all cases other than minor wounds (those that require stitches or if uncontrolled bleeding).
- Refer for a tetanus shot---
  - Patients with minor, uncontaminated wound(s) and no tetanus shot within 10 years.
  - Patients with major and/or contaminated wound(s) and no tetanus shot within 5 years. (These patients should be seen the day of the injury.)
  - Patients who have not completed a full primary series. (These patients should be seen as soon as possible.)

BURNS

History:

- Determine the type and source of the burn: heat (thermal), chemical, electrical, or radiation (sunburn).

Assessment:

- Identify the depth of burn:
  - ***Superficial*** (first degree): burns only the top layer of skin. Skin is red and dry, and the burn is usually painful. The area may swell.
  - ***Partial thickness*** (second degree): involves both the epidermis and the dermis. Burn is red and has blisters that may open and weep clear fluid, making the skin appear wet. The burned skin may look blotched. Burns are usually painful, and the area often swells. Scarring may occur.
  - ***Full thickness*** (third degree): destroys both layers of skin as well as any or all of the underlying structures of fat, muscles, bones, and nerves. Burns may look brown or charred (black), with the tissue underneath sometimes appearing white. They can be either extremely painful or relatively painless if the burn destroys nerve endings in the skin. Full-thickness burns are often surrounded by painful partial-thickness burns. They can be life-threatening, and are highly prone to infection.
- Identify whether the burn is potentially life-threatening, disfiguring or disabling. **(Critical)**.
- Determine if the burn
  - Causes breathing difficulty or if there are signs of burns around the mouth and nose.
  - Covers more than one body part.
  - Is to the head, neck, hands, feet or genitals.
  - Is partial-thickness or full-thickness to a child or an elderly person.
  - Is a result of chemicals, explosion or electricity.
- For adults, identify the extent of the burn (percentage of body affected) by using the Rule of Nines:
  - Head = 9% — R. arm = 9%
  - Front torso = 18% —Groin = 1%
  - Back torso = 18% —L. leg = 18%
  - L. arm = 9% — R. leg = 18%
  - Add the percentage of involved body areas to determine the extent of the burn. (The extent can also be estimated by counting an area the size of the patient's hand as 1%.)

Points of Emphasis:

- Management is dependent upon the type of burn.
- Electrical burns may cause both entrance and exit wounds. Even though the wounds may look superficial, the tissues beneath may be severely damaged.
- In general, people under age 5 and over age 50 have thinner skin and burn more severely.
- People with chronic medical problems tend to have more severe burns, especially if they are not well-nourished, have heart or kidney problems, or are exposed to the burn source for a prolonged period because they are unable to escape.

Management:

Thermal Burns

- Remove and extinguish the source of heat if it is still in contact with the patient.
- Cool the burned area with large amounts of cool water. Immerse the areas if possible.
- If the burn is caused by hot tar, cool the area with water but do not attempt to remove the tar.
- Continually monitor breathing if a burned airway or burned lungs are suspected. Air passages may swell, impairing or stopping breathing.
- Do not use ice or ice water on other than small superficial burns.
- When burn is cool, remove any remaining clothing from the area. Do not try to remove clothing that is sticking to skin.
- Cover the burned area with dry sterile dressings to exclude air.
- For small burns with open blisters that do not require medical attention, care for area as an open wound, washing with soap and water. Apply antibiotic ointment and bandage.
- For full-thickness and large partial-thickness burns, lay the patient down unless contraindicated and elevate the burned area above the level of the heart, if possible.
- Maintain body temperature. Burn patients have a tendency to become chilled.
- Treat for shock.

Refer to Physician:

- **STAT** all patients with suspected 3rd degree burns.
- **STAT** all burns around the nose and mouth.
- **STAT** all burns causing other life-threatening conditions.
    - All patients with 2nd degree burns >5% of body area or to face, hands or genitals.
    - All patients with infected burns.

Chemical Burns

- Flush the burn continuously with large amounts of cool, running water until medical help arrives.
- Remove contaminated clothing if possible.
- If an eye is burned by a chemical, flush the affected eye from the nose outward until medical help arrives or for at least 20 minutes.
- Refer to physician all chemical burns.

Electrical Burns

- Look for two burn sites (entry and exit).
- Cover the burn injuries with dry sterile dressings.
- **Do not** cool the burns with water.
- If the injury was caused by lightning, look and care for life-threatening conditions such as respiratory or cardiac arrest.
- Refer to Physician STAT all electrical burns.

Radiation Burns

- For sunburn, cool the burn and protect the area from further damage by keeping it out of the sun. Treat the patient with an analgesic such as ibuprofen or Acetaminophen.
- Refer to Physician **STAT** any burns causing other life-threatening conditions.
  - Severe sunburn with symptoms of general illness.
  - Severe sunburn with 2nd degree burns.

CHEST PAIN

(Also see: "Indigestion" and "Shortness of Breath")

History: Determine ---

- Whether there is a history of hypertension, diabetes, smoking, or previous heart attack.
- Whether there is a family history of cardiac disease, heart attacks, or strokes.
- Whether the patient has a history of asthma, COPD, or emphysema.
- When the symptoms began.
- Whether the pain is pressing, squeezing, or weight-like.
- Whether the pain occurs after exercise or a meal.
- Whether the pain radiates.
- Whether there is an associated cough or fever.
- Whether the patient is nauseous and or lightheaded.

Assessment:

- Assess for shortness of breath, vomiting, and sweating.
- Check vital signs.

Points of Emphasis:

- Myocardial pain may be felt in the abdomen, neck, lower jaw, and either shoulder.
- Symptoms such as nausea, vomiting, sweating, shortness of breath, or lightheadedness may indicate a heart attack.
- Persons with a history of hypertension, diabetes, smoking, previous heart attacks, or a family history of heart disease are at increased risk of having a heart attack.

Management:

- Put the patient at rest in the most comfortable position.

Refer to Physician:

- **STAT** all patients with chest pain with shortness of breath, sweating or nausea and patients whose chest pain lasts more than 5 to 10 minutes.

COLDS

(Viral infections, upper respiratory infections)

History:
Determine if the patient has ---

- Rhinitis (runny nose), non-productive cough or watery eyes.
- A fever, shortness of breath, vomiting or chest pain.

Assessment:

- Check vital signs.
- Listen for abnormal lung sounds, such as rales and wheezes, if possible.

Points of Emphasis:

- There is no cure for colds, only treatment for symptoms.
- There is no need to see a physician if there is no fever or shortness of breath.

Management:

- Treat symptoms using over-the-counter medications ---
  - Afrin nasal spray as directed.
  - Decongestants if needed.
  - Acetaminophen or ibuprofen for discomfort.
  - Throat lozenges or spray if needed.

Refer to Physician:

- Cases with a fever for more than 3-4 days, shortness of breath or coughing up blood or dark sputum.

COUGHING

History: Determine whether patient has ---

- Been exposed to communicable disease; e.g., tuberculosis.
- Chest pain and its severity.
- A history of being immunocompromised.
- Hemoptysis.
- A fever.
- A sore throat or other symptoms of an upper respiratory infection.
- A history of smoking.
- Shortness of breath.
- Determine when coughing occurs, how long the coughing spell lasts, and how long patient has had this type of cough.

Assessment:

- Note the character of the cough: dry, hacking, loud, wheezy, painful, or productive.
- Note the character and quantity of expectorated material, especially blood.
- Note the quality of respirations. Auscultate lungs for abnormal sounds such as wheezing, if possible.
- Note any difficulty in breathing: substernal or subclavicular retractions, nasal flaring or gasping.
- Assess vital signs, especially temperature and rate and regularity of respirations.

Points of Emphasis:

- Shortness of breath or tachypnea implies serious compromise. (See Vital Signs chart for rates.)
- Inability to speak indicates that larynx is obstructed.
- If a child is less than 5 years old, coughing can be indicative of an aspirated foreign body.
- A cough of >2 weeks duration, hemoptysis, weight loss, and night sweats are all signs of TB.

Management:

- If there is choking and airway obstruction, immediately begin Heimlich maneuver or other measures appropriate to the age of the patient.
- Administer cough syrup or cough drops as directed.

Note: **Any immunocompromised patient with a cough of >3 days duration must be in respiratory isolation until the possibility of tuberculosis is completely investigated.**

Refer to Physician:

- **STAT** if there is shortness of breath, breathing is labored, or respiratory rate is >24 in adults.
- If coughing is persistent, temperature is elevated, and the patient is unable to tolerate fluids.
- If the patient has history of communicable disease, exposure to communicable disease, immuno-compromised state, or trauma.
- If hemoptysis is present.
- If wheezing is present.

DIABETIC EMERGENCY

History: Determine ---

- Whether there is a history of diabetes. If so, determine the type and amount of diabetes medication being taken and the time of the last dose.
- The time and content of the last meal, or whether there has been a change in diet.
- Whether the patient has had a recent injury, infection, surgery, or emotional stress.
- Whether there are associated symptoms such as excessive drinking and/or urinary output, nausea, and vomiting.

Assessment:

- Check vital signs.
- Assess level of consciousness.

Points of Emphasis:

- Diabetes Mellitus is the condition in which the body does not produce enough insulin.
- Anyone with diabetes must carefully monitor his or her diet and exercise. Insulin dependent diabetics must also regulate their use of insulin.
- There are two types of diabetic emergencies: hyperglycemia (high blood sugar), which may read to diabetic ketoacidosis (DKA), and hypoglycemia (low blood sugar or insulin reaction).
    - Hyperglycemia usually starts with excess thirst and urine output which may, over the course of hours to days, lead to severe dehydration, changes in the level of consciousness, and shock.
    - Hypoglycemia usually has an onset of 1-2 minutes especially in a person taking insulin who did not eat. The patient may develop hunger, tremors, and sweating, and then become confused and unconscious within minutes.
- Patients with DKA are extremely dry. Their eyes and cheeks may be sunken and their mouths dry. They may have a fruity odor to their breath.
- It is not important to initially differentiate between hypoglycemia and hyperglycemia.
- ***When in doubt, treat for hypoglycemia.***

Management:

- Look for a medical alert tag.
- If the patient is fully conscious give sugar (candy, fruit juice, non-diet soft drinks or table sugar). Once the symptoms subside, the patient must then eat a complete meal or the symptoms may return. If the patient does not feel better within 5 minutes of taking sugar, call EMS.
- If the patient is not fully conscious ---
  - Do not give anything by mouth.
  - Refer to physician STAT.
  - Monitor the ABCs.
  - Maintain normal body temperature.
- If DKA is suspected and the patient is awake, encourage water intake.

Refer to Physician **STAT:**

- If patient is unconscious, confused or does not feel better within 5 minutes of taking sugar.
- All cases should be seen for a blood sugar check.

DIARRHEA

Adults

History: Determine ---

- The time of onset of symptoms.
- The frequency and amount of diarrhea and the presence of bloody or black stools.
- Whether there are other symptoms such as abdominal pain, cramping, fever, chills, lightheadedness, or vomiting.
- The patient's intake and retention of fluids and solids.
- The amount of urination.
- Whether the patient has been exposed to others with diarrhea or communicable disease.
- Whether there has been a change in source of water supply, eating habits, or contamination of food supplies.
- Any history of colitis, irritable bowel syndrome, Crohn's disease, or other bowel syndromes.

Assessment:

- Observe for signs of dehydration: tachycardia, dry skin, poor skin turgor, dry mucous membranes, decreased urinary output, sunken eyes, and change in neurological status.
- Inspect abdomen for tenderness or distension.
- Observe amount of discomfort.

Points of Emphasis:

- Prevent dehydration. Encourage 8-10 glasses of liquid a day if the patient is not vomiting.
- Fluid loss secondary to diarrhea rarely is life-threatening.
- Diarrhea can result from bacterial infections, viruses, medications, nutritional changes, metabolic stimuli, and stress.
- The onset of food poisoning may be sudden, with severe nausea, vomiting, cramps, diarrhea, and prostration.
- Frequent hand washing is very important.
- Public health should be notified if there are multiple cases and a common source.

Management:

- Increase fluid intake, eliminating drinks with caffeine. Encourage 8-10 glasses of liquid a day if the patient is not vomiting.
- Observe for signs of dehydration.
- No solid food should be eaten for 8 hours.
- Avoid fatty, fried foods and milk products for 2-3 days.
- Give over-the-counter anti-diarrhea medication if there are no contraindications, or medication of physician's choice.

Refer to Physician:

- **STAT** if stools are tarry, bloody, dark red or black.
- **STAT** if the patient is hypotensive or is severely dehydrated.
- If the symptoms do not subside within 24 hours.
- If there is evidence of dehydration.
- If the patient has vomiting, fever or abdominal tenderness

Infants and Children

History: Determine the severity ---

- **Mild** - a few loose stools every day for a few days without evidence of illness.
- **Moderate** - several loose or watery stools a day, low-grade fever (less than 101 degrees rectal), vomiting, and irritable behavior.
- **Severe** - explosive, frequent watery stools, high fever (more than 101 degrees rectal), and listlessness.

Assessment:

- Be alert for the following signs of dehydration and acid base imbalance:
  - **Mild** - thirst, dry mucous membranes, decreased urinary output, and slight weight loss up to 5 percent).
  - **Moderate to Severe** - poor feeding, lethargic, irritable, poor skin turgor, depressed fontanelle, hollow eyes, change in vital signs, and weight loss exceeding 5 percent.
- Note changes in vital signs.
- Observe or obtain the number and characteristics (consistency, amount, color, and odor) of stools.

Points of Emphasis:

- Infectious diarrhea is transmitted by carriers. Prevention is extremely important in areas where newborns or infants are cared for. Transmission can be through contaminated food, formula, and water. Frequent hand washing is essential.
- Causes can also include malnutrition, overfeeding, change in formula, eating of new foods or antibiotics.
- Because dehydration and electrolyte imbalance occur rapidly in children, diarrhea can be life-threatening. Diligently monitor all episodes of diarrhea and replace fluids immediately.
- Most diarrheas, whether viral or bacterial, are considered infectious and may be highly contagious.
- Public health should be notified if there are multiple cases and a common source.

Management:

- Maintain good hand-washing techniques.
- Observe and monitor fluid loss via stools and vomiting.
- Recommend the child be weighed every 24 hours during diarrhea (same time, same scale).
- Withhold solid foods for 12-24 hours. Replace fluid loss with clear fluids administered in frequent small amounts.
- When there is improvement and diarrhea does not recur, progress to soft solid foods and then regular diet. In 3-5 days, gradually add dairy products.
- Consider precautionary isolation.
- Recommend bed rest and careful handling of diapers, stool, food, and formula.

Refer to Physician:

- **STAT** when symptoms of dehydration or weight loss in excess of 5 percent are evident.
- When diarrhea is associated with poor feeding, vomiting, fever or abdominal pain.
- Pus or blood appears in stool or number of liquid stools increase.

EARACHE

History: Determine ---

- The onset, character, and duration of discomfort.
- Whether the patient has ---
  - Recently been swimming.
  - A history of perforated ear drum, ear drainage, or chronic ear condition, and the treatment that was used.
  - Had trauma to the ear or foreign object intrusion.
  - Complaints of vertigo or the room spinning.
  - A change in hearing.

Assessment:

- Check temperature.
- Assess for drainage from the ear.

Points of Emphasis:

- Ear pain with fever can be indicative of otitis media.
- Upper respiratory infections can lead to middle ear complications.

Management:

- To relieve discomfort, apply heat or cold while patient is lying on affected side.
- Give over-the-counter analgesic medication according to package directions.
- Clean drainage from external ear.
- Treat upper respiratory infection if present.

Refer to Physician:

- If there is evidence of foreign object intrusion.
- If evidence of drainage is present.
- If fever is present.
- If pain is severe or persists.
- If a change in hearing or vertigo is present.

EYE INFLAMMATION

(Also see Eye Injury)

History: Determine ---

- The onset and progression of symptoms.
- The amount and characteristics of drainage.
- If there is a previous history of allergies, trauma, or a foreign body in eye.
- If there has been a change in vision or vision loss.
- The presence of photophobia (light makes the eye hurt).

Assessment:

- Inspect the eye for crusting, irritation, redness, swelling, tears, or a change in pupil size.
- Assess visual acuity. Test each eye separately as well as together. The patient may not be aware of unilateral vision loss due to compensation.
- Shine a light in the eye to test for photophobia.

Points of Emphasis:

- Inflammation may be caused by glaucoma, allergy, bacterial or viral infection, or physical or chemical trauma.
- Precautions should be taken to the prevent spread of infection to the other eye or to other persons. Wash hands before and after eye care and have the patient wash hands hourly.
- Eye infections may be highly contagious, especially among children. Persons with eye infections should be isolated.

Management:

- Treat suspected corneal abrasions. Patch the affected eye and refer patient to physician immediately.
- For infections, advise patient to use a separate face cloth and towel and maintain proper hand washing to avoid spreading the infection to others.
- Advise the patient not to rub eyes.
- If the patient wears contact lenses and is unable to remove them, refer him/her to an optometrist, ophthalmologist or emergency physician.

Refer to Physician:

- **STAT** for severe pain, photophobia or vision change.
- All suspected eye infections.

EYE INJURY/FOREIGN BODY IN EYE

(Also see: "Eye Inflammation")

History: Determine -

- Whether the injury involved the eyeball, the bone, or the soft tissue surrounding the eye.
- The type of injury: blunt object impact, penetration of the eyeball, foreign body presence, or chemical splash.
- How long it has been since the injury.
- Whether there is a burning sensation in the eye.
- Whether there is pain and a headache.

Assessment: Check for - -

- Visual acuity (compare the two eyes).
- Redness of conjunctiva.
- Sensitivity to light (photophobia) and overproduction of tears.
- Bleeding.

Points of Emphasis:

- Care for open or closed wounds around the eye as for any other soft tissue injury.
- Injuries that penetrate the eyeball or cause visual changes are serious and can cause blindness.
- Never put direct pressure on the injured eyeball.
- Always wash your hands thoroughly before and after examining the eye.

Management:

- Foreign bodies must be removed from eyes promptly. ***If imbedded, refer to a physician.***
- When providing care for an eye in which an object has been impaled:
  - Place the patient on his or her back.
  - ***Do not*** attempt to remove any object impaled in the eye.
  - ***Do not*** put any pressure on the eyeball.
  - Place a sterile dressing around the object.
  - Stabilize the impaled object in place as much as possible. Place a paper cup to support the object.
  - Apply a bandage.

- For foreign bodies in the eye such as dirt, sand, slivers of wood or metal:
  - Have the patient blink several times to remove the foreign body, or gently flush with water.
  - If the object remains, refer to physician.
- For chemicals in the eye:
  - Wash the eye by flushing from the nose outward with copious amounts of water.
  - Flush continuously for at least 20 minutes or until the patient is seen by an ophthalmologist or emergency physician STAT.
- For suspected corneal abrasions, patch the affected eye and refer the patient to a physician immediately.

Refer to Physician:

- **STAT** if the object is impaled, there is an embedded foreign body, the eye is punctured or if vision is impaired.
- **STAT** if there is a chemical in the eye.
- If a corneal abrasion is suspected.
- If foreign body cannot be removed by blinking and/or flushing.

FAINTING

History: Determine ---

- Whether the patient was injured in the fall.
- Whether the patient has had sufficient food, water, and rest.
- What the patient was doing before the fainting episode.
- The patient's history of fainting, age, and, if female, the possibility of pregnancy.
- Whether the patient has had a recent head injury.
- Whether the patient has nausea or is feeling lightheaded or dizzy.

Assessment:

- Check vital signs.
- Assess for signs of shock.
- Check for injury due to the fall.

Points of Emphasis:

- If the patient feels weak and/or lightheaded, have him or her lie down with feet elevated.
- Fainting can be triggered by an emotional shock, pain, heart disease, dehydration, shock, overexertion, and sudden changes in body position, especially in elderly and pregnant persons.

Management:

- Keep the patient lying down and loosen restrictive clothing.
- Elevate the legs 8 to 12 inches, if possible.
- Turn the patient on his or her side in case of vomiting.
- Do not give anything to eat or drink.

Refer to Physician:

- **STAT** if the patient is injured during the fall and a head or spinal injury is suspected.
- **STAT** if other symptoms indicate that this fainting spell may be linked to a more serious condition.
- **STAT** if the patient has abnormal vital signs.
- **STAT** if the patient is over 40 years old to rule out a cardiac arrhythmia.

FEVER

Adults

History: Determine ---

- If there has been recent exposure to a communicable disease or to heat.
- When the fever began and how high it is.
- Whether there is a headache, photophobia, or stiff neck.
- The presence of any other symptoms, e.g. chills, fatigue, pain, cough, headache.
- Whether the patient has any immunodeficiency disorder or treatment, infection, recent surgery, trauma or has recently traveled.

Assessment:

- Assess specific symptoms based on the findings of the history taken.
- Assess orientation and level of consciousness.
- Check vital signs.
- Inspect throat for redness and exudate.
- Auscultate lungs for abnormal sounds, if possible.

Points of Emphasis:

- The temperature of the patient does not necessarily correspond to the severity of the illness.
- Meningitis and septic shock may be rapidly fatal.

Management:

- Observe for symptoms of other complications.
- Encourage increased fluids (8-10 glasses of water/day) and rest.
- Give over-the-counter antipyretic medication (such as ibuprofen and/or acetaminophen) according to package directions.

Refer to Physician:

- **STAT** if the patient has photophobia, a stiff neck, or a severe headache unrelieved by medication.
- **STAT** if the patient has a change in behavior (confused, hallucinating, or combative), or has signs of shock.
- If a low-grade fever does not decline within 3-4 days.
- If the fever is accompanied by a rash, a cough, shortness of breath, or by pain in back, chest, or abdomen.

- If the fever is over 103 degrees and persists.
- If there is a history of a tick bite.

Infants and Children

History: Determine ---

- Whether there has been exposure to a communicable disease.
- Whether there has been exposure to heat, or the child has been overdressed or excessively bundled.
- Whether there has been a change in eating habits, exercise, or recreation.
- Whether there has been vomiting and/or diarrhea.
- Whether the child has received recent immunizations.
- The location of pain or discomfort.

Assessment:

- Check the temperature, pulse, respiratory rate, and quality of respirations.
- Note the general appearance and level of activity.
- Inspect the skin for rashes, sores, flushed appearance, dryness, or sweating.
- Inspect the eyes, ears, nose, and throat for redness and drainage.
- Note the level of consciousness.
- Check for photophobia.
- Note stiffness of the neck.
- Assess for signs and symptoms of dehydration: decreased urine output, dry skin, dry mucous membranes, poor skin turgor, and a change in behavior or oral intake.

Points of Emphasis:

- Temperature elevation does not correspond to the severity of an illness.
- The abrupt onset of a high temperature (104 degrees or above) can cause convulsions.
- Temperatures vary widely in children and are influenced by activity and time of day.
- Prevent dehydration. Encourage fluids by mouth.
- Neck pain or stiffness, photophobia, change in behavior such as lethargy, irritability or a high-pitched cry, may indicate meningitis.

Management:

- If currently febrile, remove excess clothes, advise bed rest, and give clear fluids by mouth.
- Treat any fever by medicating according to physician's directions or with acetaminophen or ibuprofen, following package directions. Medicate on regular schedule. Do not wait for temperature to rise again.

- Monitor vital signs regularly. (Heart rate and respiration increase with fever.)
- Instruct the parent that the child's temperature should be taken every 4-6 hours until it returns to normal. Also instruct the parent in temperature control measures. If the family is housed in a shelter, ask the parent to report any additional symptoms immediately; otherwise, have the parent return to SMNS nurses every 4-6 hours to have the child's temperature taken again.
- If there is no response to the medication ---
  - Undress the child in a cool (not cold), well-ventilated area.
  - Sponge entire body with lukewarm water (no alcohol) using light, brisk strokes for 15-20 minutes, and dry vigorously.
  - Recheck the temperature in 20-30 minutes, then repeat sponging as needed.
  - Encourage the parents to participate in this process.
  - Repeat medication according to package directions as needed for 24 hours. Do not give more than the recommend dosage.

Refer to Physician:

- **STAT** If the child is irritable or lethargic, is not eating well or appears ill and toxic.
- **STAT** if petechial rashes or purpura are present.
- If the temperature >104 degrees.
- If the infant is less than 6 months old.
- If the fever has lasted longer than 2-3 days and has no apparent cause.

FROSTBITE

History: Determine ---

- How long the patient was in extreme cold.
- Whether there is a lack of feeling or numbness in the affected area.
- Whether there is pain in the affected area.

Assessment: Look for ---

- Skin that is cold to the touch.
- Skin that appears waxy, flushed, white, yellow, or blue.
- Possible blisters and stiffness.

Points of Emphasis:

- Frostbite may not be noticed immediately.
- Pain may occur after the area is warmed.

Management:

- Warm the area gently by soaking the affected part in water no warmer than 100 degrees F to 105 degrees F. **Do not** let the affected body part touch the bottom or sides of the container.
- As soon as the rewarming begins, arrange for transportation to the hospital. Do not stop the rewarming during transportation.
- Keep the frostbitten part in the water until the part appears red and feels warm.
- Bandage the area with a dry sterile dressing.
- If fingers or toes are frostbitten, place cotton or gauze between them.
- Avoid breaking any blisters.
- **Do not** massage the affected area.

Refer to Physician:

- All cases as soon as possible.

HEADACHE

History: Determine ---

- The presence of visual changes, neck stiffness, photophobia, or behavioral changes.
- Whether there has been an injury.
- The time of onset, duration, severity, and frequency of the headache.
- Whether the patient has a history of sinusitis, migraine or tension headaches, eye strain, tension or stress.
- Whether there has been a fever associated with the headache.
- Whether there is a history of high blood pressure.
- Whether the patient has a history of similar symptoms and the treatment given.
- The loss of, or lack of use of, eyeglasses.
- Whether there is nasal or sinus congestion.
- The type and location of pain.

Assessment:

- Check vital signs.
- Check for photophobia by shining a light in the eye.
- Inspect the head and face for evidence of trauma or tenderness over the sinus area or in the temporal area.
- Inspect the neck for stiffness.

Points of Emphasis:

- There are many causes of headaches including infectious diseases, heat exhaustion, elevated blood pressure, tension, migraines.
- Migraine headaches may be accompanied by visual changes, nausea or vomiting, and the pain may be unilateral.
- The majority of headaches are benign and can be treated with over-the-counter medication.

Management:

- Check to see if the patient is already taking an analgesic.
- Advise rest in a darkened room to allow the patient to relax.
- Apply hot or cold compresses.
- Give aspirin, acetaminophen or ibuprofen for adults and ibuprofen or acetaminophen for children according to recommended dosage for age or weight.
- Encourage fluids by mouth.

Refer to Physician:

- **STAT** if the patient has stiff neck, photophobia, visual changes or behavioral changes.
- If the pain is severe and symptoms persist.
- Any atypical headache not responsive to over-the-counter medications.

HEAD INJURY

History: Determine ---

- The time the injury occurred.
- The type of injury.
- Whether there was a loss of consciousness.
- Whether the patient has experienced nausea or a headache.

Assess the following:

- Changes in the level of consciousness and amount of blood loss.
- Whether there is paralysis, convulsions, speech or vision disturbance.
- Pupils: size and reaction to light.
- Confusion or amnesia.
- Associated neck injury or tenderness.
- Bleeding from the nose, ears, mouth, or head.
- Vomiting.
- Tingling or a loss of sensation in extremities.
- Loss of balance or an abnormal gait.
- Bruising, especially around the eyes and behind the ears.

Points of Emphasis:

- Indicators of serious injury include loss of consciousness, change in behavior, or neurological signs or symptoms.
- Time is important. A head injury could be life-threatening if there is an internal injury or bleeding.
- Regard every patient with a head injury as having a potential spinal cord injury.
- Head injuries without a history of loss of consciousness are rarely serious.

Management:

- Begin basic life support activities immediately if the patient is unconscious, but do not move the head or neck.
- Minimize movement and immobilize the neck.
- Control bleeding.
- Do not apply direct pressure if you feel a depression, a spongy area, or bone fragments.
- Maintain an open airway.
- Maintain normal body temperature.

- Give nothing by mouth.
- Monitor vital signs.
- If the injury is not major, observe the patient for 24-48 hours.

Refer to Physician:

- **STAT** if there is a history of loss of consciousness, behavior changes or neurological symptoms or findings.

HEAT-RELATED ILLNESSES

History: Determine ---

- How long the patient was exposed to high temperatures.
- The type and duration of physical activity in which the patient was engaged.
- The amount and type of fluid intake.
- Whether there are any pre-existing chronic health conditions.
- Whether the patient lost consciousness or had a change in behavior such as confusion.
- Whether there is nausea, dizziness, headache, or exhaustion.
- Whether the patient has muscle cramps.
- The type and location of assignment if the patient is a disaster worker.

Assessment:

- Check vital signs, including temperature.
- Observe skin moistness and color.
- Determine orientation to person/place/day.

Points of Emphasis:

- There is frequently a lack of water consumption during post-disaster cleanup.
- **Heat cramps** are characterized by severe muscle pain and contractions, most often in the legs and abdomen. Body temperature is usually normal and the skin is moist. Heat cramps may occur in the early stages of a more severe heat-related emergency.
- **Heat exhaustion** is the most common form of heat-related illness. A person with heat exhaustion should generally be just tired and mildly dehydrated. Body temperature should be normal or below normal. Patient should usually have cool, moist, pale skin, although skin may be red immediately after exertion. Patient may also complain of headache, nausea, dizziness, and exhaustion.
- **Heat stroke** develops when the body is overwhelmed by heat and stops sweating. The signs of heat stroke include ---
  - High body temperature (often up to 106 degrees).
  - Red, hot, dry skin.
  - Progressive loss of consciousness.
  - Rapid, weak pulse.
  - Rapid, shallow breathing.
- Heat stroke is a life-threatening illness. Without prompt care the victim could die.

Management:

- Remove from the hot environment and place in an air-conditioned room, if possible.
- Loosen clothing.
- Have the patient rest in a comfortable position.
- Monitor vital signsH
- **Heat cramps ---**
  - Have the patient drink cool water or a commercial sports drink.
  - Lightly stretch the cramped muscle and gently massage the area.
  - **Do not** give salt tablets or salt water.
  - The patient usually may resume activity when the cramps stop if there are no signs or symptoms of illness.
- **Heat exhaustion ---**
  - Cool the patient in an air-conditioned room or use fans.
  - Rehydrate as rapidly as tolerated, but at least 16-32 ounces of water per hour.
  - Watch for changes in the patient's condition. If fainting occurs, refer to medical care for IV fluid replacement.
  - **Do not** allow the patient to resume normal activities the same day.
- **Heat stroke ---**
  - Remove tight or heavy clothing.
  - Sponge with cool water or apply cool packs continually until body temperature has lowered sufficiently. Use fans and air conditioning while sponging.
  - **Do not** use isopropyl alcohol or stimulants.
  - Encourage cool, clear fluids if conscious.

Refer to Physician:

- **STAT** by ambulance all cases of heat stroke.
- **STAT** if there is a loss of consciousness or behavior change.
- If vital signs are abnormal or if temperature is greater than 103 degrees.

HYPERTENSION

History: Determine ---

- Whether there are associated headaches, chest pain, shortness of breath, or visual problems.
- Whether there is a past medical history of hypertension.
- Whether patient is taking medication for hypertension.
- If the patient is taking an anti-hypertensive medication, when it was last taken and the dosage.

Assessment:

- Check blood pressure on both arms.
- Assess level of consciousness.
- Check for evidence of pulmonary edema (rales in lungs, shortness of breath, tachypnea).
- Check for evidence of stroke (unilateral weakness).
- Repeat blood pressure in 15 minutes.

Points of Emphasis:

- Hypertension = diastolic > 90; systolic > 140.
- Very severe hypertension can be a medical emergency. Signs can include:
  - Severe headache, photophobia, vision change, chest pain, shortness of breath, evidence of stroke, or changes in behavior (confusion).
  - Generally the diastolic blood pressure should be >120 and the systolic >200.
- Asymptomatic, chronic hypertension with a diastolic of <120 mmHg is not an emergency but should be seen by a physician if persistent over 4-6 hours.

Management:

- Reassure the patient and have him or her relax and rest.
- The patient should be permitted to take his/her regular medication if due.
- Repeat blood pressure in 15 minutes.
- For asymptomatic hypertension, have the patient stop work, rest, and take regular medicine. Recheck the patient's blood pressure 1-2 times/day.

Refer to Physician:

- **STAT** when high blood pressure is associated with severe headaches, chest pain, visual problems, low level of consciousness, or with evidence of pulmonary edema or stroke.

- Within 1 day when blood pressure is diastolic >110, or systolic >180 (repeated) and patient is not symptomatic.
- Within 1 week when persistent diastolic pressure is >100 or systolic pressure >160 for longer than 4 to 6 hours.
- When the patient has asymptomatic mild hypertension (diastolic between 90 and 100 or systolic between 140 and 160) after repeated checks; refer the patient to his or her private physician. (If the patient is SMNS staff, he or she should see private physician when returning home from disaster relief assignment.)

HYPERVENTILATION

(Also see Shortness of Breath)

History: Determine ---

- The presence of chest pain, palpitations, diaphoresis, or nausea.
- Whether there have been episodes of acute anxiety or emotional tension.
- The time of onset and severity of symptoms.
- The type, amount, and time any drugs were ingested.
- Whether there is any numbness or tingling of hands or around the mouth.

Assessment:

- Observe for symptoms of fainting or impaired consciousness.
- Listen to lungs for rales or wheezes, if possible.
- Check vital signs.

Points of Emphasis:

- Acute anxiety or emotional tension may cause hyperventilation; for example, stress caused by death or injury to a member of the patient's family or significant others.

Management:

- Monitor vital signs.
- Have person breathe into paper bag or cupped hands to replace the carbon dioxide (CO2) "blown off" during hyperventilation.
- Provide reassurance and privacy.
- If appropriate, recommend treatment for underlying emotional disturbance and refer to Disaster Mental Health Services.

Refer to Physician:

- **STAT** if associated with chest pain, wheezes, or rales.
- If symptoms persist for more than 15 minutes with the above treatment.

IMMUNOCOMPROMIZED PATIENTS

History: Determine ---

- Whether patient has been a transplant recipient, receives steroids, chemotherapy or radiation treatment or has AIDS, and the patient's current medications and treatment needs.
- Whether there have been any chronic or recent serious illnesses or injuries.

Assessment:

- Assess general status, nutritional needs, and level of care and support needed.
- Observe for any indication of active disease including upper respiratory infection, weakness, lethargy, fever, chills, rash.
- Determine if there are complaints of an injury.

Points of Emphasis:

- Patients are at high risk for infection due to compromised immune system and should be protected from others who may have been exposed to communicable disease or those who have active symptoms of infectious disease.
- Use universal blood and body fluid precautions.
- HIV is known to be transmitted primarily by exposure to infected blood, semen, vaginal secretions, or (rarely) breast milk.
- Provide a comfortable, caring atmosphere for the patient and family.
- Arrange for proper disposal of wastes and supplies.

Management:

- Protect the patient from unnecessary exposure to infection.
- If on medication, verify that the patient has a sufficient supply. If not, arrange for replacement.
- Arrange for housing away from the general shelter population.
- Monitor any wounds or surgical incisions closely for infection.
- Follow the patient's personal physician's instructions if patient so requests.
- Maintain nutrition.
- Have the patient contact his or her physician as soon as possible for further instructions for care.

Note: Any immunocompromized patient with a cough of >3 days' duration must be in respiratory isolation until the possibility of tuberculosis is completely investigated.

Refer to Physician:

- **STAT** if there are unstable vital signs or unusual behavior.
- If signs of infection are present.
- If symptoms of acute illness are present

INDIGESTION

History: Determine ---

- How long the patient has had the symptoms.
- The patient's recent eating habits and whether there have been any changes in diet.
- Whether the patient has had this problem before and how it was dealt with in the past.
- Whether there is any nausea, vomiting or constipation.
- What medications are being taken and any recent changes in type or dosage.
- Whether there is a history of ulcers or heart conditions.
- Whether the symptoms occur after exercise.
- Whether there is any shortness of breath or sweating.

Assessment:

- Check vital signs.
- Perform an abdominal survey and check for tenderness.
- Check general appearance.

Points of Emphasis:

- Indigestion can be symptomatic of a cardiac condition.
- Shortness of breath, nausea, and sweating can indicate myocardial infarction.

Management:

- Advise a bland diet if vital signs are stable and there are no other symptoms. Also advise to increase water consumption and avoid alcohol, coffee, and other caffeinated drinks.
- Give over-the-counter antacid according to package directions. Do not give to children.

Refer to Physician:

- **STAT** if symptoms are indicative of a myocardial infarction.
- **STAT** if there is a new onset of pain or if the pain is not typical.
- If severe symptoms last for 2 hours.
- If other symptoms do not subside in 12 hours after treatment.

MUSCULOSKELETAL INJURIES

(Fractures, Dislocations, Sprains, Strains, and Bruises)

History:

- Obtain information about how the injury occurred.
- Ask about any other injuries.

Assessment:

- Check vital signs.
- Observe the area for deformity, swelling, and discoloration of skin.
- Assess the patient's ability to use the affected part normally.
- Assess pain and tenderness in response to gentle pressure at the site.
- If the injury is an open (compound) fracture, inspect the wound and determine if bleeding is continuing.
- Observe the patient's general status and check for other possible injuries.
- Check for distal pulses and capillary refill (should be less than 2 seconds).

Points of Emphasis:

- It can be difficult to distinguish between a fracture and a sprain. Accurate diagnosis can only be made by x-ray.
- Always treat a suspected fracture as a fracture.
- Any fracture involving a large bone, such as the femur, can cause shock because bones and soft tissue may bleed heavily.

Management:

- **Do not** attempt to replace bone fragments or set (reduce) the fracture.
- Never attempt to straighten a deformity that involves a joint.
- If spine and/or vertebral involvement is suspected, prevent head from moving.
- **Do not** move patient without three (preferably four) people.
- **If the injury is an open fracture**, control the bleeding. Do not attempt to explore or wash the wound. Cover the wound with a sterile compress or pad. Because surgical repair is necessary, give nothing by mouth.
- Treat for shock as needed.
- Have the patient rest in a comfortable position.
- Apply ice to the injury to control internal bleeding, swelling, and reduce pain 20 minutes on and 20 minutes off.

- Apply a pillow or splint for support. Wrap a suspected sprain with an ace bandage. Avoid any motion or use that causes pain.
- Monitor the pulses close to the fracture after splinting and check circulation below the splint to be sure the splint is not too tight. Loosen the splint immediately if the pulses are reduced or the affected part is cold or bluish in color.
- Apply cold compresses to bruises.
- If possible, elevate the affected part slightly without disturbing it.
- Continue to monitor vital signs.
- Give analgesics, such as ibuprofen or acetaminophen, for pain unless you suspect a fracture.

Refer to Physician:

- **STAT** if there is a loss of distal pulse or capillary refill is longer than 2 seconds.
- All suspected fractures.
- All obvious deformities.
- If the patient is unable to use the affected part.
- If the pain does not improve after 24-36 hours.
- If the pain is unrelieved by an analgesic.
- Immediately summon more advanced medical personnel if ---
  - The injury involves severe bleeding.
  - The injury involves the head, neck or back.

NAUSEA AND VOMITING

History: Determine ---

- When the symptoms began.
- Whether the patient has diarrhea, constipation, abdominal pain, headache, stiff neck, dizziness, and/or lightheadedness.
- Whether there are symptoms of shortness of breath, sweating, and/or chest pain.
- Whether there have been changes in bowel movements, e.g. bloody or tarry stools.
- Whether there is a history of GI problems.

Assessment:

- Check vital signs.
- Observe for signs of dehydration (e.g. tachycardia, dry skin, poor skin turgor, dry mucous membranes, decreased urinary output, sunken eyes, and changes in neurological status).
- Check for abdominal tenderness.

Points of Emphasis:

- The onset of food poisoning may be sudden, with severe nausea, vomiting, cramps, diarrhea, and prostration.
- Public health should be notified if there are multiple cases.

Management:

- Nothing should be given by mouth until vomiting stops, then give clear liquids in frequent mall amounts.
- The patient should avoid fatty and fried foods.

Refer to Physician:

- **STAT** if chest pain and/or shortness of breath are present.
- **STAT** if emesis is blood-tinged or coffee-ground, if stools are bloody or black.
- If signs of dehydration are present .
- If vomiting or heaving is prolonged.
- If the patient is unable to keep down any liquids.
- If nausea and vomiting continue for two days.
- If symptoms such as fever, headache, dizziness, lightheadedness, or stiff neck are present.
- If abdominal pain or tenderness is present.

NOSEBLEED

History: Determine ---

- Whether an injury was sustained.
- Whether the patient has high blood pressure.
- Whether the patient takes anticoagulant medication such as coumadin or aspirin.

Assessment:

- Check vital signs.
- Check the area of bleeding for a possible fracture or an avulsion.

Points of Emphasis:

- Prolonged bleeding can be dangerous.
- Bleeding is an emergency if it is associated with hypertension or if there is a history of anticoagulant use

Management:

- Place the patient in sitting position with the head slightly forward while having him or her pinch the nostrils firmly together continually for at least five minutes. If bleeding continues, repeat for ten minutes.
- Use Vaseline or an antibiotic ointment inside the nostril to keep it moist.
- Have the patient use a humidifier at night, if possible.

Refer to Physician:

- **STAT** if there is severe, uncontrolled bleeding.
- **STAT** if vital signs indicate hypovolemia.
- If there is evidence of high blood pressure or anticoagulant use.
- If the bleeding does not stop or stops and then recurs.

POISONING

History: Determine ---

- The type and quantity of medicine or poison swallowed and when it was taken. If that information is not available, check the scene for possible evidence of empty containers.
- Whether the patient has nausea, vomiting, diarrhea, chest or abdominal pain, lost consciousness or has had a seizure.

Assessment:

- Check for breathing difficulty, sweating, and altered level of consciousness.
- Look for burn injuries on mouth or skin due to caustic chemicals.

Points of Emphasis:

- Contact the local poison control center and get the patient to the emergency department **STAT**.
- Give nothing by mouth unless directed to do so by the poison control center.

Management:

- Send the label or container to the emergency department with the patient, if possible.
- Treat for shock and seek medical help **STAT**.
- If the poison is a contact poison, flush the affected area with large amounts of water.
- Give Ipecac Syrup only if **all** of the following conditions are met:
  - The poison was not a caustic substance or petroleum product.
  - The patient is not unconscious or becoming sleepy or lethargic.
  - Help from the poison control center is not available or if medical care is more than one hour away.

Refer to Physician:

- All cases **STAT**.

PREGNANCY

History: Determine ---

- The number of weeks since the patient's last menstrual period.
- Whether there were complications during this pregnancy or previous pregnancy(ies).
- What medications (including over-the-counter medication) the patient is taking and the dosage and time the medication was taken.

Assessment:

- Determine if there is or has been --
  - Abdominal pain.
  - Vaginal bleeding.
  - Cramping or contractions. If there are contractions, determine the interval and duration.
  - Check vital signs.

Points of Emphasis:

- Vaginal bleeding at any point of pregnancy is a medical emergency, especially if associated with abdominal pain, hypotension, or tachycardia.
- A diastolic blood pressure of >90 or edema is a sign of pre-eclampsia and can be a medical emergency.

Management:

- Check vital signs.
- Check blood pressure regularly.
- Contact physician for medications permitted.

Refer to Physician: **STAT** if ---

- There is vaginal bleeding or leakage of fluid from the vagina.
- There are contractions indicating active labor.
- The patient has a tender or painful abdomen.

As soon as possible if ---

- The patient is having contractions.
- There is swelling of hands, ankles, or face.
- The patient's diastolic blood pressure is higher than 90.
- There are persistent headaches or dizziness not relieved by rest.
- There is persistent vomiting.

RASHES

Allergic Contact Dermatitis

Characteristics of rash:

- Maculopapular rash which occurs a few minutes to days after contact with allergen.

Distribution of rash:

- Area affected should depend on where allergen contacts skin.

Management:

- Try to identify the allergen.
- Remove and dispose of (or wash carefully) all contaminated clothing.
- Control the itching with calamine lotion, diphenhydramine, hydrocortisone cream, or many other over-the-counter medications or medication of doctor's choice.

Refer to Physician:

- **STAT** if there is a severe reaction or hypotension.
- If there are lesions in the eyes, nose or ears.

Atopic Dermatitis

Characteristics of rash:

- Primary papules. Sometimes dry, scaly plaques. Itching. Looks very similar to contact dermatitis.

Distribution of rash:

- In children it is common on face, forehead, scalp, limbs, and trunk. In adults it is common in flexor surfaces.

Management:

- Remove or avoid the allergen.
- Follow prior medical treatment plan if possible.
- Control the itching with calamine lotion, diphenhydramine, hydrocortisone cream, or many other over-the-counter medications or medication of doctor's choice.

Refer to Physician:

- If the patient is in severe discomfort.
- If there are signs of a secondary infection.

Cradle Cap

Characteristics of rash:

- Starts as a maculopapular rash, then becomes yellow with greasy scales.

Distribution of rash:

- Usually found on scalp and forehead, but it is not limited to these two areas.

Management:

- Instruct the parent to shampoo the baby's hair with mild soap.
- Comb the hair to remove the crust after shampooing.
- If shampooing does not help, try mineral oil or vegetable oil before shampooing.

Refer to Physician:

- If the treatment does not work.
- If there are signs of infection (warmth, redness or swelling).

Diaper Rash

Characteristics of rash:

- Primarily erythematous and vesicular, and may be surrounded with pustules.

Distribution of rash:

- Genitalia and umbilical area. The rash also can be associated with oral infections or thrush.

Management:

- Keep the child clean and dry.
- Change diapers frequently and allow the skin to dry.
- Use cornstarch or talcum powder.
- Use a barrier ointment such as A&D, petroleum jelly, or Desitin with each diaper change.

Refer to Physician:

- If area is much excoriated or has signs of infection.

Drug Reaction

Characteristics of rash:

- Itching may occur prior to rash developing.
- The most common reaction is hives (or urticaria). **This can lead to a systemic reaction such as anaphylactic shock, which is a medical emergency.**
- If a reaction is going to occur, it usually happens within 12-48 hours after new medication is started.

Distribution of rash:

- The rash can consist of a single lesion or it can be an extensive skin rash.

Management:

- Stop medication and contact the patient's physician or an emergency physician, if warranted.
- Check vital signs.
- Observe for orthostatic hypotension or respiratory distress.
- Ask about the presence of lightheadedness, shortness of breath, and/or nausea.

Refer to Physician:

- **STAT** for signs of anaphylaxis.
- All cases should be referred back to prescribing physician to reevaluate medication needs.

SEIZURES

History: Determine ---

- Whether there is a history of seizures, if medication is being taken for seizures, and the dose and frequency of medication.
- Whether the patient has a recent history of elevated temperature (especially in an infant or child), infectious disease, allergy, trauma, or diabetes.
- Whether other medications are being taken or whether drugs or alcohol were consumed.

Assessment:

- Note and record the time of onset, type of neuromuscular activity (bilateral vs. unilateral, tonic, clonic, or both), length and pattern of seizure, incidence of incontinence, level of consciousness, and respiratory function.
- After the seizure, assess level of consciousness, degree of alertness, and orientation to time/place/person.
- Check vital signs after the seizure has ended.

Points of Emphasis:

- Seizures are frequent complications of a rapidly-rising fever in infants and children.
- When a person has a seizure, breathing may be irregular and even stop temporarily.
- Seizures range from mild blackouts that others may mistake for daydreaming to uncontrolled muscular contractions lasting several minutes.

Management:

Objectives for care are to protect the patient from injury and to manage the airway.

- **Do not** attempt to restrain the patient's movements or to stop the seizure.
- **Do not** attempt to force the jaw open.
- **Do not** put anything into the patient's mouth.
- **Do not** move the patient after the seizure has begun. Provide padding under the patient's head to prevent head trauma on a hard surface.
- Clear the area of objects that could harm the patient and loosen the patient's restrictive clothing.
- Position the patient on his or her side so that fluid drains from the mouth, if possible.

- After the seizure the patient may be drowsy and disoriented.
  - Stay with the patient until he or she is fully conscious and aware of the surroundings.
  - Perform a secondary survey to assess for injury during the seizure.
  - Allow the patient to rest. Offer comfort and reassurance to the patient and family.
  - Turn the patient on his or her side to avoid aspiration, if not already done.
  - Frequently assess the patient's neurological status and vital signs.

Refer to Physician:

- All cases **STAT**

SEXUAL ASSAULT

History:

- Ask if the person sustained any related injuries.

Assessment:

- Check for injuries.

Points of Emphasis:

- Laws regarding the reporting of sexual assault vary by state. Even if the person does not want to press charges, the patient should still be taken to the emergency department for treatment of injuries, potential sexually transmitted diseases, or pregnancy.

Management:

- Provide emergency first aid for serious injuries (active bleeding, fractures).
- Instruct the patient not to remove clothes, bathe, wash, or douche before being examined.
- Advise the patient not to urinate or defecate before being seen. If the patient urinates or defecates prior to examination, advise the patient not to wipe or otherwise clean the perineal area in order to preserve evidence.
- Provide support and reassurance.
- Refer to Department of Mental Health.

Refer to Physician:

- All cases should be accompanied to the emergency department.

SHOCK

History:

- Assess the reasons the patient is in shock (injury, bleeding, infection).

Assessment:

- Check vital signs.
- Look for signs of:
  - Restlessness, irritability, drowsiness, disorientation or loss of consciousness.
  - Rapid and weak pulse. (See the Vital Signs table.)
  - Low blood pressure.
  - Rapid breathing. (See the Vital Signs table.)
  - Pale or bluish, cool, moist skin.
  - Excessive thirst.
  - Nausea or vomiting.
- Perform a secondary survey to check for injuries.

Points of Emphasis:

- Stop the bleeding.
- If there is an injury to the head or neck, do not move the patient until he or she is prepared for transportation.
- Protect the patient from further injury.

Management:

- Keep the patient lying down and encourage regular, deep breathing.
- Control bleeding.
- Monitor vital signs.
- Elevate the patient's feet if there is no back or neck injury or broken bones in the leg or hip.
- Maintain body temperature. Keep warm with blankets if needed.

Refer to Physician:

- **STAT** all cases.

SHORTNESS OF BREATH

(Also see: "Asthma" and "Hyperventilation")

History: Determine ---

- The time of onset.
- The severity of symptoms.
- Whether there is a history of similar episodes.
- Whether the patient is experiencing chest pain or tightness, diaphoresis, palpitations, coughing, or numbness or tingling of hands or around mouth.
- Whether there have been episodes of acute anxiety or emotional tension.
- Whether there is a recent history of respiratory infection or trauma.
- Whether there is a history of asthma, COPD, heart condition, congestive heart failure (CHF) or allergies.
- Whether there is a recent history of exposure to dust or other environmental factors.
- Whether the patient is currently taking any medications or other drugs.

Assessment:

- Check vital signs, particularly respiratory rate and temperature.
- Note the rate and depth of respirations and whether there are any abnormal respiratory patterns.
- Check the general appearance.
- Note the presence of wheezing, coughing, use of accessory muscles for breathing, chest tightness, or pain.
- Observe for symptoms of impaired consciousness or fainting.
- Listen to lungs for rales or wheezes, if possible.

Points of Emphasis:

- Assess carefully and accurately to differentiate the cause. Shortness of breath may be associated with cardiac or other respiratory problems.
- Cardiac symptoms include chest pain or tightness, sweating (diaphoresis), and nausea.
- CHF symptoms include shortness of breath which is worse when lying down, rales, and swollen ankles.
- Pneumonia symptoms include shortness of breath with a fever and/or cough.
- Acute anxiety may cause hyperventilation; for example, stress caused by death or injury to a member of the patient's family or a significant other. Hyperventilation symptoms include rapid breathing and tingling of the hands and around the mouth.

Management:

- Monitor vital signs.
- Allow the patient to assume a comfortable position, usually sitting up.
- Calm and reassure the patient and provide privacy.
- Assist with medication, if needed.
- For hyperventilation, have the patient breathe into a paper bag to replace the excess carbon dioxide that has been exhaled. If appropriate, refer the patient to Disaster Mental Health Services.

Refer to Physician:

- **STAT** any case of shortness of breath at rest, whether or not it is associated with chest pain, wheezes, or rales.
- **STAT** any case of atypical or severe asthma.
- Any case of hyperventilation where symptoms persist for more than 15 minutes after above treatment.
- Any case of typical asthma not immediately responsive to the patient's routine medications should be referred to the hospital.
- Any case of shortness of breath with a fever and cough.

SORE THROAT

History: Determine ---

- Whether there is any difficulty talking, breathing or swallowing.
- The time of onset or whether the condition has been chronic.
- Whether the patient swallowed a foreign object.
- Whether the patient has been exposed to a communicable disease.

Assessment:

- Take the patient's temperature.
- Inspect the patient's mouth and throat for redness or ulcerations.
- Palpate the lymph nodes in the neck for swelling and tenderness.
- Auscultate the chest for abnormal respiratory sounds, if possible.
- Inspect for rashes.

Points of Emphasis:

- Patients with difficulty talking (not including laryngitis), shortness of breath, or inability to swallow saliva are an emergency. Do not use tongue blades to inspect throat of these patients.
- Epiglottitis is a rapid progression of a sore throat with the above symptoms and is a medical emergency.
- Strep throat is usually characterized by a fever of 102-104 degrees, chills, sore throat, swollen lymph nodes, and white ulcerations.
- Isolate the patient until a diagnosis is confirmed.

Management:

- Give throat lozenges, a saline gargle, and acetaminophen or ibuprofen every 4 hours for minor pain.
- Increase the consumption of fluids.

Refer to Physician:

- **STAT** if the patient has difficulty talking (not including laryngitis), shortness of breath, or an inability to swallow saliva.
- If the temperature remains elevated and/or severe discomfort persists for over 24 hours.
- If strep throat is suspected.

STROKE, TIA (Transient Ischemic Attack)

History: Determine ---

- The onset of symptoms.
- Whether there have been personality changes, confusion, or unsteadiness.
- Whether there is a history of previous strokes, hypertension, diabetes, or heart disease.

Assessment:

- Check vital signs.
- Survey for slurred speech, paralysis of face, and/or weakness of limbs.

Point of Emphasis:

- TIA is an episode of cerebrovascular insufficiency that resolves in less than 24 hours, causing no permanent damage. Some strokes or TIAs may present more subtly with changes in speaking, writing, or thought patterns.
- TIAs can be precursors of complete strokes.

Management:

- Call EMS immediately.
- Protect the airway.
- Monitor vital signs.
- Keep the patient comfortable.
- Reassure the patient and family.

Refer to Physician:

- **STAT** all cases.

SUBSTANCE ABUSE AND MISUSE

History:

- Determine what was taken, when it was taken, and how much was taken.
- Determine whether the patient has chest pain, shortness of breath, nausea or vomiting.

Assessment:

- Check vital signs.
- Assess the patient's general appearance and behavior.
- Be on the alert for shock, respiratory distress, and loss of consciousness.
- Note skin color.
- Observe for moist and flushed skin and/or sweating and chills.
- Assess for the possibility of a suicide attempt.

Points of Emphasis:

- Emergency treatment is essential if the patient is unconscious or delirious.
- The patient may appear very excited, restless, talkative, irritable or combative, or suddenly lose consciousness

Management:

- If the patient is unconscious, maintain an open airway. Place in the coma position and maintain the body temperature.
- Mild intoxication from alcohol does not need to be seen by a physician.
- Refer to Department of Mental Health (DMH) as needed.

Refer to Physician:

- STAT if the person shows sign of shock, respiratory distress, delusions, convulsions or is unable to walk.
- If symptoms of intoxication worsen.

TOOTHACHE

History: Determine ---

- When it began
- Whether there was an associated injury.

Assessment:

- Observe for swelling or loose teeth.
- Check for fever.

Points of Emphasis:

- Toothaches may be caused by a cavity, an infection or an injury.
- If associated with a fever, needs rapid treatment.

Management:

- If a visit to the dentist is delayed:
  - Cleanse the mouth.
  - Apply a hot or cold pack.
  - Offer an analgesic such as acetaminophen, ibuprofen or both.

Refer to Dentist:

- All cases.
- Within 24 hours for cases with facial swelling or fever.

URINARY DISTRESS

History: Determine ---

- The time of onset and whether there is any previous history of this problem.
- The frequency, color, odor, evidence of blood, burning, and urgency of urinary output.
- Whether other symptoms are present such as fever, nausea, or vomiting.
- Whether there is abdominal, back, or flank pain.

Assessment:

- Check temperature.
- Palpate lower abdomen for tenderness and to determine if the bladder is distended.
- Assess for flank tenderness.

Points of Emphasis:

- Retention of urine could be caused by prostate enlargement or infection.
- Chills, elevated temperature, and back or flank pain can be signs of a kidney infection.
- Frequent and painful urination is a sign of bladder infection or distension.

Management:

- Monitor vital signs.
- If the bladder is not distended and there is no abdominal tenderness, encourage liquids by mouth, especially water.

Refer to Physician:

- **STAT** if the patient is in distress and unable to urinate.
- All cases, especially if there are symptoms associated with a fever.

COMMUNICABLE DISEASES

AIDS/HIV - See "Immunocompromised Patients," for information on this topic.

DENGUE FEVER (Breakbone Fever)

History: Determine whether the patient has ---

- A fever with a sudden onset.
- A headache.
- Myalgia
- Arthralgia.
- Pain behind the eyes.
- Anorexia.
- GI disturbances.
- Bleeding episodes or bruising.

Assessment:

- Check vital signs.
- Check for a rash.

Points of Emphasis:

- Dengue Fever (DF) is an acute febrile viral disease characterized by sudden onset, fever, headache, myalgia, arthralgia, and pain behind the eyes, anorexia, GI disturbances, and a rash.
- Dengue is endemic in most tropical countries, including the Caribbean islands.
- Dengue is transmitted by infective mosquitoes, primarily aedes aegypti, and a day biting species.
- The incubation period is 3-14 days (average 5-7).
- Dengue is not transmitted from person to person.
- Dengue Hemorrhagic Fever (DHF) is a more severe type of dengue fever and can be fatal if not treated. DHF is associated with bleeding and easy bruising. The patient may go into shock.
- Blood tests are the only way to diagnose DF/DHF.

Management:

- Rest and fluids.
- Treat symptoms with analgesics. **Do not give aspirin**.

Refer to Physician:

- **STAT** if signs of hemorrhage.
- All cases.

HEPATITIS A

History: Determine ---

- Whether patient has experienced nausea and malaise.
- Whether the patient has had dark urine, clay-colored stools or unusual bleeding.
- ***Note: Most children are asymptomatic.***

Assessment:

- Check vital signs.
- Look for jaundice in the eyes and skin.
- Check for abdominal tenderness.

Points of Emphasis:

- There are many types of infectious hepatitis. It is not possible to diagnose or determine the type of hepatitis without blood tests.
- The hepatitis A virus is transmitted person-to-person by the fecal-oral route.
- Hepatitis is a febrile illness with jaundice, anorexia, nausea, and malaise.
- Outbreaks have been related to contaminated food, water, shellfish, and babies' diapers.
- The incubation period of the virus varies from 15-50 days (average 28-30 days).
- The patient is probably noninfectious after the first week of jaundice.

Management:

- All suspected cases should be referred for medical care.
- Report to public health to discuss need for prophylaxis of other shelter residents.
- All patients should be isolated for one week from the start of the jaundice.
- Dispose of patient's waste materials following universal precaution guidelines.

Refer to Physician:

- All suspected cases.

HEPATITIS B

History: Determine ---

- Whether the patient has joint and muscle pains, a macular rash, nausea, or vomiting.
- Whether urine is very dark and the stool light.

Assessment:

- Check vital signs.
- Check for abdominal tenderness.
- Check for a macular rash.
- Check for signs of jaundice.

Points of Emphasis:

- Hepatitis has an insidious onset with anorexia, abdominal discomfort, nausea and vomiting, often progressing to jaundice. Fever may be absent or mild.
- The severity can range from asymptomatic to jaundice to fulminant hepatitis with rapid death.
- The clinical picture is similar to hepatitis A but with a broader range of presentations.
- The hepatitis B virus is transmitted through blood and body fluids (saliva, semen, and vaginal secretions) exposure. It cannot be spread by casual contact.
- The incubation period varies from 45-180 days, usually 60-90 days.
- Hepatitis B can lead to chronic infections and even death.

Management:

- Report to public health to discuss the need for prophylaxis of sexual partners.
- Ensure blood and body fluid precautions are taken.
- Refer all suspected cases for medical testing and care.
- Advise bed rest. Separate from other residents if patient is in shelter.

Refer to Physician:

- All suspected cases.

HERPES SIMPLEX

History: Determine ---

- Whether the patient has muscle pain.
- Whether there are blisters or ulcers in the genital area.
- Whether this is the first infection.

Assessment:

- Check for a rash characterized by a few vesicles to a generalized cluster of vesicles, especially on mucous membranes.

Points of Emphasis:

- Herpes simplex is a viral disease.
- Herpes is transmitted by direct contact.
- Lesions usually appear on the lips (cold sores) or genitals and heal within 1 to 2 weeks.
- The lesions may become infected with bacteria and then require antibiotics.
- There are anti-viral medicines that can help, especially for first-time infections.

Management:

- For oral herpes:
  - Gently cleanse with soap and water.
  - Warn patient not to scratch.
  - Give analgesics such as acetaminophen, ibuprofen, or both.
  - Isolate from infants.

Refer to Physician:

- All cases of genital herpes.
- All first cases of herpes.

IMPETIGO

History: Determine ---

- When the symptoms began.
- Whether the patient had an insect bite, eczema, or pediculosis (lice).
- Whether there is an itch associated with the rash.
- Whether the patient has had a fever.

Assessment:

- Look for a rash characterized by ---
  - Discrete and coalesced lesions that look like blisters but become vesicles and pustules, and often form circinate ringworm-like lesions.
  - A yellowish-brown thick crust that looks like honey.
  - Multiple lesions (may be present at various stages).
- Check vital signs, especially temperature.

Points of Emphasis:

- Impetigo is a blistering rash that is caused by a strep skin infection in infants.
- It is highly infectious and spread by contact.
- It may occur as a complication of an insect bite, eczema, or pediculosis.
- It may develop on any part of the body.
- The fluid from lesions can cause infections. Wash hands frequently.
- The incubation period is 7-10 days.
- The disease is common in children.

Management:

- Use proper hygiene, following universal precautions.
- Clean sores by soaking with warm moist compresses and soapy water 3-4 times a day.
- Use antibiotic ointment or medicine of physician's choice.
- Isolate patient if hygiene is poor and advise patient not to share towels or bed linens.
- Advise patient to avoid scratching as that may spread the infection.
- Frequent hand washing is essential.

Refer to Physician:

- All cases for treatment and diagnosis.

INFLUENZA

History:

- Determine whether the patient had a sudden onset of fever, chills, headache, malaise, muscle pain, a dry cough, and/or nasal congestion.

Assessment:

- Check vital signs, especially temperature and respiratory rate.

Points of Emphasis:

- Influenza is not a "cold." It is a serious infectious disease that kills tens of thousands of persons annually.
- Elderly persons and those with other respiratory or cardiac problems are at the highest risk for severe infection and death.

Management:

- Refer all cases to a physician for evaluation.
- Isolate all cases for 3-5 days.
- **Do not** give children aspirin.

Refer to Physician:

- All suspected cases.

MEASLES

Rubella (German Measles)

History: Determine whether the patient has --

- Been exposed to the measles.
- A low-grade fever.
- Feelings of malaise.
- A headache.

Assessment:

- Check for a rash on the scalp, hairline and forehead, chest, and feet.
- Check for enlarged lymph nodes and reddened eyes.
- Check vital signs.
- Listen for abnormal lung sounds, such as rales and wheezes, if possible.

Points of Emphasis:

- Pregnant women should not be exposed to rubella as infections can lead to severe birth defects.
- Rubella is a mild disease with a discrete maculopapular, erythematous rash, low-grade fever, and generalized enlargement of lymph nodes. Symptoms may be present several days prior to rash appearing.
- Rubella is communicable from 1 week before to at least 4 days after rash appears.
- Most common transmission is by cough or sneeze; less common is through indirect contact.
- The disease is most common in winter and spring.
- Children in the U.S. usually are immunized.
- MMR vaccine has made measles an infrequent disease in the U.S.

Management:

- Contact public health for all cases.
- Transfer the family out of the shelter or put in isolated room.
- Bed rest.
- Control fever with acetaminophen.

Refer to Physician:

- All cases to confirm infection and determine the need for isolation.

Rubeola

History: Determine whether the patient has ---

- A sore throat
- A headache.
- Stiff joints.
- Malaise.
- Rhinitis.

Assessment:

- Check for a slight enlargement of the lymph nodes.
- Check for watery eyes.
- Check for small red dots on the soft palate and a rash that is pink or red in color on the face, neck, arms, and trunk. (The rash will usually fade from the face but remain on extremities.
- Duration of rash is 4-7 days.)
- Listen to lungs, if possible.

Points of Emphasis:

- A highly infectious disease, particularly in close-living populations.
- Contagious from slightly before the prodromal period until 4 days after rash appears.
- Virus is transmitted by airborne droplets and direct contact with nasal and throat secretions.
- Incubation period varies from 7-18 days from exposure to fever; average of 14 days until appearance of rash.
- Sometimes may lead to pneumonia or encephalitis.
- MMR vaccine has made measles an infrequent disease in the U.S.

Management:

- Report all suspected cases to public health within 24 hours for an investigation and possible immunization of other shelter residents.
- Transfer out of shelter or isolate patient for 4 days after onset of rash.
- Administer acetaminophen for pain and fever.

Refer to Physician:

- All cases to confirm infection and determine the need for isolation.

MENINGITIS

History: Determine if the patient has ---

- A headache.
- A fever.
- Chills.
- Photophobia.
- A stiff neck.
- Nausea and vomiting.
- A change in mental status.

Assessment:

- Look for small Spurpural (purple or dark red) scattered spots, especially on the extremities.
- Check vital signs, especially temperature.
- Check for disorientation.

Point of Emphasis:

- Meningitis is an infection or inflammation of the lining of the brain. It can be deadly and very contagious.
- The illness often has a rapid onset.
- In more advanced infections, patients may present with a change in mental status, disorientation or even a coma.

Management:

- Call EMS **STAT**.
- Contact public health to investigate and to provide prophylaxis for other shelter residents.

Refer to Physician:

- All cases **STAT**.
- Have any contacts seen by a physician immediately.

MUMPS

History: Determine ---

- Whether the patient has been exposed to known mumps cases.
- Whether the patient has had a fever, chills, headache, anorexia or malaise.
- Whether the patient has pain on swallowing.

Assessment:

- Check vital signs.
- Assess for the presence of large glands under the jaw.

Points of Emphasis:

- Mumps is a febrile disease with swollen salivary glands that may affect other glands as well, such as the testicles, ovaries, breasts, and pancreas.
- If the patient is past puberty, organs other than the salivary glands may be involved, particularly the testicles in young males.
- The virus is spread by the respiratory route.
- Because of the MMR vaccine, mumps is a rare disease in the U.S.

Management:

- Treatment is symptomatic for pain and fever.
- Isolate the patient for 9 days after the onset of swelling.
- Report to public health to assess the need to immunize other persons in the shelter.
- Individuals who may have been exposed should be examined daily for symptoms from the 14th through 21st day after exposure.

Refer to Physician:

- All suspected cases.

PEDICULOSIS (Lice)

History:

- Determine if the patient has itching of the hair.

Assessment:

- Check hair for "nits" (small white-grey eggs often on the shaft).
- Check for moving lice.. Adults may be infected in other hairy areas such as the axilla or groin (pediculosis pubis).

Points of Emphasis:

- Lice are transmitted by direct contact and the sharing of personal belongings, clothing, and bed sheets of infected person.
- Communicable while lice and their eggs are still present.
- Eggs hatch in approximately 1 week.
- Outbreaks can occur in crowded living conditions such as a shelter.

Management:

- Contact public health if lice are found in crowded living conditions such as a shelter. A single case in a shelter necessitates a general intervention.
- Isolation is not necessary after effective treatment.
- All belongings should be washed in hot, soapy water or dry cleaned.
- Thoroughly wash hair with a product prescribed by a physician.
- Comb hair with fine-tooth comb to remove eggs.
- Recheck hair after 7 days and repeat treatment if necessary.

Refer to Physician:

- All cases for prescription for pediculicide.

SCABIES

History: Determine ---

- The time of onset of symptoms.
- The presence of intense itching, particularly in the space between the fingers, elbows, axilla, belt line, groin, etc., especially at night.

Assessment:

- Check for the appearance of a burrow or a wavy, dirty-looking line where the mites enter.
- Look for discrete papules, vesicles or excoriated areas.

Points of Emphasis:

- Scabies is an infection caused by a small mite that burrows under the skin.
- It is transmitted by skin-to-skin contact and sometimes through clothing.
- Both the mites and eggs must be destroyed to stop contamination.
- The incubation period is two to six weeks before itching is noticed.
- Mites do not live long away from the human body.

Management:

- Requires medication to cure.
- Provide isolation and avoid direct contact until treatment is completed.
- Family members and close contacts should receive treatment.
- All belongings should be washed in hot, soapy water or dry cleaned.
- Have patient take a hot bath with soap and water, with thorough drying and application of scabicide.
- Practice good hand-washing techniques and universal precautions.
- Teach patient's methods of controlling transmission.

Refer to Physician:

- All suspected cases.

TUBERCULOSIS

History: Determine ---

- Whether the patient has been exposed to TB.
- Whether the patient is immunocompromised.
- Whether the patient has had a cough, night sweats, weight loss, and/or a low-grade fever.

Assessment:

- Check vital signs
- Listen to lungs.

Points of Emphasis:

- TB is spread through the air, particularly to those living and working in the same space.
- When TB treatment is interrupted or incomplete the bacilli in the lungs can survive, multiply, or form a more dangerous form of TB, known as drug-resistant TB.
- People with immunocompromised systems who are infected with TB have a 30 times greater risk of becoming sick within a year's time.

Management:

- Isolate all suspected cases until they can be seen by a medical professional.
- Persons with a cough lasting more than 2 weeks and weight loss or night sweats should be tested for TB.
- Get to medical help as soon as possible.
- Work with public health if positive for TB to determine if the disease has spread, and what special precautions should be taken in shelters.

Note: Any immunocompromised patient with a cough of greater than 3 days' duration must be in respiratory isolation until the possibility of tuberculosis is completely investigated.

Refer to Physician:

- All suspected cases.
- All immunocompromised patients.

VARICELLA-ZOSTER INFECTIONS (chickenpox, shingles)

Chickenpox

History: Determine ---

- Whether the patient has been exposed to chickenpox.
- Whether the patient has a fever, malaise, and/or a headache.

Assessment:

- Check vital signs.
- Check for rash or scabs on trunk, scalp, face, palate, and extremities. Have patient check for rash around genitalia.

Points of Emphasis:

- Chickenpox is highly contagious and is transmitted by direct contact, airborne droplets and indirect contact through a third person.
- Anorexia, fever, general malaise, and headache are common 24 hours before the rash and can continue through the eruptive stage.
- Starts with maculae. Then rapidly changes to papule, vesicle, and crusts. Scabs fall off in 5-20 days.
- Chickenpox during childhood is usually benign. However, it may be severe or fatal in adults and in immunocompromised patients.
- Epidemics occur in winter and early spring.
- Patients are contagious 1-2 days before eruption of rash and until all lesions are dry and crusted (about 7 days).
- Incubation period is 14-16 days.
- There is now an immunization available to prevent chickenpox.

Management:

- Isolate patient until all lesions are crusted.
- Bed rest and fever control. **Do not use aspirin**; give acetaminophen only.
- Maintain proper diet and fluid consumption.
- Control itching with plain water or starch baths, or apply calamine lotion.
- Dress in loose-fitting clothing and remind patient not to scratch.

Refer to Physician:

- All suspected cases to confirm infection and determine the need for isolation.

Herpes Zoster (Shingles)

History: Determine ---

- Whether the patient had pain in the area preceding the breakout (usually precedes the rash by 2-3 days).
- Whether the patient has a history of shingles.
- Whether the patient is immunocompromised.

Assessment:

- Check for a vesicular rash. (It is usually found on the trunk on only one side of the body.)
- Check vital signs, especially temperature.

Points of Emphasis:

- The chickenpox virus remains latent in the body. When it reactivates it is called "zoster" or "shingles."

- The vesicles should appear along the distribution of a nerve root(s).
- The pain may be very severe.

Management:

- First time outbreaks should be referred to a physician.
- Pain medication such as acetaminophen, ibuprofen, or both may be used.

Refer to Physician:

- First time outbreaks.
- If there is a rash on face or it is affecting the eyes.

Mississippi Department of Health

APPROVAL OF GUIDELINES AND PROCEDURES

The following procedures and guidelines for the care of residents in

the_____

Special Medical Needs Shelter Located at: _____

_____

(City,_____ County:_____ State of Mississippi) have been approved or modified as noted by me. They are to be used by Special Medical Needs Shelter personnel as a part of the Mississippi Department of Health (MDH), ***Special Medical Needs Shelter (SMNS) Manual***. These procedures and guidelines have been approved for use by any licensed or registered nurse who is employed by MDH or is assigned to a Special Medical Needs Shelter by MDH or is a volunteer assigned by MDH or SMNS to a Special Needs Shelter during a disaster or emergency.

_____ _____ _____
(Date)* (Physician's Signature) (Title)

_____ _____
(Address) (Phone)

_____ _____ _____
(Date)* (District Health Officer (Title)
and SMNS Clinical Director or RN Designee)

_____ _____
(Address) (Phone)

***Review and update at least once annually. If changes occur, renew and update according to the changes.**

Statement of Changes

The following shelter specific changes have been approved for use in Special Medical Needs Shelter

_____from _____to_____.

_____
District Health Officer or Designee

_____
Date