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**Disaster Health Services Protocols**

**for**

**Division of Public Health (DPH)**

 **Advanced Practice Registered Nurses and Registered Nurses**

**and**

**APRNs and RNs working under the direction of DPH**

**in**

**Disaster Relief Shelters**

**July 1, 2017 – June 30, 2018**

**2017-2018**

**Delaware DPH Disaster Health Services Protocols include:**

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Note: DPH Policy Memorandum #27 Bloodborne Pathogen Exposure Control should be kept with these protocols.

**Overview and Purpose**

The purpose of these protocols is to provide the parameters within which Delaware Division of Public Health Advanced Practice Registered Nurses and Registered Nurses (and APRNs and RNs working under the direction of the Division of Public Health, such as Delaware Medical Reserve Corps and Delaware Health and Social Services nurses) may deliver first aid and nursing care within the limits of individual licensure, registered nursing scope of practice and current training and competencies while working as Disaster Health Services workers in disaster relief shelters.

All registered nurses (Advanced Practice Registered Nurses and Registered Nurses) are expected to use the protocols and sound clinical judgment while providing care to clients.

Advanced Practice Registered Nurses and Registered Nurses working as Health Services staff:

* May assist clients with self-administration of prescription medication provided that the medication: is in the original container with a proper label and directions, and is not expired.
* May provide limited prescription and over-the-counter medications per these protocols.

These protocols were developed primarily as symptom-based treatment guidelines to assist in treatment of a symptom instead of a particular disease or illness.

NOTE: The protocols in the Special Considerations section (pp120-144) include specific medical situations and diagnoses (Allergic Reaction/Anaphylaxis to Violence), including related procedures.

Information for each symptom or medical situation includes:

* Treatment Objectives
* History
* Assessment guidelines
* When to Contact Medical Command or Local EMS (911)
* Treatment
* Additional Considerations

These protocols are to be used by Advanced Practice Registered Nurses and Registered Nurses trained in Disaster Health Services by the American Red Cross, Delaware Division of Public Health, Delaware Medical Reserve Corps or other Division of Public Health-approved education program.

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**2017-2018 Disaster Health Services Protocols for APRNs & RNs**

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**ABDOMINAL PAIN**

There are many causes of abdominal pain which may be related to conditions of the heart, stomach, bowels, kidneys, gallbladder, pancreas and uterus. Severe or sudden onset pain may be due to menstrual cramps, miscarriage of pregnancy, ectopic pregnancy, ovarian cyst, kidney stones, gall stones, irritable bowel syndrome, appendicitis or an acute cardiac event. Mild or recurrent pain could be due to spicy and/or fatty foods, gas or menstrual cramping.

Treatment Objectives

* Prevent Injury to Client
* Reduce Discomfort
* Assess for more serious health conditions

History

* Onset and duration of pain
* Location (generalized discomfort vs. localized pain)
* Quality (dull, sharp, cramping, burning, etc) and amount of pain (0-10 scale)
* Presence and amount of vomiting and/or diarrhea and if blood is present in stool or vomit
* Possibility of pregnancy or pelvic inflammatory disease
* Pain also in back, neck, jaw or left shoulder/arm (cardiac pain)
* Sweating and/or shortness of breath (cardiac pain)

Assessment

* Obtain vital signs and document level of pain on a scale of 0-10
* Inquire about accompanying symptoms- bloating, gas, abnormal bowel movements, nausea/vomiting
* Listen for presence or absence of bowel sounds
* Gently palpate abdomen for tenderness, rigidity or distention
* Assess for rebound pain and/or guarding

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Severe pain based on a scale of 0-10
* Tachycardia
* Hypotension
* Blood present in vomit or stool.
* Vaginal bleeding in a pregnant woman
* Vaginal bleeding in a non-pregnant woman unrelated to menstrual Bleeding
* Any tenderness or rigidity noted on palpation.
* Absence of bowel sounds
* Rebound pain or guarding present.
* Client has pain in the back, neck, jaw or left arm/shoulder or is showing signs of sweating or shortness of breath
* Fever with severe or persistent nausea/vomiting and/or diarrhea
* Any pediatric client with the following symptoms: forceful vomiting after eating, red/purple jellylike stools, green-brown vomit, or hard lump in the scrotum, lower abdomen or groin
* Pain has not resolved or diminished in 4 to 6 hours
* Pain occurs during pregnancy

Treatment

* Discourage eating, drinking, or medication until cause of pain is determined
* Recommend rest in a comfortable position
* If pain is thought to be related to menstrual cramping and client is requesting a pain reliever, Ibuprofen (Motrin) is appropriate, unless contraindicated (e.g., allergic reaction, pregnancy). Follow manufacturer’s recommended dosage and see Cramps protocol.

Additional Considerations

* Blood in stool often appears black or tar-like
* A common cause of abdominal pain in children is stress and anxiety, although severe pain should be referred to a physician immediately
* Infants who experience abdominal pain cry loudly and draw their knees toward their chest. This may also be a sign of colic.

***See also:*** Bites – Insect, Chest pain/pressure, Cramps – Abdominal, Indigestion, Nausea/Vomiting, Childbirth, Miscarriage, Poisoning, and Pregnancy

# ANXIETY

Anxiety may be caused by a stressful situation which results in acute symptoms (panic attack) or chronically in a panic disorder – where feelings of anxiety affect the client without warning and are not related to situational stress. Anxiety and “panic attacks” may be due to a physical condition – difficulty breathing, pain, etc.

Treatment Objectives

* Protect Client and others from injury
* Appropriate referral to trained mental health professional
* Assess for more serious health condition
* Reduce stress

History

* Uncontrollable worry or distress about various issues
* Restlessness and/or irritability
* Fatigue or trouble sleeping
* Difficulty concentrating
* History of anxiety disorder

Assessment

* Obtain vital signs and document
* Assess for any potential physical condition which may have triggered the client’s anxiety; these include pain, hypoxia (low oxygen, trouble breathing), low blood pressure and other causes
* Consult with Mental Health for mental health assessment

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Mental Health to make this determination based on their professional assessment

Treatment

* Consult with Mental Health immediately (Mental Health will make the final determination as to management)
* Try to calm and reassure the client
* Provide privacy
* Refer to Emergency Oxygen Therapy protocol (p.155) if indicated.

Additional Considerations

* A panic attack usually presents as four or more of the following symptoms that appear suddenly: chest pain or discomfort, choking, dizziness/faintness, fear of dying, flushing/chills, fear of “going crazy,” nausea/diarrhea, a tingling sensation, fast heart rate or palpitations, shortness of breath, sweating, and/or trembling/shaking.
* It can be difficult to differentiate a “panic attack” from a serious medical illness such as myocardial infarction or pulmonary embolism. When there is any doubt, have the client transported to the hospital immediately.
* Panic and anxiety may be related to a physical condition – difficulty breathing, pain, etc. All clients with symptoms of anxiety should be assessed for an underlying physical condition which may have caused their symptoms of anxiety.

***See also:*** Breathing Problems, Hyperventilation

# ARM/HAND INJURY AND PAIN

Muscle strain, dislocation, sprain, fracture, tendonitis. Shoulder and arm pain (particularly left arm) can be a sign of a myocardial infarction (heart attack), especially if there has been no injury. Other symptoms can be shortness of breath, sweating, nausea and chest pain.

Treatment Objectives

* Determine extent of injury
* Prevent further injury from occurring
* Reduce discomfort

History

* Type of activity client was engaged in when injury occurred
* If the client felt/heard a bone snap
* Past medical history related to musculoskeletal injury/surgery
* Risk factors for coronary artery disease

Assessment

* Obtain vital signs and level of pain (scale of 0-10)
* Assess all injuries for presence of a pulse distal to the injury, skin color/temperature, and range of motion – do not force movement
* Point tenderness over a specific area is often a sign of a fracture
* Strain: dull pain in the affected muscle that worsens with movement, swelling
* Tendonitis (e.g. tennis elbow): pain at the joint not associated with any trauma/injury. If the area is warm, swollen or red, an infection of the tendon could be present.
* Dislocation: swelling, deformity, severe pain, discoloration, tenderness, and/or numbness of an affected joint
* Sprain: pain and/or swelling at joint, bruising around area of injury
* Fracture: pain/tenderness at site when touched or moved, client has difficulty moving the injured part, client may feel grating sensation, the injured part may move unnaturally, bruising may be present.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of severe pain – regardless of suspected cause
* If skin is broken over possible fracture site
* Any evidence of compound fracture (bone protruding through open wound)
* If numbness is noted in hand
* If an infection is suspected, have the client transported to the hospital immediately.
* Any extremity that is cool, pale or blue, or if a pulse cannot be detected distal to the injury.
* Any arm pain with shortness of breath, sweating, nausea and/or chest pain/pressure.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All suspected dislocations, sprains and fractures.

Treatment

* Strain: Rest the affected area, apply cool packs (chemical or ice/water mixed) intermittently (less than 20 minutes) for the first 24-48 hours then switch to warm compresses. Elevate the extremity as much as possible. Muscle strains respond well to non-steroidal anti-inflammatory medications (NSAIDs), such as Ibuprofen if client is requesting pain relief and does not have any contraindications (e.g., allergic reaction, pregnancy, etc.). Follow manufacturer dosage instructions. Assess for allergy to aspirin or NSAIDs.
* Tendonitis: Rest the affected area and apply cool packs intermittently for the first 24-48 hours. If the client requests pain relief medication, non-steroidal anti-inflammatory medications (NSAIDs, such as Ibuprofen) work best at relieving pain and reducing inflammation, unless contraindicated (e.g., allergic reaction, pregnancy, etc.). Assess for allergy to aspirin or NSAIDs.
* Dislocation: Do not move or try to put a dislocated bone back into place. Immobilize the joint as much as possible. Have client transported to a medical facility via EMS if necessary.
* Sprain: Rest the affected area; apply ice packs intermittently for the first 24-48 hours. (Do not apply heat for the first 24 hours). Apply a supportive bandage (ACE wrap) and elevate extremity. Loosen bandage if swelling increases or extremity becomes cold or mottled. Warm compresses can be used after 24-48 hours. If the pain has not resolved or is severe, have the client transported to a medical facility to rule out fracture.
* Closed Fracture (no break in the skin): Immobilize the affected extremity and have client transported to a medical facility.
* Open Fracture (skin is broken): Call local EMS. Using standard precautions, cut clothing away from the wound, being careful not to touch the exposed bone. Cover area with sterile dressing.
* If bleeding, apply direct pressure to wound. If EMS is not immediately available, splint the fractured area as it is and gently help the client into a comfortable position until EMS arrives.

Additional Considerations

* When unsure of a diagnosis, treat the injury as a fracture. Definitive diagnosis requires professional assessment and radiologic testing at a medical facility.
* Geriatric clients are more prone to musculoskeletal injury and bone fracture.
* Never give children under the age of 18 aspirin due to risk of Reye’s Syndrome.
* Collarbone injuries should have a sling placed on the affected arm and secured to the body to reduce movement as much as possible.
* If client is to be transported to a medical facility for further treatment, do not give anything to eat or drink as surgical repair may be required.

***See also:*** Bites, Bruising, Frostbite, Cramps – Muscular, Cuts and Scrapes

# BACK PAIN

Back pain usually involves the lower back and can be caused by a strain/tear of the muscles or ligaments, injury to the disc or vertebrae, nerve pressure, or fatigue. Cardiac pain may present itself as pain between the shoulder blades. Kidney stones or kidney infections are frequently associated with severe flank pain and vomiting. Gallbladder or pancreatitis can cause pain to radiate to the back. A thoracic or abdominal aneurysm may present as back pain. Labor may present itself as back pain as well.

Treatment Objectives

* Reduce discomfort
* Assess for more serious health condition

History

* Location, quality and amount of pain (0-10 scale)
* Activities performed when back pain started
* Any recent trauma to back, fall, heavy lifting or unusual activity
* History of previous episodes of the same type of pain and the effectiveness of treatments in the past
* Change in bowel/bladder function associated with the back pain (especially loss of control of the bladder or bowels)
* Associated numbness, tingling, weakness or paralysis of one or both legs
* Associated abdominal pain or pain related to a myocardial infarction (shortness of breath, sweating, nausea or chest pain).
* Does pain radiate from the back to either/both legs?
* Hypertension or heart disease
* Pregnancy

Assessment

* Obtain vital signs and document level of pain (on scale of 0-10)
* If the pain started due to a fall and the client is not able to walk afterward, do not attempt to get them up or move them. Call EMS immediately and treat them for comfort only.
* Visually inspect the spine for signs of bruising, swelling or other signs of trauma
* Observe gait, posture, range of motion, balance and coordination
* Check for weakness and/or numbness in extremities

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Pain caused by significant impact injury or trauma
* Pain is severe and/or the client is unable to walk
* Back pain associated with shortness of breath, chest pain, abdominal pain or tenderness, fever, vomiting, sweating, or pulsating mass in the abdomen
* New onset of numbness, weakness or paralysis of the lower extremities
* Presence of blood in the urine or difficulty urinating or passing stool
* Incontinence or inability to control bladder and/or bowel function
* Blood pressure is low for the client and/or they are feeling faint.
* Pain is not relieved with rest and analgesics

Treatment

* Encourage client to avoid activities that exacerbate back pain (lifting).
* Over the counter analgesics are appropriate, if requested by client and not contraindicated. Follow manufacturer’s dosage instructions.
* For an acute muscle pull, apply cool packs intermittently for the first 24-48 hours to reduce inflammation and swelling.
* For stiffness or fatigue, place a warm compress on the affected area.

Additional Considerations

* Pregnant women should always check with their physician before taking any medication.

***See also:*** Cramps – Muscular, Neck Pain/Stiffness; Urination, Difficulty with

# BITES – ANIMAL, DOMESTIC OR WILD ANIMALS, MARINE ANIMALS

Animal bites can be caused by any animal – either domesticated pets (dogs, cats) or wild animals (skunks, squirrels, etc.). Examples of marine animals include jellyfish and stingrays.

Treatment Objectives

* Prevent further injury or infection
* Reduce discomfort associated with bite
* Stop bleeding, if present

History

* Type of animal that bit the client
* Behavior of animal prior and after bite (if noticed)
* If the animal is domesticated, attempt to determine the name and address of the owner and if it has received appropriate rabies vaccines (provide the name and address to the local animal control authorities)
* Date of the client’s last tetanus vaccine

Assessment

* Obtain vital signs
* Check skin to identify bite mark or any break in skin and/or bleeding
* Look for signs of local swelling and discoloration
* Assess for signs of infection
* Marine animals: Check skin for remaining tentacles or stingers; obtain patient’s age, weight and condition, name of the marine animal, and time stung

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All animal bites with significant or poorly controlled bleeding
* Bites on the face or neck or with major tissue damage
* All stings by a marine animal that cause an outbreak of hives, weakness, and shortness of breath or chest pain
* All animal bites that break the skin
* Any client who cannot remember last tetanus vaccine

Treatment

* Stop bleeding immediately. Using standard precautions, hold direct pressure to the wound for five minutes or until bleeding stops. Wear gloves or use a barrier whenever possible.
* Mammals: Wash affected area with soap and water or saline solution. If skin is broken and/or bleeding, apply clean dressing and direct pressure. Apply antibiotic ointment. For pain, it is appropriate to provide analgesic. Follow manufacturer’s dosage directions.
* Marine animals - jellyfish: Soak the area in vinegar, alcohol, seawater, or apply thick paste of baking soda to deactivate stinging cells – fresh water can stimulate cells to release more venom. To remove remaining stinging cells, either shave the area with a razor or rub with a sand/mud and seawater mixture. For pain, apply a hydrocortisone cream to the affected area and/or provide analgesic.
* Marine animals - stingray: Submerge the affected area in hot but not scalding water (110-115° F) and call the local EMS. If EMS is not available, keep the affected area submerged in hot water for 90 minutes to deactivate the stingray venom.

Additional Considerations

* Notify the local animal control authorities
* Do not attempt to capture and/or contain animal as this may result in harm to you.
* Rabies in domesticated animals is rare in the US but can occur, especially along the US-Mexico border.
* Jellyfish are common in Florida, the Chesapeake Bay and the South Pacific. Do not handle dead jellyfish as their stinging cells are still active.
* Stingrays are commonly found on the floor of shallow tropical waters and use their long tail to pierce the skin and inject venom.

***See also:*** Infection, Shock, Bleeding – External, Allergic Reaction/Anaphylaxis

# BITES – HUMAN

Children will sometimes bite other children as well as some adults. Cutting knuckles on someone’s teeth, as in a fist fight, should also be treated as a human bite.

Treatment Objectives

* Prevent infection of the wound
* Reduce discomfort from bite

History

* Time/location and circumstances surrounding bite
* Date of last tetanus shot of the person who was bitten
* Underlying medical conditions that would predispose client to infection
* Consider age of client as well as other significant medical history (diabetes, chronic alcoholic use)

Assessment

* Obtain vital signs and document on Incident Report Form
* Document bite site and appearance
* Presence of broken skin, puncture, tear, and bleeding
* Question time frame since bite occurred

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All bites that break the skin.
* Any old bites that show signs of infection: redness, warmth, swelling or pain with movement

Treatment

* Using standard precautions, clean wound with soap and water or saline solution for five minutes.
* Educate regarding signs of infection, redness, fever and chills.
* Apply antibiotic ointment to wound to help prevent infection.
* Wrap with clean, sterile dressing. If bleeding, hold direct pressure to wound for five minutes or until bleeding stops, or until client is in the care of advanced medical personnel.
* Request client to return 48 hours after treatment for wound check.

Additional Considerations

* A purposeful bite from another adult is reportable to local law enforcement.
* Human bites, especially those on the hands, over joints, face and lip, skull penetration, can lead to serious infection.
* If certain tissue has been bitten off (ear, nose, digit), wrap the tissue in sterile gauze, place in a plastic bag, submerge bag in cool water and send with client to the emergency department.
* Human bites are not considered to be a common route of transmission for HIV.

***See also:*** Infection, Shock

# BITES – INSECT BITES/STINGS

Most insect bites and/or stings do not cause serious injury, although stings from bees, wasps, fire ants, and scorpions can cause serious pain, anaphylaxis or even death.

Treatment Objectives

* Identify and prevent a severe allergic reaction
* Prevent infection/injury
* Reduce discomfort

History

* Description of the insect that bit or stung the client
* Any known allergies to prior stings (especially bees and wasps)
* Date and location of bite or sting
* Symptoms of an allergic reaction or anaphylaxis – lightheadedness, shortness of breath, wheezing or chest ‘tightness,’ throat ‘tightening,’ nausea or vomiting
* Symptoms associated with bites and/or stings (pain, swelling, itching, burning, and redness)
* Severe abdominal pain or eye symptoms (especially in children) could indicate a bite from a black widow spider.

Assessment

* Obtain vital signs
* Look for bite mark or blister, Bull’s eye, spotted or black and blue rash around bite
* Note signs of difficulty breathing or swallowing, profuse sweating, or salivation
* Note any tachycardia (heart rate greater than 90 at rest), irregular heartbeat or hypotension (systolic blood pressure less than 100mmHg, or significantly lower than the client’s normal blood pressure). Refer to Shock protocol as needed.
* Swelling to eyes, lips and tongue, or hives on the skin (indicative of an anaphylactic reaction)
* Nausea or vomiting, fever and chills, flu like aches
* Assess affected area for redness or swelling
* Small, itchy bumps which disappear in a couple of days (suspect mosquitoes)
* Tiny red, itchy bumps (suspect bedbugs or possibly fleas if client has had contact with dogs or cats)
* Painful red bite/sting with or without blistering (suspect spiders or fire ants)
* Itchy excoriated skin in the head or pubic area (suspect lice, see Lice protocol)
* If stung by a bee, wasp, yellow jacket or fire ant, assess the area for any remaining stinger left under the skin

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of suspected allergic or anaphylactic reaction
* All cases of multiple stings by bees, wasps, yellow jackets or fire ants
* Any possible infections due to insect bite/sting
* Any suspected case of venomous spider bite (black widow, brown recluse contain venom which can cause tissue damage). If a venomous spider is suspected, place a cold compress on the bite site, keep the client quiet and urgently get them into the local health care system.
* Any suspected tick bite (red “bulls-eye” shaped rash that appears between 3-30 days after potential exposure to ticks)
* Any tick bite (tick attached to the skin) – early diagnosis and treatment with antibiotics can reduce the severity of Lyme’s Disease or Rocky Mountain Spotted Fever
* Any suspected scorpion sting, especially in the elderly and children

Treatment

* Clients with a history of severe allergic reactions (suspected anaphylaxis) may be carrying a treatment kit (e.g., Epi-Pen) and may be assisted in its use (refer to procedure for auto-injector in procedures section)
* For mosquito, bedbugs and fleas – clean the affected area of the body. These bites generally do not pose a health risk and require no treatment.
* Apply cold pack to reduce swelling, baking soda paste to relieve itching
* Apply topical cream containing Hydrocortisone to skin
* Antihistamines (e.g.: Diphenhydramine) may help to alleviate itching/swelling. Oral Diphenhydramine may prevent allergic reaction. Follow manufacturer’s dosage guidelines.
* Spider bites, although frequently painful, usually do not require treatment.
* Wasps, bees and fire ants may leave a stinger under the skin.
	+ Gently remove the stinger without squeezing (this may inject more venom into the tissue)
	+ A credit card can be used to scrape along the skin and gently ‘flick’ the stinger out
	+ Cool packs may be applied to reduce swelling/pain
	+ Corticosteroid and/or antihistamine creams may help to alleviate pain and swelling
	+ Frequent washing of the area with soap and water will help to prevent infection, especially for fire ant stings which can cause blisters that rupture and can become infected
	+ Instruct the client not to break the blisters caused by fire ants as this could cause an infection.
* Tick bites are most easily recognized when the tick is still attached to the skin
	+ Remove the tick with tweezers by firmly grabbing the tick’s head as close to the surface of the skin as possible and pulling the tick loose in one piece.
	+ Flush the tick down the toilet or place in a container of alcohol.
	+ Cleanse the area with an antiseptic (such as rubbing alcohol) to help prevent infection.
	+ Refer client to the local health care system for follow-up.
	+ If insect habitat is known, treat with an insecticide to kill any remaining insects.

Additional Considerations

* Symptoms of an anaphylactic reaction include lightheadedness, chest/throat tightness, hives, and shortness of breath, difficulty swallowing, nausea and/or vomiting.
* Clients with a known allergy to bites/stings should be encouraged to carry an allergy kit/syringe containing epinephrine.
* Identifying the type of insect that caused the bite or sting is important in recommending treatment.
* Black widow spiders are identified by their irregularly-shaped web and black, shiny black with a red hourglass marking on their underside. The bite is usually a sharp pinprick sensation, followed by dull pain and then redness and swelling. Two small fang marks may be noticed.
* Brown recluse spiders are mostly active at night and are identified by their dark brown, violin-shaped marking on the top front portion of their body. The bite is usually not noticed but localized pain develops an hour or more later. A blood filled blister will develop with eventual erosion of skin, leaving a black scar.
* Brown recluse spiders hide in dark secluded areas of homes and other structures, even in shoes left outside.
* Scorpions are most common in warm southern climates, and hide under rocks, debris or in sandy area

***See also:*** Infection, Shock, Allergic Reaction/Anaphylaxis

# BITES – SNAKE

Snakes can be venomous (rattlesnakes, copperhead, water moccasins, cottonmouth, coral snake) or non-venomous.

Treatment Objectives

* Quick referral to higher level of care (within 30 minutes)
* Prevent venomous poisoning
* Reduce pain associated with bite

History

* Obtain clients’ age, weight and condition, type of snake if known, and time of bite.
* Obtain a description of the snake, if possible. Pit vipers typically have triangular-shaped heads, deep pits between the nostrils and eyes and long fangs. An exception to this is the brightly colored coral snake with a small head, round eyes and red and black rings separated by a yellow ring. Most non-poisonous snakes have rounded heads and round eyes.
* Date of last tetanus vaccine (effective if received within past 10 years)
* Symptoms of adverse reaction to snake venom – severe pain, rapid swelling, discoloration of skin, weakness, nausea/vomiting, numbness of arms or legs, convulsions, and/or blurred vision (all indicators of a poisonous snake)

Assessment

* Obtain vital signs
* Identify location of bite and appearance of bite site
* Determine time lapse since bite
* Determine extent of tissue damage and presence of bleeding
* Harmless snakebites are usually characterized by four rows of small scratches, separated from two rows of scratches (from upper and lower jaw teeth).
* Venomous snake bites should have one or two puncture wounds produced by fangs, whether other teeth marks are noted. Bites may or may not bleed.
* Coral snake bites leave a semicircular mark from the snake’s teeth – usually little or no pain or swelling after bite, but systemic symptoms may arise 1-5 hours after bite.
* Observe client for signs/symptoms of an adverse reaction (see above). If there are no symptoms within four hours, the snake is probably non-poisonous.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All suspected/known cases of poisonous snake bites.
* Any client who cannot remember last tetanus vaccine or, if known, to be more than 10 years past

Treatment

* Use standard precautions
	+ Poisonous and non-poisonous bites: Keep the affected extremity below the level of the heart, remove all watches/jewelry (in case of swelling), clean the area with soap and water, and cover with a clean bandage.
	+ Poisonous bites: Contact local EMS immediately, keep the client quiet to slow the circulation of the venom (do not allow the client to move about), immobilize the affected extremity, remove watches/jewelry (in case of swelling), and cover with a clean bandage.
* Do not apply a tourniquet, cool pack or cut open the wound as these actions could cause more damage. Do not apply suction to the wound as this has not shown clinical benefit.

Additional Considerations

* Snakebites occur most frequently in the summer months and usually affect the arms and legs.
* Most snake bite deaths are due to allergic reaction, poor health of client, or delayed medical intervention.
* Do not try to capture the snake. If the snake is thought to be poisonous, contact the local animal control authorities and give the last known location of the snake – most snakes can be found, even hours later, within 20 feet of where the bite occurred.
* Coral snakes are uncommon, but rattlesnakes and other poisonous snakes live throughout the continental US.

***See also:*** Infection, Shock, Bleeding – External, Allergic Reaction/Anaphylaxis

# BLEEDING – EXTERNAL

Bleeding can be caused by Injuries such as cuts, scrapes, punctures, etc.

Treatment Objectives

* Control the bleeding
* Prevent complications from loss of blood
* Prevent infection

History

* Type and extent of injury
* History of anticoagulant therapy or clotting problems
* Symptoms of hypovolemia/shock (rapid heart rate, low blood pressure, pale skin – refer to Shock protocol)
* History of tetanus vaccine (must have new booster if last one was not within last 10 years)

Assessment

* Obtain vital signs
* Determine the severity and speed of the bleeding and estimate the amount of blood loss (describe it concretely – e.g. blood soaked shirt six inches in diameter)
* Reassess for further bleeding and vital signs periodically
* Look for bruising of the injured area
* Palpate soft tissue for tenderness, swelling or rigidity

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All clients with symptoms of shock or hypovolemia
* Any bleeding that is difficult to control (e.g. pulsating)
* All bleeding from a suspected artery (spurting, bright red blood) or large vein
* Any suspicion of a significant blood loss
* All clients requiring a tetanus immunization
* Any laceration that may require sutures or surgical repair - should see a provider within first few hours of injury
* All bleeding caused by a puncture wound (for follow-up and possible tetanus vaccine (if last one was not within the past 10 years or client cannot remember when last one was given)
* Any diabetic client with puncture wound to the feet, regardless of amount of bleeding

Treatment

* Using standard precautions, stop bleeding immediately, before any other action. With a clean gauze or dressing, apply direct pressure to the wound for five minutes or until bleeding stops.
* Once bleeding has stopped, apply a clean dressing to the wound.
* Instruct client to watch for signs of break through or re-bleeding of the wound. If bleeding continues, do not remove existing gauze but place more gauze on top and continue to apply pressure.
* If bleeding does not stop, apply continuous and very firm pressure until EMS arrives.

Additional considerations

* Tourniquets can be used to control bleeding but can cause additional injury, loss of limb and death if applied for extended period of time. Tourniquets should be removed as soon as possible after definitive control of bleeding.
* There is insufficient evidence to recommend for or against the elevation of a bleeding extremity.
* You should forego attempting to elevate an extremity when the application of direct pressure may be compromised.
* The amount of blood is not a good indicator of the severity of injury. Head wounds tend to bleed heavily, even if the wound is minor. Conversely, deep puncture wounds may not bleed much externally while most of the bleeding occurs internally.
* Long bone fractures can lead to loss of blood, ending in shock, even if the skin has not been broken.

***See also:*** Cuts and Scrapes, Bruising, Nose Bleeds, Miscarriage, Shock

# BLEEDING – INTERNAL

Causes of internal bleeding include stomach ulcer, hemorrhoids, early onset or unexpected menstruation, miscarriage of a pregnancy (vaginal bleeding), urinary tract infection, and internal organ vascular damage

Treatment Objectives

* Prevent complications from loss of blood.
* Refer all suspected cases of internal bleeding to emergency care/hospital.

History

* Source of the suspected blood (vomit, rectum, vagina, urine)
* History of anticoagulant therapy or clotting problems
* History of bleeding in past (ulcers, varices, etc.)
* Recent change in color of stool (frank blood or black/tarry stools indicate the presence of blood)
* Vomit that is coffee-ground colored or dark or bright red
* Symptoms of hypovolemia/shock (rapid heart rate, low blood pressure, pale skin, changes in mental status – refer to Shock protocol)

Assessment

* Obtain vital signs
* Speed of bleeding (continuous, slow to brisk, seeping vs. spurting)
* Estimate the amount of blood lost (describe it concretely – e.g. blood soaked shirt six inches in diameter)
* Abdominal tenderness can indicate other causes of internal bleeding
* Reassess periodically

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All suspected cases of internal bleeding
* All clients with symptoms of shock or hypovolemia

Treatment

* Do not give client anything to eat or drink. Refer client to the local healthcare system.
* Always use standard precautions when there is a chance of contact with blood or body fluids

Additional considerations

* Suspected internal bleeding is an emergency and requires immediate evaluation.

***See also:*** Cuts and Scrapes, Bruising, Nose Bleeds, Miscarriage, Shock

# BLISTERS

Lesions occur usually from persistent or repeated rubbing against the skin. Some illnesses, such as shingles or other viral infections, can cause blister-like rashes. Burns can also blister the skin.

Treatment Objectives

* Prevent additional injury to client
* Reduce discomfort associated with blister

History

* Exposure to any heat source or chemical which may have caused a burn or blister
* Walking in new or loose fitting shoes
* History of herpes simplex I (oral blisters) or herpes simplex II (genital blisters) or potential exposure to someone who may have these conditions
* Length of time client has had blister

Assessment

* Obtain vital signs
* Observe size and location of blister(s)
* Herpes blisters may be painful
* Observe for fluid in the blister (absent, clear or bloody)
* Observe for any skin tear in the blister
* Look for signs of infection – redness, pus or red streaks

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any blister that is large and likely to be broken by routine activity
* Any blistering suspected to be caused by either herpes simplex or the client has not received confirmed diagnosis
* Any blister with signs of infection

Treatment

* Small, unopened blisters do not require intervention. Cover loosely with a gauze pad and let the blister heal naturally.
* For open blisters, wash with soap and water and cover with a gauze dressing using standard precautions. Do not remove the loose skin.
* Do not puncture or break blisters

***See also:*** Burns, Rash, Skin Infections, Allergic Reaction/Anaphylaxis

# BLOOD PRESSURE, ELEVATED/HIGH

An elevated blood pressure can be due to an established diagnosis of hypertension, or as a response to stress and anxiety. Elevated blood pressure is often a result of unhealthy life-style habits. The client may have a previously undiagnosed history of elevated blood pressure and would need follow up and monitoring for the condition. An elevated blood pressure can be the result of certain medications or other diseases. It can be hereditary or related to ethnicity.

Treatment Objectives

* Assess for serious health condition
* Identify risk factors and co-morbidity
* Determine need of referral for additional work-up/ treatment for hypertension (HTN)
* Prevent serious complications from undiagnosed/untreated high blood pressure such as cardiovascular disease, kidney disease, eye damage or stroke

History

* Ask the client’s age – the incidence of HTN rises in men after age 35, in women after age 45, and certainly more likely in the elderly
* Determine presence of other concerning symptoms, such as headaches, chest pain, palpitations, shortness of breath, sweating, dizziness, nausea, or changes in vision
* Ask client for any past history of serious illness, especially previously noted situations of elevated blood pressure, a diagnosed history of hypertension, heart disease, diabetes, or kidney disease
* Ask about risk factors such as:
	+ African-American descent
	+ Family history of HTN
	+ Family history of diabetes
	+ Smoking
	+ Being overweight
	+ Sedentary lifestyle, lack of exercise
	+ High stress levels
	+ Alcohol consumption
	+ Medication use, including steroids, decongestants, and anti-inflammatory drugs on a regular basis
	+ Low dietary intake of potassium, calcium or magnesium
	+ Excessive use of salt
	+ A diet that is high in fat, fast food or processed foods
	+ Client is pregnant

Assessment

* Obtain vital signs and document
* Have client refrain from smoking or ingesting products that contain caffeine for 30 minutes before measurement (can cause a transient raise in blood pressure)
* Have client sit in a chair with feet flat on the floor or lay supine, arms bared and supported at heart level
* Rest for at least five minutes before beginning blood pressure measurement to help eliminate activity-related factors that can cause elevation in blood pressure
* Make sure to use the appropriate size cuff for the size of the arm (using the wrong size cuff results in inaccurate readings)
* Wrap cuff smoothly and snuggly around the upper arm, with the center of the bladder placed directly over the bend in the elbow and the cuff’s lower edge placed about 2 fingers width above the bend (incorrect placement will yield inaccurate readings)
* Take 2 or more readings, separated by 2 minutes and record (averaging two or more readings from the same arm improves the reliability of the data)

***Classification of Blood Pressure for Adults***

|  |  |  |  |
| --- | --- | --- | --- |
| **Classification** | **Systolic** |  | **Diastolic** |
| **Normal\*** | < 120 | and | < 80 |
| **Elevated** | 120 -139 | or | 80 - 90 |
| **Stage 1 HTN** | 140 -159 | or | 90 - 99 |
| **Stage 2 HTN** | > 160 | or | > 100 |
| \* 130/80 is considered the *upper limit* of normal: |
|  | In a pregnant woman (at any time during the pregnancy) |
|  | If a client has chronic kidney disease or diabetes |

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Chest pain or discomfort or sudden signals of stroke (think F.A.S.T. – Face, Arms, Speech, Time)
* Blood pressure is 180/110 or higher
* Swelling of hands, feet and/or face
* Sudden, severe headache
* Sudden, rapid rise in BP
* A pregnant client with a BP >145/85
* If a pregnant client has a history of preeclampsia
* History of diabetes or kidney disease and a BP >160/95 (multiple co-morbidities)
* If client has been monitored daily for 5 days, and the average BP is in the elevated stage
* If client has never been diagnosed or treated for HTN
* If client has been treated, and following prescribed treatment and BP is still elevated
* If the client has multiple health problems (co-morbidity)

Treatment

* Confirm elevated blood pressure
* Set up the client with a daily visits and record daily BP for 5 days in a row. Average blood pressure readings daily.
* Complete initial assessment, evaluate, accurately stage and complete risk assessment
* Address secondary cause if identified
* Engage client in Lifestyle modification education
* Consider primary care referral

Additional Considerations

* Despite what many people think, high blood pressure usually does not cause any symptoms. It is often called the “silent killer” for this very reason. By the time someone has symptoms such as severe headaches, dizziness or lightheadedness; the person may have had untreated hypertension for an extended period of time and has already developed complications.

# BREATHING PROBLEMS: SHORTNESS OF BREATH/DYSPNEA

Shortness of breath is often a sign of a serious medical condition such as myocardial infarction, cardiac arrhythmia, pulmonary edema, pulmonary embolism, pneumonia or anaphylactic shock. Transient shortness of breath may occur with exercise or overexertion. It can also be caused by a variety of environments (high altitudes), chronic and acute illnesses (high fever, severe anemia, kidney disease, COPD, asthma, heart disease) or injury (broken rib).

Treatment Objectives

* Assess for more serious health condition
* Relieve sensation of difficulty of breathing when possible and return breathing to normal

History

* Determine the presence of other concerning symptoms – chest pain/pressure or tightness, sweating, nausea, lightheadedness.
* Ask client for any past medical history of serious illness – especially lung and heart disease and diabetes.
* Some clients have shortness of breath as their baseline breathing status – determine if this is the case and ask client if he or she is concerned about his or her current breathing status.
* Any medication client is currently taking
* Any allergies to food, medication or environmental factors
* Any history of chest pain, high blood pressure, irregular heart rhythm or blood clots in legs or lungs
* Any trauma or blow to the neck or chest that the client may have experienced

Assessment

* Obtain vital signs
* Assess heart rate and rhythm
* Listen to breath sounds for the presence of wheezes, rales or rhonchi
* Assess character and intensity of chest pain (if any)
* Observe for use of auxiliary muscles during respiration (sternal retractions in infants)
* Observe for central and/or peripheral cyanosis (mottled skin, bluish tint to nail beds/lips, etc.)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any suspicion of a serious cause for the shortness of breath
* Any client with ANY risk factor for a myocardial infarction, including known heart disease or prior heart attack or cardiac surgery, diabetes, high blood pressure, smoking history and obesity
* Acute onset of shortness of breath at rest or not relieved by rest, use of auxiliary muscles during respiration or shortness of breath associated with chest pain
* Shortness of breath with the inability to lie flat (orthopnea)
* Shortness of breath associated with a resting heart rate greater than 115 beats per minute resting respiratory rate greater than 26 breaths per minute, hypotension and/or central cyanosis
* Almost all adults with shortness of breath will require an evaluation by a physician
* Any case in which the client requests more assistance
* Any case associated with trauma or a blow to the chest

Treatment

* Asthma: refer to Breathing Problems – Asthma protocol
* Hyperventilation: refer to Breathing Problems – Hyperventilation protocol
* Chronic shortness of breath: allow the client to do whatever they traditionally do to ease breathing (leaning forward, nebulizer, inhaler, etc.)
* Acute shortness of breath – rest in a semi-Fowlers or upright position, in a well-ventilated environment with warm, humidified air (if available) until symptoms are relieved or client is transported to a local medical facility
* Maintain calm environment and reassure client

Additional Considerations

* Shortness of breath that is associated with chest pain could indicate a pulmonary embolus (blood clot in the lung) or a myocardial infarction (heart attack) and is a medical emergency.
* Shortness of breath associated with orthopnea or the inability to lie flat may indicate fluid in the lungs (heart failure, pulmonary infiltrates) or surrounding the heart and/or lungs (pericardial effusions).
* Abdominal distention (gas, ascites) or morbid obesity may cause shortness of breath in a supine position. Breathing should improve if the client is placed in a semi-Fowlers (semi-recumbent) position.

***See also:*** Chest Pain/Pressure, Congestion

# BREATHING PROBLEMS: ASTHMA/COPD

Asthma and chronic obstructive pulmonary disease (COPD) are grouped together under obstructive breathing problems. A history of asthma may be linked to a genetic pre-disposition or exposure to tobacco smoke. Asthma attacks may be caused by an allergic reaction to something in the air, physical activity, exposure to tobacco smoke or exposure to certain medications (causing an allergic reaction). COPD includes all chronic obstructive airway diseases, including chronic bronchitis and emphysema (of varying causes).

**SEE ALSO STANDING ORDERS FOR ALBUTEROL IN APPENDIX IB**

Treatment Objectives

* Return breathing to normal

History

* Determine the presence of other concerning symptoms: chest pain/pressure or tightness, sweating, nausea, lightheadedness
* Ask client for any past medical history of serious illness, especially lung and heart disease and diabetes
* Previous history of asthma, emphysema, chronic bronchitis (COPD) - clients with no prior history, but with wheezing or shortness of breath, should be considered a medical emergency
* Asthma attacks: previous triggers and effectiveness of treatment
* Current medications, any medication recently taken

Assessment

* Obtain vital signs
* Listen to breath sounds while the client is sitting upright – asthma is characterized by wheezing or whistling sound which can occur with either inspiration or expiration
* Observe for signs of an asthma emergency – difficulty breathing, fright/anxiety, sweating, sitting upright and leaning forward, rapid heart rate and blue-tinged lips (due to inadequate oxygen intake)
* Symptoms of COPD include chronic cough and a client using pursed lips to exhale (pink puffer).
* Those with emphysema will frequently have a ruddy complexion and a large, barrel chest.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Obvious respiratory distress with difficulty breathing
* Accompanying chest pain, sweating, nausea or dizziness
* If medication to treat an asthma attack is not available
* Any attack that the client reports is more severe than normal
* Any attack where the client raises the shoulders and chin to fight for a breath of air – this is indicative of impending respiratory failure
* Any asthma attack that does not improve within 15 minutes of taking medication
* A client that loses the ability to cough or talk during an attack
* Any client with COPD who begins to have difficulty breathing
* If coughing up yellow, dark brown or bloody mucus
* Any new case of suspected (undiagnosed) asthma
* Any suspected, previously undiagnosed cases of COPD
* If client has begun to need asthma medication more frequently than usual

Treatment

* Asthma attacks can frequently be successfully treated with a bronchodilator (inhaler). Most asthmatics carry an inhaler with them and should be encouraged to use their medication.
* Volunteers can assist the victim with using their bronchodilator if a) the client states they are having asthma attack and has medication and b) the client identifies the medication and is unable to administer it without assistance. Chronic asthma can be managed with daily medication (as prescribed by a physician) that reduces inflammation.
* Albuterol may be administered through a nebulizer if patient short of breath with clinical presentation of asthma/COPD (e.g., wheezing) and patient is prescribed albuterol for similar presentation. (See standing orders located in Appendix 1B).
* For clients with COPD, neither antibiotic therapy nor treatment of their chronic cough with cough suppressants is recommended.
* Maintain calm environment and reassure client
* Refer to Emergency Oxygen Therapy Protocol (p.155) if indicated.

Additional considerations

* If a client does have a reaction to allergens in the air, try to identify what triggered the attack and attempt to reduce or eliminate the irritant.
* Many asthmatics have sensitivity to aspirin and other NSAIDs, which may cause an attack if taken.
* Half of all asthma attacks occur in children under the age of ten. Pediatric symptoms often include constant coughing, flaring of nostrils or grunting (in infants).
* COPD and emphysema are chronic diseases that are almost always associated with smoking and are seen most widely in older adults.
* Some clients require supplemental oxygen on an ongoing basis and, with access to their usual source of oxygen, can be self-sufficient.

# BREATHING PROBLEMS – HYPERVENTILATION

Breathing faster than normal may be due to emotional upset or tension/anxiety. It is also caused by injuries, such as head injuries, severe bleeding or conditions such as high fever, heart failure, lung disease, or diabetic emergencies. It can be triggered by asthma or exercise.

Treatment Objectives

* Identify possible serious causes of respiratory distress
* Return breathing to a normal rate

History

* Determine the presence of other concerning symptoms – chest pain/pressure or tightness, sweating, nausea, lightheadedness
* Ask client for any past medical history of serious illness – especially lung and heart disease and diabetes
* Ask client or bystander, if possible, to describe the circumstances surrounding the episode of hyperventilation
* Ask client if they have experienced these episodes previously and what triggers the response and alleviates the symptoms
* Client may state they feel like they “can’t breathe” or “can’t catch their breath.”
* Client may feel dizzy or light-headed.
* Client may experience numbness and tingling in the hands and/or feet or around the mouth.

Assessment

* Obtain vital signs (especially respiratory rate)
* Note if breathing is rapid and shallow
* Note if there is any substernal retraction (sucking-in beneath the ribs)
* Listen to breath sounds, which may be either clear or diminished. If wheezing is heard, refer to Breathing Problems Asthma/COPD protocol.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* If unable to help client relieve symptoms
* Any risk factor for heart disease, coronary artery disease or heart attack
* Any concerning symptoms (see above)

Treatment

* Encourage the client to relax and encourage slow, deep breaths through pursed lips or through the nose
* Reassure the client in a calm, soothing voice
* Have the client breathe into a paper bag or into their cupped hands to help alleviate symptoms. Symptoms are caused by an imbalance of oxygen and carbon dioxide in the blood. (**Do not** **use this technique if client has heart or lung problems or if the altitude is above 6000** **feet**)
* Plastic bags should never be used due to the risk of suffocation
* Consider Mental Health support

Additional Considerations

* Rapid breathing creates a situation where there is a low level of carbon dioxide in the blood. This creates the numbness and light-headed sensation associated with hyperventilation.
* Frequently, if the client should faint, breathing immediately returns to normal.
* All cases of hyperventilation requires follow-up.

***Age Respiratory Rates***

Newborn to 1 year: 40–60 breaths/minute

1 year to 6 years: 18–26 breaths/minute

7 years to Adult: 12–24 breaths/minute

***See also:*** Anxiety

# BRUISING

Bruising may be caused by minor bumps and sprains or traumatic blows and internal bleeding.

Treatment Objectives

* Reduce discomfort
* Reduce or limit damage to tissue

History

* Determine cause of bruise, if possible
* If injury, determine cause
* Determine whether client takes aspirin or any blood-thinning medications
* Determine if client has history of chronic illness

Assessment

* Obtain vital signs
* Observe size and extent of bruising
* Determine the location of the bruise – if on the abdomen or chest there should be concern about internal injury
* If bruising around the eye, inspect the eye for blood. Ask if there is any loss of vision, change in vision or inability to move eye in all directions.
* Assess level of pain
* Bruises are reddish/blue initially and then green/yellow as they fade
* Assess for presence of lump or hematoma
* Assess for possible signs of abuse

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any concern about possible internal injuries
* Any traumatic injury to the eyes
* Severe pain
* Rapid or weak pulse
* Rapid breathing
* Pale ashen appearance
* Nausea or vomiting
* For any traumatic bruising of the back, chest or abdomen, or large areas of tenderness, swelling or firmness at site of bruising, suspect possibility of internal bleeding, possibility of shock.
* If bruise is severe, if a painful lump develops, or if there is any suspected underlying injury (broken bone, sprain, etc.)
* Any bruising caused by injury to a client who is taking a blood thinner
* If client has an underlying chronic illness
* If pain increases or ability to move affected body part decreases
* Unexplained recurrent or multiple bruises

Treatment

* Apply cool pack (chemical or ice/water mixture) to the bruised area for fifteen minutes to reduce swelling and to stop any remaining bleeding under the skin. Repeat several times a day for 48 hours.
* After 48 hours, a warm compress can be used instead of ice to help with tissue healing. Heat should not be applied to the area until after 48 hours due to risk of continued bleeding.

Additional considerations

* People who have been abused frequently present with bruises on the face, back, abdomen, thighs and around the neck or buttocks. Bruises may have a recognizable shape, such as the shape of a clothes hanger or belt buckle. There are frequently multiple bruises and at varying degrees of healing (some new reddish/blue and some yellow/brown and faded).
* Elderly persons may be more prone to bruising because of thinning supportive tissues and increased capillary fragility.
* The extent and severity of bruising will be worsened in clients receiving anticoagulant medications and chronic steroid therapy.
* Blood in the subcutaneous tissues not confined to a space is subject to gravity and may spread.
* Distinguish enlargement of a bruise due to dependent seepage from enlargement due to continued bleeding
* Contact local law enforcement if client reports that bruising was caused by violence from a family member or other shelter resident or suspected abuse or maltreatment

***See also:*** Cuts and Scrapes, Bleeding, Arm/Hand Injury and Pain, Leg/Foot Injury and Pain, Violence/Domestic Abuse

# BURNS – CHEMICAL

Chemical burns are caused by caustic ingredients commonly found in household products (bleach, toilet bowl cleaner, drain cleaners, lawn and garden chemicals etc.) or industrial chemicals.

Treatment Objectives

* Limit tissue damage
* Reduce pain associated with burn
* Early contact with Poison Control Center

History

* Any known exposure to chemicals – either through household cleaning agents or industrial agents

Assessment

* Obtain vital signs
* Determine location and extent of injury
* Length of exposure to chemical and if still present on skin
* Try to identify the chemical and its source

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any burn that has affected more than 10% of the body
* Any client showing signs of shock (rapid pulse/breathing) – refer to Shock protocol.
* Any burn that affects breathing or is close to the mouth
* Any chemical burn to the eyes
* Any concern for a chemical contamination that can affect others
* Any burn that penetrates the top layer of skin
* Any burn which occurs in the hands, feet, groin, face, buttocks or over a major joint
* Any burn larger than the palm of your hand

Treatment

* Follow poison control Instructions
* Remove any contaminated clothing and jewelry using impermeable gloves. Store them in a safe place (plastic bag) so that no one else can be contaminated.
* Brush dry or powdered chemicals off with a gloved hand and a cloth
* Flush the affected area with large quantities of running water for at least 15-20 minutes or until symptoms resolve
* If eye is burned by a chemical, continuously flush the eye (from nose outward and downward) with running water until resolution of symptoms.
* Wrap the affected area loosely with a clean dressing
* If substance is known or manufacturer’s label is available, refer to the information on the bottle for treatment advice or call Poison Control.
* Over-the-counter analgesics can be useful for pain relief.
* Contact the local poison control center for further advice

Additional Considerations

Make sure chemicals are being properly stored – in either a locked cabinet or out of the reach of children.

It is always useful to determine the telephone number for the local poison control center in the area you will be working. [(800)222-1222]

***See also:*** Infection, Allergic Reaction/Anaphylaxis

# BURNS – ELECTRICAL

Electrical burns are caused by an electrical current (lightning, electrical appliance, etc.) that passes through the body – sometimes not leaving any outward signs of trauma.

Treatment Objectives

* Prevent additional injury to client
* Reduce pain associated with burn
* Prevent infection

History

* Determine the circumstances surrounding the electrical injury
* Amount of electricity (volts/watts) to which the client was exposed
* Amount of time of contact

Assessment

* Look and care for life-threatening conditions, such as respiratory or cardiac arrest
* Caring for any immediate life-threatening conditions takes priority over caring for burns.
* Look for any signs of fractures (including spinal fractures); in those cases, do not move client.
* Obtain vital signs (specifically heart rate and respiratory rate as these are frequently affected in an electrical situation) and document
* Look for 2 burn sites

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Cases of client being struck or nearly struck by lightning
* All shocks from current higher than household plugs (greater than 110 volts).
* Cases that caused loss of consciousness or memory loss
* Cases of electrical burn that leave the client with breathing difficulty
* Muscle pain or contractions
* Seizures
* Numbness/tingling
* Any abnormal vital sign

Treatment

* Look at your surroundings before touching client – he/she may still be in contact with the electrical device that caused the injury.
* Turn off the source of energy, if possible. If unable, do not attempt to pull the client away from the energy source until the power can be turned off.
* Check unconscious client for potential need for CPR (feel for pulse first) – electrical injuries frequently cause cardiac arrhythmias or cardiac arrest
* Prevent shock by having client remain lying down with their feet elevated 8-12 inches
* Using standard precautions, cover any burn injuries with a dry, clean bandage

Additional considerations

* Electrical injury frequently passes through the body without leaving outward signs of injury, although internal damage could be quite severe – extent of injury may not be readily apparent.

***See also:*** Infection

# BURNS – THERMAL (HEAT)

Fire, sunlight or hot substances cause thermal burns of varying severity.

Treatment Objectives

* Cool and cover the burn
* Quick referral for critical burns
* Limit damage to tissue
* Prevent/minimize/treat for shock
* Reduce discomfort to client
* Prevent infection

History

* Type of exposure (hot substance, grease, liquids)
* Length of time exposed
* Location of the burned areas and the extent (body percentage) of those burns

**Burned Area Body % of Burn (adult)**

Head 9%

Front torso 18%

Back torso 18%

Arm 9%

Groin 1%

Leg 18%

Assessment

* Obtain vital signs
* Pay close attention to victim’s airway – soot or burns around the mouth, nose or face may signal air passages or lungs have been burned
* Assess skin for amount of surface area affected. The size of the palm of the client’s hand is equal to approximately one percent of the body surface area.
* First-degree: injury to only the outside layer of skin causing redness, pain, mild swelling and no blister or break in the skin
* Second-degree: injury to the layers of tissue below the surface of the skin causing blisters, pain, swelling and oozing of moisture from the skin
* Third-degree: destroys all layers of skin and causes white/leathery skin at burn site and little pain (due to nerve damage)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Cases of third-degree burns or burns to the face/neck
* Burns that involve hot grease or melted clothing sticking to skin
* Any difficulty breathing – possible cases of airway and lung burns, smoke inhalation, with or without burns to the skin
* Any burns covering more than one part of the body
* Any circumferential burn (going around an entire limb or digit)
* Any burns resulting from explosions
* Cases of second degree burn that affect five percent of the body on an adult and three percent of the body of a child
* Any burns on the hands or feet
* Burns that affect the very young or the very old

Treatment

* Cool all burns as rapidly as possible with cool water (not ice) by flushing gently and continuously. Always use standard precautions.
* Remove client from source of heat if possible
* First-degree: run the affected extremity under cool water or apply a cold compress until pain decreases. Clean with soap and water and cover with a clean bandage. Antibiotic ointment is not necessary. Analgesics and burn cream are appropriate for pain relief.
* Second-degree: run the affected extremity under cool water or apply a cold compress to bring the skin temperature down and limit tissue damage. Do not use ice. Clean with soap and water, pat dry and cover with a sterile bandage. Remove jewelry or restrictive clothing and elevate affected extremity. Do not break blisters. Analgesics and burn cream are appropriate.
* Third-degree: maintain airway, if not breathing, as breathing problems are common with third-degree burns. Place a cool cloth on the affected area, cover with a sterile dressing or clean sheet, elevate affected extremity, and watch for signs of shock (rapid pulse/breathing).
* Do not attempt to remove clothing or other fibers in burns, apply ointments to burn or put ice or ice water on the affected area.
* Guard client from hypothermia
* Shock: keep the client lying flat unless the neck or face has been burned or the client is having trouble breathing – then they should be propped up if there is no traumatic injury. Elevate the feet 8-12 inches and cover the client with a blanket to keep them warm but not hot. Give nothing by mouth.

Additional Considerations

* Child abuse can present itself through burns as well as bruising. Young children are frequently burned in the bath tub or sink due to inadequate supervision. Burns with distinctive edges (from being immersed), circular cigarette burns and burns at various degrees of healing all suggest child abuse and should be reported.
* Infants and children have a greater surface area relative to their total size which leads to greater loss of fluid and heat. They are at extra risk for shock, airway difficulties and hypothermia.
* The Rule of Nines is commonly used to estimate the percentage of body that has been affected by the burn. In an adult, the head or one arm represents nine percent of the total body surface, and one leg or the front or back of the trunk represents eighteen percent.
* Clients who have singed nasal hairs or burns around the nose/lips may have experienced smoke inhalation and should be referred to the local health care system.
* Skin damaged by burns easily becomes infected due to the body’s inability to protect itself from invading organisms – do not administer antibiotics unless burns are infected.
* Older adults are especially vulnerable to burns. Older adults lose their ability to sense heat and will often unintentionally become burned.

***See also:*** Infection, Breathing Problems – Shortness of Breath

# BURNS-SUNBURN/RADIATION BURNS

Radiation exposure occurs when a person is near a radiation source. Long periods in the sun without protection (sunbathing, working outdoors), UV light, X-rays, radiotherapy, radiological accident, and certain acts of terrorism (example would be a dirty bomb) can cause damage to skin or other biological tissue. Release of radiation into the environment can create radioactive dust and dirt (fallout). External contamination occurs when loose particles of radioactive material fall on surfaces of skin or clothing. Internal contamination occurs when radioactive particles are inhaled, ingested or lodge in an open wound. Symptoms may occur from hours to days following exposure and may come in cycles.

Treatment Objectives

* Determine source of burn (sun, medical, other)
* Cool burn
* Protect from further damage
* Reduce area of exposure
* Reduce length of exposure
* Prevent or reduce possibility of radiation sickness
* Prevent/reduce long term effects of radiation exposure

History

* Reports being present during a radiation emergency or fear of being contaminated by fall out
* Cancer patient being treated by radiation therapy
* Works in medical, industrial or research site that handles radioactive materials
* Over exposed to sun without sunscreen or appropriate clothing cover

Assessment

* Obtain vital signs
* Intensely painful burn-like skin injuries without a history of exposure to heat or caustic chemicals. Other symptoms may be reported as itching, tingling, erythema (redness), edema (swelling), blistering, ulceration, bleeding, hair loss, skin pigment changes
* Note area affected and record skin characteristics and size of affected area

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Cases of 3rd-degree burns or burns to face and neck
* Any burn that is greater than 3 percent of body surface
* Any cause to believe that burn has caused internal tissue damage
* Any suspected burn from radiologic accident or terrorism; make sure to notify EMS of suspicion of radiologic accident or terrorism so appropriate PPE precautions can be taken. Also notify HS Supervisor and Public Health Authorities.
* Burns in the very young and the elderly
* Any large burn that is blistered or oozing fluid (second degree)
* All burns that are known to be caused by medical radiation

Treatment

* Same as for thermal burns
* Symptom-based
* Topical creams containing aloe vera
* Infection control – keep burn area covered with clean dressing
* Pain management with anti-inflammatory medications such as Ibuprofen, following manufacturer’s directions
* Psychological support

Additional Considerations

* In cases of radiation accident or act of terrorism, it is highly possible that clients may have high anxiety or feelings of panic.
* Cases of exposure involving terrorism may not be identified immediately after the accident.

# CHEST PAIN/PRESSURE

Chest pain is caused by both cardiac and non-cardiac conditions. Examples of non-cardiac conditions include muscle strain in the ribs, pleuritic pain associated with pneumonia and heartburn. Life-threatening non-cardiac chest pain occurs in a pulmonary embolism or dissecting aortic aneurysm. The two main causes of cardiac-related chest pain are angina (temporary chest pain/pressure due to decreased oxygen to the heart muscle) and myocardial infarction (blockage of an artery in the heart muscle causing a heart attack). Hyperventilation can also cause chest pain.

Treatment Objectives

* Early recognition and referral of life-threatening cardiac condition
* Relieve discomfort
* Provide reassurance

History

* Onset of symptoms and circumstances surrounding the onset (at rest vs. physically active) and if symptoms are relieved by rest
* Quality of pain: sharp, dull, aching, stabbing, burning, etc.
* Location of discomfort: epigastric, between the shoulder blades, radiating down one or both arms or up to the jaw, substernal, etc.
* Severity of pain (0-10 scale)
* Past history of heart attack, family history of heart disease/heart attack
* History of angina and treatment
* Presence of additional symptoms, particularly shortness of breath, sweating, nausea or pain radiating to the arms, back or neck
* Past medical conditions that increase the risk for a serious event include prior heart disease, high cholesterol, smoking, prior coronary artery bypass surgery or stents, diabetes, blood clots in the legs or lungs, prior stroke or transient ischemic attacks (TIAs), angina (chest pain) or high blood pressure
* All current medications

Assessment

* Obtain vital signs
* Feel skin for cold/clammy feeling or presence of sweat
* Observe for shortness of breath
* Listen to heart rate/rhythm and breath sounds
* If chest pain can be pinpointed, and pain increases upon touch (can be chest-wall pain)
* Ask client if he/she has pain with coughing or deep breathing

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All new cases of chest pain and all cases of unstable angina in clients with a history of chest pain
* Any client with history of angina who experiences chest pain that does not resolve with their normal treatment (e.g. nitroglycerin therapy) after five minutes
* Any chest pain associated with fever and shortness of breath

Treatment

* Have client rest comfortably and loosen tight clothing
* For clients with a known history of coronary artery disease or stable angina (chest pain upon exertion that resolves with rest), encourage client to rest and take their own nitroglycerin tablet, if available
* For clients without a history of coronary artery disease or clients with unstable angina (chest pain occurring at rest or not responding to usual therapy), encourage client to rest and call local EMS immediately
* Make sure that clients who are already taking daily aspirin have taken their aspirin that day. If not, they should chew an aspirin – unless contraindicated (known allergy to aspirin, etc.).
* If heart attack is suspected - administer at least 2 liters of nasal oxygen via cannulae.

Additional Considerations

* Acute cardiac disease can present with vague symptoms, particularly in the elderly, women and those with diabetes. Be very cautious with these groups.
* Sometimes clients with myocardial infarctions may not have any chest pain but may only experience shortness of breath, sweating or nausea (particularly in the above groups).
* Millions of Americans experience stable angina which does not constitute a medical emergency; however, immediate medical attention is necessary if their usual symptoms change or stop responding to treatment.
* Sudden chest pain associated with breathing difficulty and (maybe) coughing up blood can be indicative of a pulmonary embolism while persistent chest pain with shortness of breath and sweating can be indicative of a heart attack.
* Gastro-esophageal reflux disease (GERD) may be a cause of chest pain and “heart burn” but do not assume that this is the cause.

***See also:*** Abdominal Pain, Back Pain, Breathing Problems, Shortness of Breath, Indigestion,

Nausea/Vomiting

# CHOKING/OBSTRUCTED AIRWAY

Choking is the most common cause of respiratory emergency. A person whose airway is blocked can quickly stop breathing, lose consciousness, and die. The most common causes of choking include:

Trying to swallow large pieces of poorly chewed food

Wearing dentures

Eating while talking excitedly or laughing or eating too fast

Walking, playing, or running with food or objects in the mouth

Recent alcohol consumption

Treatment Objectives

* Prevent loss of consciousness or death
* Return breathing to normal

History

* Onset of choking
* Determine whether this is an airway obstruction emergency
* Determine whether the obstruction is partial or complete

Assessment

* Cause of obstruction – tongue, swollen tissues of mouth or throat, food, small toy, dentures or fluids such as vomit, blood or mucus
* Partial obstruction – still able to move air to and from lungs
	+ wheezing sounds
	+ clutching at throat (universal sign of distress from choking)
	+ coughing
	+ a partial obstruction can quickly become a complete obstruction
* Complete obstruction-no air movement to and from lungs
	+ unable to speak, cry, breathe or cough effectively
	+ high-pitched sound to no sound at all
	+ dusky appearance

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of suspected airway obstruction
* Client is unconscious
* If client is an infant, child or elderly
* If ability to cough is not forceful enough to clear the obstruction

Treatment

* Conscious Adult – Cannot cough, speak or breathe
	+ Check Scene and then Check Person. First Ask, “Are you choking?” If client says yes, nods, or clutches throat, obtain consent and start the following procedure either in a standing or seated position:
	+ Have someone call 911
	+ Lean the person forward and **give** 5 back blows with the heel of your hand.
	+ Abdominal thrusts to a **conscious** adult: stand behind victim and wrap arms around his or her waist. Make a fist with one hand and place the thumb side against the middle of the victim’s abdomen just above the navel and well below the lower tip of the breastbone.
	+ Grab your fist with your other hand and give 5 quick upward abdominal thrusts
	+ Continue back blows and abdominal thrusts until object is forced out, person can breathe or cough forcefully, or person becomes unconscious
	+ Even if object is removed and client resumes normal breathing, offer to send him/her to the Emergency Room.
* Unconscious choking adult – Breaths do not go In
	+ If victim becomes unconscious, lower victim to the floor
	+ Open airway by tilting the head back
	+ If object is observed, attempt to dislodge and remove the object by sweeping it with your index finger. Use a hooking action to remove the object, being careful not to push the object deeper into the victim’s throat.
	+ Try to open the victim’s airway by using the head-tilt/chin lift (as in CPR). Often the throat muscles relax enough after the person becomes unconscious to allow air past the obstruction into the lungs.
	+ Give 2 rescue breaths – if air does not pass, assume the airway is still obstructed
	+ If the chest does not rise, give 30 chest compressions. Remove breathing barrier when giving chest compressions
	+ Look for an object – remove if one is seen
	+ Try 2 rescue breaths. If breaths do not go in, reposition head and repeat.
	+ Repeat sequence until object is expelled, you can breathe air into the victim, or until EMS arrives.
	+ Monitor breathing and pulse
	+ Even if adult expels object that caused the choking, and seems to be breathing well, adult should be taken to local Emergency Room, as they may still have unidentified breathing problems.
* Conscious Choking Child, Age 1 to 12 – Cannot cough, speak or breathe
	+ Check Scene and then Check Child
	+ Have someone call 911
	+ Obtain consent form parent or guardian, if present
	+ Lean the child forward and give 5 back blows with the heel of your hand
	+ Give 5 quick, upward abdominal thrusts
	+ Continue back blows and abdominal thrusts until object is forced out, child can breathe or cough forcefully, or child becomes unconscious
	+ Even if the child expels the object and seems to be breathing well, refer for advanced medical follow-up at the nearest Emergency Room
* Unconscious choking child – Breaths do not go in
	+ Retilt child’s head and try 2 rescue breaths
	+ If chest does not rise, give 30 chest compressions
	+ Look for an object and remove if one is seen
	+ Try 2 rescue breaths
	+ If breaths go in – check for signs of life, including a pulse
	+ Give care based on conditions you find
* Conscious Choking Infants, Under age 1
	+ Check Scene and then Check Infant
	+ Have someone call 911
	+ Obtain consent to give care from parent or guardian present
	+ Give 5 chest thrusts
	+ Continue back blows and chest thrusts until object is forced out, infant can breathe or cough forcefully, or infant becomes unconscious
	+ Even if an infant seems to be breathing well, send to closest Emergency Room as he/she should be examined by more advanced medical personnel as soon as possible
* Unconscious Choking Infant
	+ Assess ill or injured infant
	+ Re-tilt infant’s head and try 2 rescue breaths
	+ If chest does not rise, give 30 chest compressions
	+ Look for an object. Remove if one is seen
	+ Try 2 rescue breaths – If breaths do not go in continue rescue breaths and compressions until signs of life return including a pulse
	+ Give care based on conditions you find and send to closest Emergency Room for assessment

Additional Considerations

* Breathing may be partially or completely obstructed by an anatomical obstruction or a mechanical obstruction:
	+ An anatomical obstruction occurs when the airway is blocked by an anatomical structure like the tongue or swollen tissues of the mouth and throat. This can also be the result of an injury to the neck or a medical emergency such as anaphylactic shock.
	+ A mechanical obstruction occurs when the airway is blocked by a foreign object, such as a piece of food, a small toy, or fluids such as vomit, mucus, or saliva.
	+ Obstructions can be partial or complete. The airway structures of infants and children are smaller and more easily obstructed than an adult airway. An infant’s airway and eating skills may not be fully developed.
* If a parent or guardian is present, obtain consent before caring for a conscious choking infant. Tell the infant’s parent or guardian your level of training and the care you are going to provide. Consent is implied if the parent or guardian is not available.

# COLD-RELATED INJURY – FROSTBITE

Exposure to extreme cold, usually affecting the hands, feet, nose and/or ears, can result in injury.

Treatment Objectives

* Prevent additional injury to client
* Reverse tissue damage

History

* Nature and duration of exposure to cold
* If the client has sensation in the affected area
* Medical history of peripheral vascular disease, diabetes, smoking or alcohol abuse
* Current medications

Assessment

* Obtain vital signs and document
* Early stages: skin cold, pale or reddened, with either a “pins and needles” burning pain sensation or numbness
* Later stages: skin waxy-looking, red/black/blue discoloration, and swollen usually without pain. Blisters may present.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All suspected cases of frostbite; particularly if there is no sensation or reduced sensation present

Treatment

* It is important that the tissue not re-freeze once re-warming has begun – this will lead to extreme tissue damage. If re-freezing is a possibility, it is better not to attempt to re-warm prior to transferring the client to a medical facility.
* Ensure a warm environment and remove any wet or cold clothing from client
* Do not massage frostbitten extremities
* Re-warm the affected area by placing the extremity in warm water (100-105° F) for approximately 30 minutes. Make sure that it is not too hot by testing it yourself. The water may need to be changed frequently to prevent re-freezing.
* If warm water is not available, place warm blankets around extremity – do not place near direct heat as skin may burn.
* Encourage client to move extremities (fingers or toes) but not to walk on affected extremity
* Place gauze between fingers and toes
* Provide client with warm, non-caffeinated, non-alcoholic beverages
* If client is experiencing pain and requests medication, ibuprofen or acetaminophen is appropriate unless contraindicated.
* Do not break blisters

Additional considerations

* People who take beta-blockers are at increased risk of frostbite due to the decreased blood flow to the skin.
* Clients with a history of atherosclerosis (hardening of the arteries) and Raynaud’s disease are also at increased risk
* Hypothermia and frostbite may occur together

***See also:*** Cold-Related Injury – Hypothermia

# COLD-RELATED INJURY – HYPOTHERMIA

Prolonged exposure to icy water or other cold environments results in a core body temperature less than 95° F.

Treatment Objectives

* Return body temperature to normal
* Prevent injury or death of client

History

* Nature and duration of exposure to cold environment
* Type and extent of injury, if any
* Alcohol use
* Chronic diseases
* Current medications

Assessment

* Obtain vital signs (especially oral temperature)
* Delayed/altered mental state or loss of consciousness is a sign of a serious problem
* The presence of shivering is a good sign – lack of shivering may indicate severe hypothermia (usually associated with mental status changes).
* Pulse rate may be slow and/or irregular.
* Check for signs of frostbite. Refer to Cold-Related Injury – Frostbite protocol.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of near-drowning
* All clients with mental status changes or drowsiness
* Any client with an oral temperature less than 93° F
* Any client with mild hypothermia (93-95° F) who is not able to maintain an oral temperature of greater than 95° F after attempts are made at re-warming

Treatment

* Remove client from cold environment
* If unconscious, handle the client very gently as sudden movements/jolts can cause cardiac arrest.
* Remove wet clothing and cover client in warm clothes, towels, blankets. Do not apply direct heat to client or massage limbs.
* If conscious, provide client with warm, non-caffeinated, non-alcoholic drinks.
* If CPR must be initiated on a client with hypothermia, continue to perform CPR even if client appears to be deceased until the body temperature can be raised above 90° F.

Additional Considerations

* Diabetics and others with poor circulation, those with congestive heart failure or taking beta-blockers, and alcoholics are more susceptible to hypothermia.
* Older adults and young children are especially susceptible to hypothermia.
* Most thermometers do not accurately measure temperature below 94° F.
* Environment does not have to be extremely cold – prolonged exposure to cool or damp environments may also cause hypothermia.
* Immersion in cold water rapidly leads to hypothermia.

***See also:*** Cold-Related Injury – Frostbite

# CONFUSION – ALTERED MENTAL STATUS

Confusion may be a symptom associated with an acute medical problem (e.g. infection, hypoxia, hypotension, low blood sugar, stroke, etc.). Other causes include fever, fluid/electrolyte imbalances, poisoning, the use of certain medications (over-the-counter, prescription and illegal drugs), or chronic disease (e.g. Alzheimer’s disease), mental, emotional or behavioral disorders.

**SEE ALSO DIABETIC EMERGENCIES; AS WELL STANDING ORDERS FOR GLUCOSE/GLUCAGON IN APPENDIX 1B**

Treatment Objectives

* Resolve confusion associated with situational disorientation
* Identify and rectify potential safety concerns for clients with chronic confusion
* Assess for acute and/or serious conditions

History

* Onset of symptoms – sudden confusion (hours to days) vs. progressive confusion (months to years)
* History of confusion in the past
* Concurrent symptoms indicative of infection – headache, fever, frequency and/or burning of urination, recent respiratory infection, etc.
* Recent visual and/or auditory hallucinations
* Recent change in sleep pattern or sleep deprivation
* Past medical problems
* Current medications taken – both prescription and illegal

Assessment

* Obtain vital signs: hypotension, tachypnea, and tachycardia are serious findings
* Assess for level of consciousness (awake and talking, awake/not talking, can be aroused by voice, aroused by pain, not aroused)
* Assess for level of orientation (person, place, time)
* Evidence of head injury
* Ability to answer questions appropriately
* Ability to follow a conversation
* Ability to understand where they are
* Ability to remember important facts
* Ability to make critical judgments that affect safety

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any case of sudden or rapid-onset confusion
* Any case of unexplained confusion
* Any client suspected of being a risk to themselves or others
* Any case of slow-onset confusion or change in baseline status
* Any case requiring possible adjustment in prescribed medications

Treatment

* Do not administer anything by mouth to confused clients
* Treat possible causes of delirium, as it is an acute condition in which there is almost always an underlying physical condition which requires immediate medical diagnosis and treatment. Those clients experiencing delirium are also at risk of injuring themselves or others, either intentionally or unintentionally – implement measures to protect the client and others from injury.
* Encourage the caregiver to re-establish a routine as quickly as possible and to re-orient the client to person, place, time, and new environment (if applicable) frequently. Since symptoms of confusion frequently worsen in the evening, closer supervision by the caregiver should be encouraged for the evening hours.

Additional Considerations

* Disorientation is a state of confusion involving time, place or person in an otherwise alert individual. Transient, situational disorientation to time and/or place is often benign.
* If confusion develops or worsens suddenly, this can be an indication of delirium. This could be due to a serious medical condition or the affects of drugs, and should be referred to advanced medical care immediately for diagnosis and treatment. Abruptly stopping the use of alcohol and many medications, both prescription and illicit, may also cause delirium. In young people, sudden delirium may be due to a serious infection, like sepsis, meningitis or encephalitis. In older adults, sudden confusion may be due to an infection somewhere else in the body – dehydration, urinary tract infection, pneumonia or influenza.
* Dementia is characterized by a slower, more insidious onset of confusion. Chronic dementia can be managed in the shelter environment as long as the client is not at risk of harming him or herself or others and has a family member or caregiver with him/her.

***See also:*** Bleeding, Dizziness, Fainting, Headache, Diabetic Emergencies, Poisoning, Shock, Stroke, Substance Abuse/Withdrawal, Fever

# CONGESTION – LOWER RESPIRATORY (“CHEST COLD” SYMPTOMS)

Lower respiratory illness may be caused by bronchitis or pneumonia and is characterized by frequent coughing (productive or non-productive) with or without a fever. Pneumonia has many different causes (aspiration into the lungs, decreased breathing volume post-surgery, etc.).

Treatment Objectives

* Alleviate symptoms
* Prevent spread of illness
* Prevent acute respiratory distress

History

* Any chest or lung pain associated with breathing (pleuritic pain)
* Underlying condition or illness which may predispose a client to bronchitis and/or pneumonia (emphysema/COPD, heart failure, HIV/AIDS, poor general health, etc.)
* Recent upper respiratory infection or exposure to an individual who had a known or suspected respiratory infection
* Exposure to any known respiratory irritant (chemicals, dust, etc.)
* History of smoking tobacco products
* History of alcoholism
* History of chronic sinus problems or environmental allergies
* Recent extended stay in a hospital or nursing home
* Current medications taken
* History of vaccination – pneumococcal (within five years) or influenza (current year)

Assessment

* Obtain vital signs
* Presence of tachypnea (respiratory rate greater than 24 per minute) – a sign of serious lung compromise
* Assess for signs/symptoms of an upper respiratory infection (runny nose, sore throat, fatigue, and perhaps a mild fever) which may lead to a lower respiratory infection
* Assess for presence of phlegm associated with cough which may be clear/white (common in viral infections) or green/yellow (common in bacterial infections) or blood-tinged (common in bacterial infections and pulmonary emboli)
* Listen to breath sounds: rales, wheezes or rhonchi may indicate a significant problem.
* Observe for signs of shortness of breath

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Clients with respiratory distress (shortness of breath, resting respiratory rate greater than 24 per minute)
* Clients with a change in level of consciousness (may indicate hypoxia)
* Clients with acute shortness of breath that may be related to heart disease
* Any client with an acute coughing illness that includes a fever of greater than 101° F or discolored (green/yellow) or blood tinged sputum
* Any case of cough (non-chronic), with or without fever, that lasts more than one week, has blood in the sputum, and/or the client has a history of or possible exposure to tuberculosis
* Any client that is experiencing trouble breathing due to a cough and/or thick mucus
* Any suspected case of pneumonia or client with “wet” breath sounds

Treatment

* For dry, non-productive coughing, encourage the client to rest and drink plenty of fluids (noncaffeinated and non-alcoholic). If requested, a cough suppressant would be appropriate, unless contraindicated.
* For productive coughing, cough suppressants should not be encouraged as coughing is an effective means for moving phlegm out of the lungs. Clients should rest and drink plenty of fluids. An expectorant would be helpful to loosen phlegm, unless contraindicated.
* If not contraindicated, an NSAID (Ibuprofen) or acetaminophen would help reduce fever.
* Restrict use of cold and cough medications for all children younger than six years old
* Encourage the client to breathe the steam from a bath of hot water (with a towel draped over the head). This may help loosen phlegm and dilate narrowed airways.
* Reinforce infection control measures to limit spread of contagious diseases.

Additional Considerations

* Pleuritic pain, fever and shortness of breath are commonly seen symptoms in cases of pneumonia.
* Wheezing may or may not be present in bronchitis or pneumonia.
* “Wet” breath sounds are typically present in pneumonia and do not clear with coughing. Wet breath sounds may also be heard in bronchitis but tend to clear or move with coughing.
* Chronic bronchitis and bronchitis that is suspected to be caused by a viral infection (white or clear mucus) do not respond to antibiotic therapy.
* Vaccination may prove effective at preventing some pneumonia and should be recommended for all clients over the age of 65 and high-risk clients – immuno-compromised, diabetics, and those with cardiac/pulmonary disease.

***See also:*** Breathing Problems, Cough, Fever, Influenza, Sore Throat

# CONGESTION – UPPER RESPIRATORY (“COLD” SYMPTOMS)

Symptoms may be caused by viral infection or less frequently, bacterial infection. Allergies (“hay fever”) may also cause any or all of the following: headache, sore throat, nasal congestion, cough, sneezing, runny nose, fever.

Treatment Objectives

* Alleviate symptoms
* Prevent spread of illness

History

* Specific symptoms the client is experiencing and when they began
* Any known environmental allergies
* Known exposure to others with similar symptoms
* Recent travel, especially international

Assessment

* Obtain vital signs. Note if fever is present.
* Examine back of throat for redness, enlarged tonsils or exudates (pus)
* Palpate (feel) lymph nodes under jaw line and anterior neck for tenderness and/or enlargement
* Observe respiratory effort – count respirations for one minute
* With a stethoscope listen to breath sounds for wheezing, rales, rhonchi or diminished sounds
* Note the color and amount of phlegm

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Chest pain and/or shortness of breath
* Difficulty swallowing, unable to swallow or control saliva, speech is muffled
* Altered mental status
* Any client with a fever greater than 101° F or blood-tinged nasal discharge or sputum
* Facial pain, particularly if associated with a fever (may indicate acute sinusitis)
* Any symptom(s) that persist more than 5 days, or that worsen
* Evidence for Strep Throat or other contagious diseases

Treatment

* Encourage client to drink plenty of fluids, rest, and not come in close contact with others (no sharing of drinks, etc.)
* Encourage client to cover his or her mouth when coughing and to wash his or her hands frequently throughout the day
* If the client is requesting medication, over-the-counter medications geared toward treatment of specific symptoms should be used.
* Antihistamines are used for congestion caused by hay fever.
* Anti-tussives may be effective cough suppressants – restrict use of cold and cough medications for all children younger than six years old.
* Decongestants work to clear nasal congestion but should be used with caution in clients with a history of high blood pressure.
* Expectorants work to loosen phlegm and mucus.
* Analgesics may also be appropriate to help alleviate aches and pains.
* Ensure that medications are not contraindicated prior to distributing to client
* Encourage parents to offer frequent fluids to help alleviate congestion
* Saline nose drops and a bulb syringe can be used in infants with nasal congestion.
* Reassure clients and parents that most viral infections will resolve with time
* Reinforce infectious control measures to limit spread of contagious diseases

Additional Considerations

* A “cold” is not the “flu.” Influenza is a rapid-onset acutely febrile illness associated with severe myalgia, but rarely a runny nose.
* Many over-the-counter “cold” treatments have many different medications included and are geared toward treating multiple symptoms. Try to treat only those symptoms presented by the client by choosing medications with a single active ingredient. Pay special attention to ingredients that may be contraindicated in clients with high blood pressure.
* Non-seasonal outbreaks of upper-respiratory symptoms may suggest an alternative diagnosis – public health officials should be notified in suspicious cases.
* Persons with altered immunity and certain co-morbidities (lung disease, diabetes) are more susceptible to illness and are at higher risk for progression to more serious illnesses like pneumonia and respiratory distress.
* Smokers or others with a chronic cough should not be treated with antitussives.
* Many over-the-counter medications are not appropriate for pediatric clients younger than 12 years. Medication prepared especially for children ages 6 and over should be used only according to the manufacturer’s dosage guidelines.
* Parents should always use a measuring device (dropper, dosing cup or spoon) when administering liquid medications.
* Parents may not be aware of the recent FDA recommendations regarding cough and cold medicines in children and should be educated accordingly.

***See also:*** Breathing Problems, Cough, Fever, Sore Throat

# CONSTIPATION

Constipation is the infrequent or uncomfortable passing of stool. This condition may be chronic or acute. One cause of constipation is slowing of stool transport through the intestines due to inactivity, certain medications, or other disorders. Other causes include dehydration, low-fiber diet, and obstruction.

Treatment Objectives

* Return bowel habits to normal.
* Reduce discomfort.

History

* Determine the normal bowel habits
* Date of last bowel movement
* Pain either during a bowel movement or between
* Cramping and/or bloating
* Nausea or loss of appetite
* Recent dietary changes
* Current medications taken
* History of chronic bowel problems or surgery

Assessment

* Obtain vital signs
* Palpate abdomen for distention or tenderness
* Listen to abdomen for bowel sounds

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any case of constipation that causes the client great concern
* Any marked change from usual bowel habits
* Any case of constipation with abdominal tenderness

Treatment

* Chronic constipation: encourage client to incorporate more fruits, vegetables and bran into his or her diet. Drinking plenty of fluids and increasing activity will help, as well. If a laxative is necessary, recommend the client take whatever medication has been effective in the past.
* Acute constipation: encourage the client to take all of the above actions. When medication is necessary, encourage the client to take a medication suited to their situation, unless contraindicated. Stool softeners work well to increase the water content in the stool and reduce the effort needed to pass stool, making it a good choice for those clients who recently underwent surgery or who otherwise should not strain. Stimulant laxatives use irritating ingredients to stimulate the walls of the intestine to contract and move stool. Enemas serve to mechanically flush stool out of the colon.

Additional Considerations

* Older adults are more prone to constipation due physiologic changes that take place in the colon, increased use of medications, and inactivity
* Prolonged use of laxatives can cause a change in the lining of the intestines and create a dependence on the medication.

***See also:*** Abdominal Pain, Back Pain, Indigestion

# COUGH

Coughing occurs when the airway is irritated and can be caused by allergies or respiratory infection. Common causes of cough are allergies, respiratory infections, asthma and congestive heart failure. Common causes of nocturnal cough (cough at night) are congestive heart failure and gastroesophageal reflux disease (GERD).

Treatment Objectives

* Reduce cough symptoms
* Prevent injury to client
* Assess for more serious health condition

History

* How long the client has had the cough
* What time of day the cough occurs
* What factors affect the cough (cold air, eating, lying down, etc?)
* Any associated shortness of breath, chest pain, hoarseness, dizziness, wheezing, chills/fever or night sweats
* Presence of sputum and amount/color of sputum
* History of smoking tobacco products
* History of asthma, emphysema/COPD, bronchitis, GERD, congestive heart failure
* History of immune suppression

Assessment

* Obtain vital signs (especially temperature and respiratory rate)
* Observe for shortness of breath
* Listen to breath sounds – may be decreased over a certain area or there may be congestion that does or does not clear with coughing
* Observe the client for effectiveness of cough (is the client able to clear phlegm?)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client who is short of breath or unable to catch their breath due to coughing
* Any client who is experiencing a cough with fever or has blood in their sputum

Treatment

Comply with FDA recommendations and disaster health services guidance that

* Clients with a new cough should be encouraged to cover their nose and mouth when they cough, wash their hands frequently, and avoid direct contact with other clients as their cough could be caused by an infectious agent.
* Clients experiencing a new cough or a cough with fever should be encouraged to rest, drink plenty of fluids, and take analgesics and/or antipyretics and cough medications as needed.
* Antitussive therapy: may be effective at suppressing a cough, unless contraindicated. Coughs that are productive (able to move phlegm) should not be suppressed but the underlying cause of the cough should be identified and treated appropriately (i.e., coughing caused by bacterial respiratory infection should be treated with antibiotics). These products usually come in the form of a liquid or cough drop.
* Expectorant/Mucolytic therapy: for dry or unproductive coughs, expectorants, and mucolytics are effective at loosening and thinning phlegm, unless contraindicated. They do not suppress a cough.
* Non-pharmaceutical therapies include warm, moist vapor (such as a humidifier) to reduce airway irritation.
* Teach regarding all OTC drug therapies and advise client to make good choices to manage symptoms. Restrict use of cold and cough medications for all children younger than six years old.

Additional Considerations

* Brown, yellow or greenish sputum may, but not always, indicate a bacterial infection
* Blood in the sputum (hemoptysis) may be caused by pneumonia, pulmonary emboli or tuberculosis.
* Antihistamines and decongestants are not effective at treating a cough unless the cough is caused by allergic irritants.
* Croup is a hacking, bark-like cough sometimes experienced by children – mostly at night and is characterized by a croaking sound upon inhalation and difficulty breathing. Treatment includes a mist vaporizer or sitting with the child in a closed, steam-filled bathroom while working to calm and reassure the child. Call 911 if symptoms become worse or do not respond to treatment within 20 to 30 minutes.
* A cough in a child younger than three years may be caused by an aspirated foreign body.
* Whooping cough (Pertussis) is a highly contagious disease that, because of immunization, is uncommon in the United States. Pertussis is characterized by fits of coughing that end in a high-pitched, deeply in-drawn breath and affects mostly children younger than five years. If whooping cough is suspected, refer client to the local healthcare system for diagnosis and treatment.

***See also:*** Breathing problems Asthma/COPD, Congestion, Fever

# CRAMPS – ABDOMINAL

Gastrointestinal causes include non-specific upset (gas, bloating), food allergies/lactose intolerance, food poisoning, and infections (viral or bacterial gastroenteritis). Gynecologic/ obstetric causes include menstrual cramping and uterine contractions (pregnancy).

Treatment Objectives

* Reduce discomfort
* Assess for more serious health condition

History

* Quality of pain (cramps vs. dull ache)
* Location – menstrual cramping is frequently present in the pelvis/lower abdomen, back and legs, while intestinal cramping may be diffuse over the abdomen and may radiate to the back
* Presence of typical symptoms of pre-menstrual syndrome
* Present, anticipated, or missed menstrual cycle
* Known or suspected pregnancy
* Presence of nausea, with or without vomiting, and diarrhea associated with gastrointestinal illness
* Ingestion of unfamiliar food or food not eaten regularly

Assessment

* Obtain vital signs
* Pain Scale index 0-10
* Assess for tenderness, distention, or guarding: these could be signs of a more serious condition – refer to Abdominal Pain protocol

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any possibility of miscarriage or premature labor
* Any case of abdominal pain/cramps associated with tenderness to palpation
* All suspected cases of food poisoning or gastrointestinal infections
* Any severe abdominal discomfort of unknown origin
* Diarrhea that continues for more than three days

Treatment

* For suspected GI upset or food poisoning: encourage the client to rest in a comfortable position
* If client has been vomiting, wait until vomiting stops and encourage client to drink small amounts of mild fluids frequently (water, tea, electrolyte fluids such as Gatorade). Do not give food, especially fatty or fried foods.
* For pre-menstrual/menstrual cramping: non-steroidal anti-inflammatory medications work well to alleviate discomfort, unless contraindicated. Warm compresses may also help. Encourage sleep and exercise regularly to help relieve some discomfort.

Additional considerations

Menstrual cramps usually begin approximately 24 hours before menstruation and can last up to two days after onset of menstruation.

Traveler’s diarrhea, frequently experienced when traveling outside of the country or to lesser developed countries, can be effectively treated with plenty of water and anti-diarrhea medications.

***See also:*** Abdominal Pain, Constipation, Diarrhea, Indigestion, Nausea/Vomiting, Vaginal Discharge/Itching, Childbirth, Miscarriage

# CRAMPS – MUSCULAR

Cramps can occur due to fatigue, over-exercising, tension and infection. Exercise-induced electrolyte imbalance and poor circulation to the leg may also be the cause of muscle cramping. Muscle cramps usually affect the calf muscles and feet.

Treatment Objectives

* Eliminate cramping/pain
* Reduce discomfort

History

* Location and severity of the cramp
* Presence of a recent injury
* Recent strenuous or prolonged physical activity
* Amount of water consumption over the past 24 hours – especially in warm climates

Assessment

* Obtain vital signs
* Assess affected area for injury bruising, lumps, swelling or point tenderness

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any cramp not relieved with rest, massage, analgesics and warm compress

Treatment

* Encourage gentle massage and stretching of cramped muscle
* Encourage hot baths or warm compresses on affected areas
* For cramps in the feet and/or toes, gently pull the toes up toward the body on the front of the foot to stretch the muscles
* An over-the-counter analgesic may be helpful at reducing pain, if not contraindicated.
* For prevention, drink plenty of water and stretch properly before exercise

***See also:*** Arm/Hand Injury and Pain, Back Pain, Dehydration, Heat-Related Illness,

Leg/Foot Injury and Pain, Neck Pain/Stiffness

# CUTS AND SCRAPES/LACERATIONS AND ABRASIONS

Injuries involve an open wound in which the skin has been broken due to a cut by a sharp object or scrape.

Treatment Objectives

* Stop any bleeding
* No delay referral if wound(s) need closure
* Prevent further injury or infection

History

* Activity engaged in when the cut or scrape occurred
* Pain score (0-10 scale)
* Type of object that caused the cut and/or scrape
* Date of last tetanus shot
* Current medications, especially anticoagulants or steroids

Assessment

* Obtain vital signs
* Assess for bleeding
* Determine depth of cut and if any tendons and/or ligaments are exposed
* Check for function distal to the cut/scrape (have the client move their fingers, toes, etc.)
* Look for objects or dirt embedded in the cut or under the skin, but do not probe

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Severe bleeding or bleeding that does not stop with direct pressure and/or elevation of limb after 10 minutes:
* Any wound that is longer than 1/3 inches, is on the face, is deep or has edges that do not meet up
* Any cut caused by an obviously dirty object
* Any potential nerve or tendon involvement
* All puncture wounds
* Any signs of infection (redness, swelling, skin warm to touch)
* Any client wishing to receive a tetanus booster

Treatment

* Cuts
	+ Use standard precautions before handling wound
	+ If bleeding, apply direct pressure over the wound with sterile dressing for 5-10 minutes or until bleeding stops
	+ Once bleeding has stopped, wash wound with soap and flush copiously with water. Be sure to clean out any obvious objects or dirt in wound
	+ Pat dry and apply a dry, sterile dressing. The use of a triple antibiotic ointment to superficial cuts and abrasions may reduce the risk of infection
* Scrapes
	+ Wash your hands with soap and water and apply gloves before handling wound
	+ Wash wound with soap and water. Minor scrapes should be left open to air. Large wounds should be covered with an antibiotic ointment and sterile dressing.

Additional Considerations

* Wounds to the scalp may be very bloody even if the wound is minor.
* Puncture wounds typically bleed very little, if at all, but are at increased risk for tetanus.

***See also:*** Bleeding, Bruising, Arm/Hand Injury and Pain, Leg/Foot Injury and Pain, Rape/Sexual Assault, Violence/Domestic Abuse, Shock

# DEHYDRATION

Dehydration occurs when the body loses more water than it takes in. Losses could be due to diarrhea, vomiting, and heat stress/excessive sweating. Inadequate intake may be due to nausea/vomiting and lack of potable water or other fluids. In addition, certain diseases (Addison’s disease, uncontrolled diabetes mellitus, diabetes insipidus), and certain drugs (diuretics, lithium, excessive alcohol) cause an increase in urination which may cause dehydration.

Treatment Objectives

* Return fluid balance to normal
* Prevent injury to client
* Treat underlying cause of dehydration
* Assess for more serious health condition

History

* Mental confusion or lethargy (a sign of severe dehydration)
* Recent increase in thirst or constant “dry mouth” sensation
* Decreased sweat
* Diminished or absent urination
* Color of urine (light/clear vs. dark yellow/amber)
* Less than six wet diapers per day for infants
* Recent episode of diarrhea/vomiting
* Current medications
* Weakness, dizziness, lightheadedness, fatigue

Assessment

* Obtain vital signs – check specifically for orthostatic hypotension (lightheadedness or low blood pressure when client stands up)
* Look at skin and mucous membranes for dryness – lips may be cracked and/or dry. Client may report “dry mouth”.
* Reduced skin elasticity/turgor (‘tenting’ – loss of ability to “bounce back” when pinched)
* Lack of perspiration if febrile or overheated
* Sunken eyes or, for infants, sunken fontanels (soft spots on head)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Signs of moderate dehydration in infants, children or the elderly who can become severely dehydrated more quickly – sunken eyes, no tears, sunken soft spot on infants head
* All suspected cases of severe dehydration (confusion, lightheadedness, low blood pressure, tachycardia/fast pulse)
* Any client whose symptoms of mild dehydration do not improve with fluid therapy
* Any client that is not able to take liquids him or herself to rehydrate
* No urination in eight hours (for adults) or fewer than six wet diapers per day (for infants)
* Any client taking a medication or with a pre-existing disease for which excess fluid loss/dehydration may occur

Treatment

* Encourage all clients to drink six glasses of water or fluid daily – increasing their intake during hot days or after physical exertion. Avoid caffeine and alcohol.
* Mild dehydration can be treated by drinking plenty of water and replacing lost electrolytes with a sports drink. Children should receive oral rehydration solutions such as Pedialyte. Drink small amounts frequently, rather than a large glassful. Once the client is re-hydrated, follow-up with him or her to make sure he or she continues to drink plenty of fluids.
* When necessary, oral rehydration solution can be made by mixing ½ teaspoon salt, ½ teaspoon baking soda, and three tablespoons sugar in a quart of pure water.
* All fluids should be given slowly and at frequent intervals. A general rule of thumb is to continue giving fluids until urine output increases and the urine color is light yellow.
* Identifying and treating the cause of dehydration will help prevent recurrent episodes (diarrhea, etc.) – refer to Diarrhea protocol.
* Severe dehydration, characterized by low blood pressure, orthostatic hypotension, mental confusion (irritability in infants), and/or reduced consciousness, along with the classic signs of dehydration, should be referred to local EMS immediately.

Additional Considerations

* Older adults and young children are at increased risk for dehydration
* Globally, dehydration is second to diarrhea as the leading cause of death in children
* Avoid using beverages other than water. Sports drinks and rehydration solutions to treat dehydration can make the condition worse. Coffee and soda are also contra-indicated. Too much fruit juice, especially in children, can also make diarrhea worse.
* Clients with diabetes mellitus, who are not at risk for hypoglycemia, should always be given sugar-free fluids.

***See also:*** Bleeding, Cramps – Muscular, Diarrhea, Fever, Heat-Related Illness, Shock

# DIARRHEA

The causes of diarrhea may not always be easy to pinpoint. Some possible causes may be a viral infection. Medications, antibiotics or inflammation of the intestinal lining from illness or food intolerance can cause diarrhea. Maybe caused by food or water borne pathogens. In some people, emotional stress and anxiety may cause diarrhea.

Treatment Objectives

* Relieve symptoms
* Prevent spreading of bacterial and viral infection to others

History

* Increase in the volume, frequency and wateriness of stool
* Presence of abdominal pain
* Color of stool (red, maroon or black, tarry stools may an indicator of blood)
* Presence of gas, cramping, urgency, nausea/vomiting
* Onset of symptoms (sudden/acute vs. persistent/chronic)
* Recent changes in diet
* Current medications, especially antibiotics
* Exposure to others with similar symptoms
* Signs/symptoms of dehydration – refer to Dehydration protocol

Assessment

* Obtain vital signs, especially temperature
* Assess for dehydration – refer to Dehydration protocol
* Palpate abdomen for tenderness, guarding, and distention

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Diarrhea associated with fever greater than 101° F, passing of painful stool, abdominal pain or blood in stool (red, maroon, black or tarry color)
* Diarrhea that persists for more than 72 hours
* Inability to take oral fluids
* Any child with currant-colored, jelly-like stools (a sign of intussusception or telescoping of the intestine)

Treatment

* In cases of non-bloody stool, encourage small frequent sips of water, but no food for several hours. Then advance to eating mild foods, such as rice, dry toast, crackers, bananas and applesauce.
* Avoid spicy foods, fruits, alcohol and caffeinated drinks until 48 hours after diarrhea has stopped
* Avoid use of over-the-counter anti-diarrhea medications for first 6 hours, and then use only if there are no other signs of illness, such as fever or cramping. Symptoms will usually resolve within 24-48 hours. Advise client to stop taking them as soon as stools thicken.
* Antibiotic-caused diarrhea: the use of antibiotics may cause diarrhea by killing the good bacteria in the intestines. If symptoms are severe, another antibiotic may need to be prescribed.
* Inflammation: encourage the client to remove the irritant from their diet (coffee, fatty/spicy foods, etc.), and the symptoms should resolve.
* Encourage the client to increase the amount of fluid intake (non-alcoholic/non-caffeinated) to help prevent dehydration

Additional Considerations

* Infectious control measures should be immediately instituted. Recommend contact precautions, such as disinfecting surfaces that clients come in contact with. Infectious diarrhea is easily spread to others, particularly in crowded conditions. Encourage the client to wash their hands frequently (and after every trip to the restroom) and avoid close contact with others.
* If there are multiple cases of diarrhea in a single facility or from a common food or water source, consult the local health department to investigate.

***See also:*** Abdominal Pain, Cramps – Abdominal, Dehydration, Indigestion, Nausea/Vomiting

# DIZZINESS (VERTIGO)

Symptom can be described as a false sense of self or surroundings or the feeling of moving or spinning frequently accompanied by nausea and loss of balance. Possible causes include inner ear problems, brain disorders, motion sickness, transient ischemic attack, increased intracranial pressure and certain medications.

Treatment Objectives

* Assess for more serious health condition
* Relieve uncomfortable symptoms
* Prevent injury to client

History

* Onset of symptoms
* Presence of any additional symptoms: nausea/vomiting, headache, vision changes, blurry vision and/or headache, slurred speech, weakness in arms or legs, uncoordinated movement (may indicate brain involvement)
* Recent upper respiratory infection
* If sensation is present at rest or with abrupt change of position
* Sense of fullness in one and/or both ears or change in hearing
* Ringing in the ear (tinnitus)
* History of brain and/or inner ear disorder
* Current medications

Assessment

* Obtain vital signs
* Assess for mental status changes/confusion
* Observe client’s gait and motor control
* Assess for unintentional eye movement (nystagmus, or jerkily moving eyes)
* Listen for slurred speech when client speaks
* Check for coordinated movement and muscle strength in extremities

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any case of vertigo accompanied by slurred speech, severe headache, muscle weakness, or uncoordinated movement
* Any case of vertigo that does not resolve itself within two days or prevents client from being able to sit/walk
* Any case of sudden or rapid onset vertigo

Treatment

* Have the client lay quietly in a position of comfort. Closing eyes may help.
* Encourage the client to rest and keep their head still or change positions slowly – rapid movement or turning the head may exacerbate the condition
* Most vertigo resolves on its own within a day or two; however, vertigo caused by a viral infection of the ear may not subside until the underlying infection is treated.

Additional Considerations

The majority of cases of vertigo are caused by inner ear disorders but more serious conditions should not be overlooked

***See also:*** Bleeding, Breathing Problems Hyperventilation, Ear Problems, Fainting, Headache, Heat-Related Illness, Neck Pain/Stiffness, Stroke, Substance Abuse/Withdrawal

# EAR PROBLEMS – EAR ACHE

Pain or pressure in or around the ear can be caused by infection, earwax, jaw problems or foreign object lodged in ear.

Treatment Objectives

* Relieve discomfort

History

* Onset of symptoms
* Quality of pain – sharp stabbing, dull ache, etc.
* Changes in hearing
* Recent upper respiratory infection
* Recent tooth infection or other jaw injury

Assessment

* Obtain vital signs (temperature may be slightly elevated with infection)
* Look at affected ear for drainage or obvious signs of a foreign object

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any case where a foreign object lodged in the ear is suspected
* Any case of earache that does not respond to treatment within three days
* Any client who has drainage coming from the affected ear
* Ear pain associated with fevers, especially in children

Treatment

* If requested by client, treat pain with analgesics as recommended by manufacturer’s label, unless contraindicated.
* Over-the-counter treatment is usually effective and includes antihistamines, nasal sprays and analgesia.
* If a foreign object is clearly visible in the ear, try to gently remove it with tweezers.

Additional Considerations

* Young children frequently suffer from ear problems and will present with crying, irritability and pulling on/rubbing the affected ear.
* Aspirin should never be given to children under the age of 18 (Reye’s Syndrome)
* Do not place anything inside the ear – cotton swabs, hairpins, etc.

***See also:*** Congestion, Fever, Headache, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb, Sore Throat, Toothache, Infection, Measles, Mumps

# EAR PROBLEMS – HEARING CHANGES

A decreased ability to hear can be progressive (often seen in older adults) or acute – due to a perforated eardrum or ear infection. Tinnitus (ringing in the ears) can be caused by certain disorders/infections in the ear and by taking certain medications.

Treatment Objectives

* Assess for more serious health condition

History

* Onset of symptoms (rapidly vs. over a period of time)
* Type of hearing change: hearing loss, ringing in ears, etc.
* Symptoms associated with infection or perforation: pain in ear, discharge, etc.
* Current medications, including recent antibiotics, aspirin or chemotherapy

Assessment

* Obtain vital signs
* Assess for signs of drainage from ear or foreign object in ear

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of sudden or rapid onset of hearing changes
* All cases of hearing changes that do not resolve on their own within two days or with treatment of underlying cause (for example, ear infection)
* Any suspected case of foreign object in ear
* Tinnitus that affects only one ear or pulsates

Treatment

* Dependent on underlying cause of hearing change
* High doses of aspirin can lead to tinnitus/ringing ears. If hearing loss is thought to be related to aspirin therapy, encourage client to discontinue medication.

Additional Considerations

* Clients transported on military aircraft, (in repatriation events) and who did not properly use hearing protection may have temporary hearing loss.
* Hearing loss is common after a blast incident.

***See also:*** Congestion, Earache, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb

# EDEMA (SWELLING)

Dependent edema is usually found in the lower extremities or other dependent position (back and/or buttocks of a bed-ridden client) and could be caused by heart failure, renal failure, liver disease, deep vein thrombosis (unilateral leg swelling) or musculoskeletal injury (refer to Leg/Foot Injury protocol). It is normal for pregnant women to have some dependent edema during last months of pregnancy. Non-dependent edema may be seen in kidney disease, liver disease or left-sided heart failure. Depending on cause, lymphedema (swelling caused by lymphatic fluid) is often unilateral.

Treatment Objectives

* Reduce swelling
* Prevent injury to client

History

* Past medical history
* Onset of symptoms (chronic vs. acute)
* History of cardiac, pulmonary, renal or liver problems
* Obesity
* Pregnancy (note which trimester)
* Previous history of blood clots in legs or lungs
* Current medications, specifically diuretics (“water pills”), cardiac medications and anticoagulants
* Sedentary lifestyle or recent physical inactivity (including prolonged travel)
* Recent injury or surgery
* Presence of associated pain/bruising in swollen extremity

Assessment

* Obtain vital signs
* Listen to heart rhythm and breath sounds. The presence of rales (“wet” breath sounds) indicates heart failure.
* Document whether edema is pitting or non-pitting
* Check for abdominal distention
* Document whether edema is unilateral or bilateral. Measure and record circumference of both legs in cases of unilateral leg swelling.
* Check for discoloration of skin, e.g., redness or bruising

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any pregnant client who has significant edema of face and hands or legs
* Any new case of edema that does not resolve with rest and leg elevation or is associated with shortness of breath, abnormal breath sounds, and/or tachycardia
* Any chronic case of edema when the client has not been taking medication or has shortness of breath or abnormal breath sounds
* Any client suspected of having or at risk of deep vein thrombosis (unilateral leg swelling)

Treatment

* Stable edema/chronic heart failure: client will most likely be prescribed medications already and should be encouraged to take these medications as prescribed. Also encourage the client to eliminate smoking and alcohol from lifestyle and reduce sodium in the diet.
* For short-term treatment of symptoms, client can rest with legs elevated.
* If feasible and a weight scale is available, monitor daily weights in persons with dependent edema who have heart, kidney or liver disease. Clients with progressive or abrupt weight gain should be referred for evaluation.
* Lymphedema: compression bandages and pneumatic stockings can be used to help the swelling associated with excessive lymphatic fluid in either the arm or leg.
* Injury: refer to Leg/Foot Injury and Pain protocols.

Additional Considerations

* The main symptom of right-sided heart failure is swelling in the legs and feet, while left-sided heart failure is characterized by pulmonary congestion and abdominal swelling (ascites).
* Many people will experience leg swelling unrelated to any medical condition (after standing for long periods of time).

***See also:*** Abdominal Pain, Leg/Foot Injury and Pain, Immune-Compromised Clients, Pregnancy

# EYE PROBLEMS – PAIN/INFLAMMATION

Symptoms include redness, irritation and pain in the eye due to infection, environmental allergies, a foreign body or a stye. Infections could be caused by numerous types of bacteria, fungus, virus or parasite.

Treatment Objectives

* Assess for more serious health condition
* Reduce inflammation
* Relieve discomfort

History

* Any change in vision in one or both eyes
* Onset of symptoms (rapid vs. gradual)
* Sensitivity to light (photophobia)
* Pain score (0-10 scale)
* Watering of eyes
* Environmental allergies
* Sensation of grittiness or “sand” in the eye
* Recent eye procedure or surgery
* Eye crusted close, especially upon awakening in the morning

Assessment

* Obtain vital signs
* Assess visual acuity in each eye (covering one at a time). Document whether the client is blind (can see black only), can see light only (not shapes), can count fingers only or can read words.
* The two eyes should be equal.
* Assess for the presence of a stye (localized swelling of one or more of the glands surrounding the eyelid)
* Presence and character of discharge (e.g. watery, mucous, purulent)
* Blisters on the cornea
* Concurrent painful skin lesions over the body which may indicate herpes zoster (shingles)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any abrupt or rapid change in vision
* Any sore or blister on the eyeball/eyelid or pus
* Any change in vision/visual acuity
* Any stye which does not resolve within three days
* Any potential or suspected case of infection (e.g. conjunctivitis)
* Any foreign body sensation that does not resolve with flushing the eye

Treatment

* Sty: apply warm compress to the affected area for 10 minutes several times per day
* Allergies: encourage client to avoid the agent that causes them sensitivity. Antihistamines may be effective at reducing eye irritation and other allergic symptoms, unless contraindicated.
* Artificial tears (without preservatives) may be used to flush irritants and/or keep eyes moist.
* Infection: any suspected case of infection should be referred to the local healthcare system and the client encouraged to wash their hands frequently, not touch their face, and avoid contact with others as eye infections are highly contagious. If contact lenses are worn, the client should remove them and not use a new pair of contacts until the infection is completely resolved.
* Crusting/discharge: wash eyelids/lashes gently with a warm, wet washcloth
* Suspected foreign body/dust: attempt to wash any foreign object out of the affected eye by tilting the client’s head to the side and flushing with clear water or saline solution for up to fifteen minutes. The eyelid should be held open but the eye itself should not be touched. If the object is not able to be washed out, cover the eye with a light bandage and seek medical attention. No attempt should be made to remove any object that does not flush out of the eye or is embedded in the eye.
* Clients should be instructed not to wear contact lenses until all symptoms have resolved.

Additional Considerations

* Always use standard precautions
* Infants are particularly prone to eye infections.
* Viral eye infections spread rapidly from one eye to the next and usually have watery eye discharge which may be copious. This can lead to an outbreak in crowded conditions.
* Hand washing by both the affected client and staff is critical if an infection is suspected.
* Bacterial eye infections usually have a mucous/purulent discharge.

***See also:*** Burns – Chemical, Headache, Infection

# EYE PROBLEMS – INJURY

Injuries include foreign object in eye, scratch to the cornea, burn or blunt injury to the eye.

Treatment Objectives

* Prevent further injury to eye
* Reduce discomfort

History

* Trauma to face or eye, including blow to head
* Change in vision
* Exposure to chemicals or extreme heat
* Increased sensitivity to light (photophobia)
* Current medications taken
* Wearing of contact lenses

Assessment

* Obtain vital signs
* Assess visual acuity in each eye (covering one at a time). Document whether the client is blind (can see black only), can see light only (not shapes), can count fingers only or can read words.
* The two eyes should be equal.
* Pain score (0-10 scale)
* Bruising or bleeding under the surface of the skin
* Ability of client to open eye
* Pupillary reaction (eyes equal and reactive to light)
* Ability of client to move eye in four directions (up, down, left, right) with or without pain
* Redness/swelling of affected eye
* Bleeding to eye/face region

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any injury associated with vision loss or change
* Any bleeding noted in the eyeball or under the conjunctiva
* Presence of blood between iris and cornea (interior chamber)
* Any difference in size of pupils
* Any client with a puncture wound by a foreign object
* Any possible burn to the eyes
* Any acute onset of severe eye pain with or without known injury
* All blunt injuries to the head or face
* Bruising around the eye (black eye) from broken facial bones
* Any client with a foreign object that is not able to be successfully washed out

Treatment

* If a penetrating injury to the globe (eyeball) is suspected, do not put ANY pressure on the eye with a dressing or by touching.
* Attempt to wash any foreign object out of the affected eye by tilting the client’s head to the side and flushing with clear water or saline solution for up to fifteen minutes, from inner corner to outer corner (nose to ear direction). The eyelid should be held open but the eye itself should not be touched. If the object is not able to be washed out, cover the eye with a light bandage. No attempts should be made to remove any object that does not flush out of the eye or is embedded in the eye.
* Cool packs (chemical or ice/water mixed) should be applied to the eye area intermittently for the first 24-48 hours to decrease swelling and pain.
* Avoid aspirin therapy or other non-steroidal anti-inflammatory medication which may cause bleeding in the eye.

Additional Considerations

* Corneal abrasions (scratches) are often associated with the sensation of having a foreign body in the eye.

***See also:*** Bleeding, Bruising, Cuts and Scrapes, Violence/Domestic Abuse

# EYE PROBLEMS – VISION CHANGES

Vision changes that occur over time may be due to macular degeneration, cataracts, retinopathy, or open-angle glaucoma. Acute vision changes/distortions could be due to injury (to the head or eye), blood clot to the optic nerve, detached retina or closed-angle glaucoma.

Treatment Objectives

* Assess for more serious health condition

History

* Onset of symptoms (gradual or rapid)
* Type of vision change (loss of vision, diminished acuity, halos, floaters, decreased peripheral vision, etc.)
* Injury or blunt trauma to head/face
* History of eye surgery, vision problems, or disease involving cranial nerves (e.g. Bells’ Palsy)
* Presence of other symptoms (eye pain, redness, photophobia, headache, nausea)
* Current medications taken
* Use of and reason for glasses/contact lenses

Assessment

* Obtain vital signs
* Visually inspect eyes for obvious signs of injury
* Pupil size, shape, reaction to light and uniformity
* Assess visual acuity in each eye (covering one at a time). Document whether the client is blind (can see black only), can see light only (not shapes), can count fingers only or can read words.
* The two eyes should be equal.
* Hazy appearance or clouding of the cornea
* Symmetry of eye movements
* Drooping (ptosis) of eyelid

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any injury to the head and/or face that results in changes to vision
* Any acute or rapid-onset distortion/loss of vision
* Any client experiencing double vision
* Any client with changes to the structure of the eye (pupil shape differs from the other pupil, etc.)

Treatment

* For injury or blunt trauma: encourage client to keep eyes closed and apply a cold compress to affected area.

Additional Considerations

* Damage to the optic nerve may cause loss of vision. Damage to the cranial nerves that control papillary changes and eye movement may lead to changes in vision.

***See also:*** Headache, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb, Stroke

# FAINTING (SYNCOPE)

Syncope is a brief loss of consciousness due to a reduction in the amount of oxygen reaching the brain. Possible causes include abnormal heart rhythm, not witnessed seizure, pulmonary embolism, emotional/physical stress, hyperventilation/shortness of breath, exposure to hot temperatures, hypoglycemia, orthostatic hypotension, and certain medications (anti-hypertensives and sedatives).

Treatment Objectives

* Prevent injury to client
* Regain consciousness
* Assess for more serious health condition

History

* Conditions surrounding the fainting episode (fear, stress, pain)
* History of an abnormal heart rhythm or palpitations
* Chest pain, shortness of breath or problems breathing
* Previous history of fainting or light-headedness
* Recent exposure to hot climate

Assessment

* Obtain vital signs, especially blood pressure and respiratory rate as both may be low. Heart rate may be faster than normal, slower than normal, or irregular. Consider checking orthostatic blood pressure.
* Assess for mental status changes, level of consciousness, or confusion
* Listen to heart rate and rhythm for possible arrhythmias
* Quality of skin (pale, damp, cool)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client that stops breathing while unconscious
* Any client with unstable vital signs after fainting
* Any client with confusion or altered mental status after fainting
* Any child or elderly client who faints
* Any client who does not fully recover from fainting after five minutes
* Recurrent episodes of fainting
* Any case of fainting without a definitive cause

Treatment

* In all unconscious clients, first assess the “ABCs” (airway, breathing and circulation) by checking their breathing and looking for a pulse. If any of the ABCs are absent, start CPR.
* Keep the client lying down and assist with cooling if fainting due to hot weather. Elevate legs and loosen tight clothing around the neck. If client vomits, help them turn to his or her side. Check for injuries that may have occurred due to falling. Remain with client until fully recovered.
* If symptoms are due to breathing problems, refer to Shortness of Breath and/or Hyperventilation protocols for further guidance.
* If client feels faint, encourage client to lie down with legs elevated 8 to 12 inches. If the condition may be due to hot weather, assist the client with cooling off – fan, cool cloth to face, etc.
* Encourage client to drink plenty of fluids to prevent dehydration
* If symptoms are due to emotional/physical stress, calm and reassure the client and remove the source of stress.

Additional Considerations

* Syncope may be associated with serious medical conditions (cardiovascular disease, cerebrovascular disease, neurologic disorders) and many medications
* People taking diuretics are at increased risk of fainting
* Abrupt exposure to hot temperatures frequently leads to increased risk of fainting until the body adapts to the increased temperature.

***See also:*** Bleeding, Breathing Problems, Seizures/Convulsions, Dehydration, Dizziness, Ear Problems, Heat-related Illness, Diabetic Emergencies, Pregnancy, Shock, Stroke

# FEVER

Fever is an elevation in body temperature, usually due to illness or infection but may occur with immunizations or environmental exposures.

Treatment Objectives

* Assess for more serious health condition
* Prevent the transmission of infectious diseases
* Return temperature to within normal limits

History

* Onset of symptoms
* Recent illness, injury or surgery
* Other concerning symptoms of an infection (headache, photophobia, confusion, low blood pressure, shortness of breath, productive cough, flank pain, dysuria, high fever, myalgias, etc.)
* Recent exposure (within two weeks) to others with illness
* Location and/or quality of any pain with pain score (0-10 scale)
* Presence of chills, sweating or flushing
* Recent travel, especially overseas
* Medications taken, especially antipyretics (name, dose and time of last dose)

Assessment

* Obtain vital signs
* A fever is defined by CDC as a temperature greater than 100.0° F.
* Assess the level of consciousness or for signs of confusion
* If fever is thought to be due to injury, assess affected area for signs of infection (reddened skin that is warm to touch, pus, pain, etc.)
* Listen to breath sounds for signs
* Check eyes with flashlight for signs of photophobia (sensitivity to light)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any fever associated with severe headache, stiff neck, swelling in the throat, rash, shortness of breath or mental confusion
* Any infant younger than six months with a temperature greater than 101° F or any adult/child older than six months with a temperature greater than 103° F
* Any client with a fever and signs of a specific infection
* Any temperature greater than 101° F that persists for more than three days
* Any fever without obvious reason or fever that is accompanied by a rash
* Any fever that occurs within two weeks after surgery

Treatment

* If fever is thought to be related to an infection, the source of the infection should be identified and treated.
* Clients with fevers may be infectious and may need isolation.
* Encourage the client to rest and drink plenty of fluids.
* Over-the-counter medications such as aspirin, ibuprofen and acetaminophen are usually effective at reducing fever. Encourage the client to take antipyretics on a regular schedule to help keep the fever away, unless contraindicated. Follow manufacturer guidelines in dosages for antipyretic medications.
* Cool compresses and sponging with lukewarm water can also help reduce body temperature. Avoid rapid cooling.

Additional Considerations

* Never give aspirin to anyone under the age of eighteen due to the risk of Reye’s syndrome.
* Oral temperatures may be obtained for adults by placing the thermometer under the tongue for three minutes. In infants and young children, the temperature may be obtained by placing the thermometer under the arm for three minutes, although this will register a temperature approximately one degree lower than an oral temperature.
* Influenza causes high fevers and myalgias and is very contagious. If influenza is suspected, the client or worker needs to be isolated for assessment.
* Febrile seizures occur in children younger than five years that have a high fever.

***See also:*** Congestion, Seizures/Convulsions, Dehydration, Diarrhea, Ear Problems, Eye Problems, Headache, Heat-Related Illness, Infection, Nausea/Vomiting, Neck Pain/Stiffness, Rash, Sore Throat, Tooth Problems; Urination, Difficulty with; Vaginal Discharge/Itching, Immune-compromised Clients

# HEADACHE

Most headaches are benign and are related to tension, eyestrain, hunger, or caffeine withdrawal. Frequent use of pain relievers can cause rebound headaches that return as the effect of the last dose wears off. Other causes can include sinus infection, fever, high blood pressure, brain tumor, head injury, meningitis, and cerebral hemorrhage. Headaches in children can be related to stress about school, relationships, or peer pressures.

Treatment Objectives

* Assess for more serious health condition
* Reduce discomfort

History

* Onset of symptoms: abrupt, rapid or gradual
* Location and quality of pain (sharp, pulsating, dull, etc.)
* Pain score (0-10 scale)
* Recent injury or trauma involving the head or neck
* History of sinus problems or sinus surgery
* History of migraine headaches
* History of high blood pressure
* Current medications
* Sensitivity to light, noise, smells or activity
* Report of visual changes or photophobia
* Recent withdrawal from medication or caffeine
* Nausea or vomiting

Assessment

* Obtain vital signs, paying particular attention to temperature and blood pressure; If blood pressure is abnormal, recheck in both arms to verify reading.
* Assess for level of consciousness and confusion
* Observe for slurred speech, unilateral limb weakness, lack of muscle coordination or facial droop – refer to Stroke protocol
* Check pupil size and reaction to light and photophobia
* Assess pain on a scale of 0-10

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any injury or trauma to head or neck
* Any headache with severe eye pain
* Any client who presents with weakness, paralysis, slurred speech, facial droop, visual changes, photophobia or changes in level of consciousness
* Any client who has a severe headache associated with a systolic blood pressure greater than or equal to 150mmHg and/or a diastolic blood pressure greater than or equal to 110mmHg
* Any sudden onset “thunderclap” or “worst ever” headache
* Any severe or persistent headache
* Any headache associated with a fever and/or stiff neck
* Any headache associated with severe vomiting
* New or frequent headaches in a client who rarely gets headaches
* Mild headaches that become severe
* Any headache that wakes a client from sleep
* Any child who is having headaches more than once a week
* Headaches that awaken the child at night
* A headache occurring with other symptoms

Treatment

* Mild headaches are managed well by resting quietly in a darkened room with a cool compress to the forehead.
* An over the counter pain reliever such as Acetaminophen or Ibuprofen may be dispensed. Instruct client to follow manufacturer dosage instructions.
* Most tension headaches respond well to rest, a warm compress applied to the back of the neck and/or acetaminophen or non-steroidal anti-inflammatory medications, unless contraindicated.
* Clients with migraine headaches should take medications as prescribed by their physician.
* Headaches associated with a fever and/or stiff neck may be due to meningitis or other infection and should be referred to the emergency department immediately.

Additional Considerations

* Aspirin should never be given to anyone younger than 18 years.
* Tension headaches tend to be mild to moderate and cause a generalized aching in the head.
* Headaches due to high blood pressure are frequently referred to as “throbbing” or “pulsating.”

***See also:*** Dehydration, Dizziness, Heat-Related Illness, Influenza, Nausea/Vomiting, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb, Tooth Problems, Stroke

# HEAT-RELATED ILLNESS – HEAT EXHAUSTION

Heat illness is a continuum from mild heat intolerance, to moderate heat exhaustion, to severe heat stroke. Heat exhaustion is caused by an imbalance of nutrients/electrolytes in the body as a result of exposure to heat over a period of time. It is often associated with dehydration.

Treatment Objectives

* Prevent injury to client
* Return physical status to within normal limits

History

* Onset of symptoms
* Length of time spent in high temperatures
* Presence of fatigue, weakness, nausea, dizziness, headache, confusion and/or fainting
* Presence of skeletal muscle spasms
* Medication History

Assessment

* Obtain vital signs, paying particular attention to temperature
* Assess for level of consciousness or confusion
* Assess skin – will be hot to touch, flushed and moist
* Heart rate may be rapid and weak
* Breathing may be fast and shallow

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All suspected cases of heat stroke (confusion, hypotension, any temperature greater than 105° F)
* Any suspected case of significant dehydration
* Any client with a temperature of greater than 103° F
* Any client whose symptoms do not resolve after treatment

Treatment

* Cool the client by moving them to shade or into an air conditioned environment or by wiping them with a cool wet cloth
* Replace lost fluids by encouraging the client to drink water

Additional Considerations

* Certain populations are more vulnerable to heat exhaustion: older adults, chronic alcoholics, the obese, and those taking medications such as antipsychotics and antihistamines.
* Recovery is usually rapid once actions have been taken to treat the heat exhaustion.

***See also:*** Fever, Dehydration

# HEAT-RELATED ILLNESS – HEAT STROKE

Body fails to regulate its own temperature, and it continues to rise. Body systems become overwhelmed by heat and stop functioning.

Treatment Objectives

* Rapidly reduce client’s temperature to within normal limits
* Prevent injury to client

History

* Exposure to hot temperatures
* Vomiting
* Confusion
* Delirium.
* Headache
* Vertigo
* Fatigue
* Seizures/convulsions
* Unconsciousness

Assessment

* Obtain vital signs
* Any temperature greater than 103° F (or high body temperature)
* Assess for level of consciousness and signs of confusion
* Assess skin – may be red, hot and dry, even in the arm pits
* Absence of sweating
* Listen to heart rate/breath sounds. Heart rate may be weak and rapid while breathing may be shallow and fast.
* Assess pupils – may be dilated

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* If client’s temperature exceeds 102.3
* All suspected cases of heat stroke (confusion, hypotension, any temperature greater than 105° F)
* Any client who may have symptoms of heat exhaustion

Treatment

* Remove client from the hot environment to a cool area
* Elevate legs slightly
* Remove unnecessary clothing
* Reduce body temperature however possible – wrap client in cool, wet sheets or apply cold packs to the groin, neck and armpits
* Fan the client to help increase evaporation
* Frequently monitor body temperature to make sure temperature is not lowered too far

Additional Considerations

* Infants and clients with diabetes, alcoholism, diarrhea and/or vomiting are at increased risk of heat stroke during hot weather.
* Risk of heat stroke is increased for all populations during very humid weather as the body is unable to sweat enough to reduce body temperature.
* Most people can eventually acclimate to a hot environment, but it may take several weeks to do so.

***See also:*** Fever, Dehydration

# INDIGESTION – “HEART BURN”

Generally due to eating unfamiliar or spicy food, eating too fast or too much or drinking alcohol. More serious or chronic causes of indigestion may be due to gastro-esophageal reflux disease, gallbladder disorders, ulcer or stomach cancer. Acute myocardial infarction may be described by client as heart burn or indigestion.

Treatment Objectives

Assess for more serious health condition

Relieve discomfort

History

* Onset of symptoms
* Location of indigestion (epigastric, behind breast bone, etc.)
* Any worrisome symptoms for a myocardial infarction (heart attack) such as shortness of breath, sweating, nausea, chest pain or radiating pain
* Any risk factors for a myocardial infarction such as prior heart disease, diabetes, family history, hypertension, smoking or obesity
* Recent change in diet
* Type/amount of food eaten
* Alcohol consumption (quantity and frequency)
* Recent changes in bowel habits
* Color of recent stools
* Presence of blood in vomit or stool
* Current medications, especially pain relievers (aspirin, ibuprofen)
* History of stomach ulcers or gastric bleeding

Assessment

* Obtain vital signs
* Palpate abdomen for tenderness or rigidity
* Assess pain (Scale of 1-10)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Indigestion associated with sweating, shortness of breath, or pain radiating to the neck, jaw or arm
* Indigestion associated with abnormal vital signs
* Sudden and/or severe indigestion
* Clients with indigestion who also have risk factors for a myocardial infarction
* Frequent indigestion paired with weight loss or vomiting
* Black, tarry stools or “coffee grounds” in vomit (may need ER)
* Symptoms recur several times per week or wake the client from sleep

Treatment

* Encourage client to eat smaller meals, reduce stress and maintain a healthy weight
* Encourage clients to avoid fatty foods
* Encourage clients not to lie down directly after eating
* Antacids may be effective at reducing symptoms.
* Over-the-counter antacids, unless contraindicated, is highly effective in relieving most cases of indigestion/mild reflux symptoms.

Additional Considerations

* Symptoms may increase during pregnancy or obesity.
* Ulcers are characterized by epigastric abdominal pain that is made worse by either eating or by having an empty stomach. Eating small, frequent meals may provide temporary relief of discomfort, but symptoms may flare at night.

***See also:*** Abdominal Pain, Chest Pain/Pressure, Cramps – Abdominal, Diarrhea, Nausea/Vomiting

# ITCHING – HEAD

Itching of the scalp could be due to dry skin (dandruff) or an infestation of lice

Treatment Objectives

Prevent potential spread to others

Relieve symptoms

History

Intense itching of the head

Recent close contact with someone known to have lice

History of dry skin in the past

Assessment

* Obtain vital signs
* Wearing gloves and using a tongue-depressor, inspect the client’s scalp and hair roots for signs of flaking skin or presence of lice

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Suspected lice infestations

Treatment

* The overwhelming majority of cases of both dandruff and lice can be effectively managed with over-the-counter treatments.
* Lice: instruct the client to avoid contact with others until the lice infestation is treated with medicated shampoo (RID, for example) and until any remaining nits are removed with a fine-toothed comb. Dispose of the comb after use. All furniture, bedding, clothing and cloth items (e.g. stuffed animals) should be sprayed with a product containing the active ingredient permethrin or washed in the hottest water temperature possible. Other items may also be placed in plastic bags for two weeks to allow the lice to die. Check for the presence of lice on all family members, playmates and any potential close contacts. Monitor and direct cleaning of bedding, clothing and furniture if lice is discovered on one or more clients
* Dandruff: Encourage the client to use a shampoo that is geared specifically toward those with dry scalp (e.g. Head & Shoulders) and avoid over-drying the scalp with harsh styling products or hairdryer

Additional Considerations

* A lice infestation can be determined by inspecting the scalp and hair root for small white nits (eggs) that are attached to the hair or the insect itself which is small and dark.
* Lice can infest any part of the body with hair.

***See also:*** Lice

# ITCHING – SKIN

Contact dermatitis (skin allergy) can occur with plants (poison ivy/oak), skin products, detergents, metals, other materials (e.g. wool). Hypersensitivity reactions (e.g., insect bites, scabies, drug reactions) can also lead to itching. Other causes include scabies, skin infections, cold weather, and prolonged exposure to water.

Treatment Objectives

* Assess for more serious health condition
* Identify cause of symptoms
* Relieve symptoms

History

* Known exposure to someone with itching of the skin
* Exposure to poison ivy, poison oak
* Recent use of an unfamiliar product (bath soap, detergent, perfume, etc.) which may have caused an allergic reaction
* Possible exposure to plants or insects
* Change in medications or new prescription
* History of atopic dermatitis or chronic skin condition

Assessment

* Obtain vital signs
* Assess for presence of insect bites
* Assess for rash, hives, areas of redness or evidence of scratching
* Assess for raised area on skin or appearance of tunneling under the skin
* Look for evidence of vesicles (blisters) and/or pustules
* Observe the location and pattern (if any) of rash, bites or other skin changes
* If hives are present, assess for breathing difficulties or shortness of breath

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any expanding redness of the skin that covers a large area of the body, looks/acts like a burn and/or may be associated with a drug reaction
* Any itching lesions/hives that are associated with lightheadedness, low blood pressure, trouble breathing or other symptoms of anaphylaxis
* Any suspected case of fungal/bacterial infection or parasite infestation
* Itching that lasts for more than a few days or that comes and goes frequently
* Any case of drug reaction
* Anyone with contact dermatitis of the face (especially near the eyes)

Treatment

* For dry skin, encourage client to keep baths brief and to use cool/lukewarm water. Pat dry.
* Body lotion should be applied while still damp.
* For contact dermatitis or poison ivy: soothing lotions containing menthol, camphor, chamomile, eucalyptus or calamine may be effective at reducing symptoms.
* Corticosteroid creams and/or oral antihistamines may help reduce symptoms due to allergic reaction or poison ivy/oak, unless contraindicated.
* Parasites, fungal and/or bacterial skin infections will require treatment with prescription medications.
* Check to see if local area has any areas of poison oak/ivy and then alert others to avoid contact

Additional Considerations

* Itchy hands, especially with red streaks and spots, may be a sign of scabies. The presence of scabies does not become apparent until approximately three weeks after exposure.
* The presence of hives and/or extensive skin redness suggests a more serious hypersensitivity reaction.
* Plant contact dermatitis usually appears within 24 hours of exposure, and new lesions may continue to appear for up to 14 days. Although the blisters themselves are not infectious, the plant oil can remain on objects (clothing, tools, pet fur, etc.) for a long period of time.

***See also:*** Rash, Poisoning, Allergic Reaction/Anaphylaxis

# LEG/FOOT INJURY AND PAIN

Possible causes include muscle strain, dislocation, sprain, fracture, tendonitis, deep vein thrombosis, and vascular insufficiency.

Treatment Objectives

Prevent further injury from occurring

Determine extent of injury

Reduce discomfort

History

* Type of activity client was engaged in when the pain or injury occurred
* If the client felt and/or heard a bone snap
* Past medical history related to musculoskeletal injury and/or surgery
* If the pain is not related to an injury, assess for symptoms of a pulmonary embolism (chest pain, shortness of breath, hemoptysis, tachycardia)

Assessment

* Obtain vital signs
* Assess pain scale of 0-10
* Assess all injuries for presence of a pulse distal to the injury, skin color and temperature, and range of motion. Do not force movement.
* Point tenderness over a specific area is often the sign of a fracture
* Sprain: pain and/or swelling at joint that worsens with movement, possible bruising around area of injury
* Strain: dull pain in the affected muscle that worsens with movement, swelling
* Tendonitis: pain at the joint not associated with any injury but may be due to repetitive use or infection
* Dislocation: swelling, deformity, severe pain, discoloration, tenderness and/or numbness of an affected joint
* Fracture: pain and/or tenderness at site (usually with significant point tenderness) when touched or moved, difficulty moving the injured part, grating sensation, unnatural movement of the injured part, bruising
* If the pain is non-traumatic, check for unilateral calf swelling, for calf tenderness, or for a palpable clotted vein (“cord”)
* If tendonitis is suspected, assess for an infection – check for warmth, redness, swelling, and pain with passive movement

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any extremity that is cool, pale or blue
* If a pulse cannot be detected distal to the injury
* All cases of moderate to severe pain, regardless of suspected cause
* Suspicion of deep vein thrombosis
* Any leg pain with shortness of breath, chest pain or hemoptysis (coughing up blood)
* All suspected dislocations and fractures
* All suspected cases of infection

Treatment

* Sprain/strain: rest and elevate the affected area, apply cool packs intermittently for the first 24-48 hours then switch to warm compresses. Apply supportive bandage (ACE wrap) to the affected joint. Loosen bandage if swelling increases or extremity becomes cold or mottled. Muscle sprains/strains respond well to NSAIDs (Ibuprofen, Naprosyn, etc.) if client requests pain relief and does not have any contraindications. Advise client to follow the manufacturer’s recommended dosages.
* Tendonitis: rest the affected area and apply ice packs intermittently for the first 24-48 hours. If client requests pain relief medication, non-steroidal anti-inflammatory medications work best at relieving pain and reducing inflammation, unless contraindicated. Assess for allergy to aspirin or NSAIDs.
* Dislocation: d o not move or try to put a dislocated bone back into place. Immobilize the joint and limb as much as possible. Client should not put weight on the affected extremity.
* Fracture, closed (no break in the skin): immobilize the affected extremity.
* Fracture, open (skin is broken): cut clothing away from the wound, being careful not to touch the exposed bone, and cover area with sterile dressing. If bleeding, apply direct pressure to wound. Splint the fractured area as it is and gently help the client into a comfortable position.
* Client should not put weight on affected extremity.

Additional Considerations

* When unsure of a diagnosis, treat the injury as a fracture. Definitive diagnosis requires professional assessment and radiologic testing at a medical facility.
* Geriatric clients are more prone to musculoskeletal injury and bone fracture.
* If client is to be transported to a medical facility for further treatment, do not give anything to eat or drink as surgical repair may be required.

***See also:*** Bites, Blisters, Bruising, Frostbite, Cramps – Muscular, Cuts and Scrapes, Edema

# NAUSEA/VOMITING

Nausea with or without vomiting can be precipitated by a wide range of conditions – many of which are associated with gastrointestinal disorders (e.g. cholecystitis, gastritis, hepatitis, viral infections of the intestines, food poisoning, intestinal obstruction and excessive drinking or eating). It could also be triggered by emotional upset, stress, migraine headaches or pregnancy. It can also be caused by more serious conditions (non GI) such as allergic reactions to bites/stings, gastrointestinal bleeding, heart attack, heat exhaustion, shock, sepsis and head injury.

Treatment Objectives

* Assess for more serious health condition
* Prevent dehydration

History

* Onset and duration of symptoms
* Differentiate between nausea, vomiting without emesis (“dry heaves”), and vomiting with emesis
* Number of times vomiting has occurred within a defined period of time
* Color/amount of emesis (e.g. coffee ground-colored emesis three times a day for two days). Be particularly concerned about bloody, maroon or coffee-ground emesis.
* Recent eating pattern, including foods and medications
* Excessive drinking, including recent use/abuse of alcohol
* An allergic reaction to food, medicines or a bite or sting by an insect. See Bites protocols.
* Possibility of poison ingestion
* Prolonged exposure to high temperatures. See Heat Exhaustion protocol.
* Trauma or serious injury, especially to neck/head
* Recent diarrhea. See Diarrhea protocol
* Chest pain/pressure, sweating, and/or pain radiating to the neck, jaw or left arm See Chest
* Pain/Pressure protocol
* Known/suspected pregnancy
* Emotional upset
* Current medications

Assessment

* Obtain vital signs, paying special attention to an elevated temperature, tachycardia, or low blood pressure
* Assess skin for presence/absence of sweat and presence or absence of bites and/or stings
* Assess mucous membranes (inside of mouth) for signs of dehydration
* Listen to abdomen for presence or absence of bowel sounds
* Palpate abdomen for tenderness, guarding and/or rigidity

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of possible head injury, heart attack, sepsis, allergic reaction/ anaphylaxis or shock
* Any client who is unconscious and vomiting
* Any client who is confused or has an altered mental status
* Any client with emesis that contains blood or is coffee ground-colored
* All cases of frequent vomiting that lasts longer than four to six hours, of the client not able to keep liquid down, or of vomiting that continues for more than one or two days
* Any suspected case of pregnancy that has not been previously diagnosed
* In children younger than two, any projectile vomiting (forceful vomiting that is expelled one to two feet)

Treatment

Encourage the client to rest and take frequent sips of fluids (diluted non-carbonated beverages, apple or grape juice, bouillon, weak tea, gelatin desserts) to prevent dehydration. Avoid solid food and fluids that are highly acidic (e.g. orange juice). Once vomiting has stopped, slowly work back to a regular diet.

Encourage client who has vomited to attend to oral hygiene (gargle with mouthwash or brush teeth)

Infants and children who are vomiting should be turned on their side to prevent emesis from entering their lungs. Children should be encouraged to take frequent sips of water or pediatric rehydration solution (e.g. Pedialyte) every 10-20 minutes to prevent dehydration. No Pepto-Bismol for children due to aspirin content (Reye’s Syndrome).

Always use standard precautions when contact with blood or body fluids is a possibility

Encourage client to avoid taking in large amounts of food or liquids, even and especially as they begin to feel better

Refer to Diarrhea protocol, if applicable

Additional Considerations

* Infants, older adults, and those with chronic illnesses are at higher risk for developing dehydration due to vomiting, especially if associated with diarrhea.
* Vomiting in infants and children is common and usually due to a viral infection, food poisoning, car sickness, colic, and/or food allergies. Infants frequently spit up food after eating, which should not be confused with vomiting.

***See also:*** Abdominal Pain, Cramps – Abdominal, Diarrhea, Fever, Heat-Related Illness, Indigestion, Pregnancy, Substance Abuse/Withdrawal, Poisoning, Chest Pain/Pressure

# NECK PAIN/STIFFNESS

A stiff or painful neck can be due to muscle strain, spinal cord compression, or injury. It may also be a symptom of meningitis or encephalitis.

Treatment Objectives

* Assess for more serious health condition
* Reduce discomfort

History

* Onset of symptoms
* Activity surrounding onset of symptoms, including trauma
* History of neck pain/stiffness in past, especially disc or vertebrae disorders
* Presence or absence of shooting pain or tingling sensation down one or both arms
* Recent fever

Assessment

* Obtain vital signs, paying special attention to an elevated temperature
* If injury or trauma can be ruled out, assess neck for range of motion.
* Assess hand strength by having client grip your hands simultaneously
* Assess area of discomfort for outward signs of injury
* Observe for reflex flexion of the hips and knees with passive flexion of the neck while client is in a supine position.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client with neck pain not associated with trauma, with headache, fever, pain on passive flexion of neck, nausea, and vomiting
* Any client with a past medical history of cervical/spinal surgery or disorder who has had a recent worsening of symptoms
* Any client with a suspected muscle strain that does not resolve within two days
* Any client who has a positive reaction to the passive flexion of the neck while in the supine position

Treatment

* In all cases of neck or head injury, do not move client or neck.
* If a muscle strain is suspected, encourage the client to avoid engaging in strenuous activities, and place a warm compress on the affected area for 24-48 hours.
* If requested, non-steroidal anti-inflammatory medications may also be helpful in reducing discomfort, unless contraindicated.

Additional Considerations

* An involuntary flexion of the hips and knees when you passively flex the neck of the supine client is known as a positive Brudzinski sign and may indicate meningitis or subarachnoid hemorrhage.

***See also:*** Back pain, Cramps – Muscular, Earache, Headache, Nausea/Vomiting, Sore throat, Fever

# NOSE BLEED

Nose bleeds can be caused by dry air, infection, certain medications, repeated blowing of the nose, scratching the nose, or a blow/injury to the nose.

Treatment Objectives

* Stop bleeding
* Assess for more serious health condition

History

* Onset of symptoms
* Activity engaged in when nose bleed began
* Any injury/trauma to nose or face
* History of coagulation problems
* Current medications, especially blood thinners

Assessment

* Obtain vital signs, paying special attention to an elevated temperature
* Estimate amount of blood loss using an objective measure

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of severe nose bleeds that cannot be stopped, particularly in clients taking blood thinners
* Clients who are hypotensive or tachycardic
* Any recurrent nosebleed
* Any elderly client with a nosebleed that does not immediately respond to treatment

Treatment

* Always use standard precautions
* Have client sit with his or her head upright and lean slightly forward, keeping mouth open for breathing
* Have the client squeeze the nose on the soft cartilage portion (not the bone) continuously for at least 5-10 minutes
* Be sure to release the nose slowly and do not allow client to touch or blow the nose as this may cause a re-bleed.
* If bleeding continues, squeeze the nose for another five minutes and place an ice pack or cold cloth on the bridge of the nose to help constrict blood vessels.

Additional Considerations

* Children frequently get nose bleeds that are not serious and stop in a few minutes. Nose bleeds in the elderly should be taken seriously.

***See also:*** Bleeding

# PARALYSIS/WEAKNESS – FACIAL OR LIMB

Paralysis that affects the face could be caused by Bell’s Palsy, a transient ischemic attack (TIA), or a stroke (cerebrovascular accident – CVA).

Treatment Objectives

* Assess for more serious health condition
* Timely transfer to higher level of car

History

* Onset of symptoms: are symptoms still present or have they subsided?
* Presence of headache before or in conjunction with the paralysis/weakness
* Sudden paralysis or weakness on one side of the body with facial drooping
* Loss and/or slurring of speech
* Mental confusion
* Lack of muscular coordination
* Loss of bladder/bowel control
* History of blood clots or previous TIA/CVA
* Current medications, especially aspirin or other blood-thinner

Assessment

* Obtain vital signs, paying special attention to an elevated blood pressure
* Assess hand strength by asking client to grip hands simultaneously
* Assess client’s ability to speak clearly and to choose appropriate words
* Assess client’s coordination of movements and ability to move upper and lower extremities
* Assess the client’s ability to walk, observing gait and balance
* Check pupil size and reaction to light
* Assess facial symmetry. Look for differences between features of the right and left side of the face (e.g. smile/frown, raise eyebrows) and presence or absence of eyelid drooping.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Sudden signals of stroke think F.A.S.T.: Face, Arm, Speech, Time
* All cases of facial drooping or paralysis
* All cases of altered speech or limb weakness or paralysis
* All suspected cases of TIA or stroke

Treatment

* Get the client to an acute care facility as quickly as possible. Do not give client anything to eat or drink. Do not give client any medications.
* If the client is having trouble with saliva, place client on their weakened side so secretions can drain from the mouth.
* Have the client to rest quietly until local EMS arrives. Comfort the client and family as much as possible.
* Refer to Emergency Oxygen Therapy Protocol (p.155) if indicated.

Additional Considerations

* A client’s prognosis improves when they can be transferred to an acute care facility for diagnosis and treatment quickly. Timely transfer of stroke victims to a hospital can mean better outcomes.
* A stroke is due to a lack of adequate oxygen getting to the brain either because of a blood clot or a brain hemorrhage.
* Bell’s Palsy is a sudden weakening or paralysis of one side of the face due to malfunction of one of the cranial nerves. Symptoms mimic that of a stroke minus the weakening of the arm/leg of the affected side as in a stroke. Bell’s palsy has been associated with herpes zoster.

***See also:*** Stroke

# RASH

Allergic reactions, fever, heat (prickly heat), contact dermatitis (e.g. plants, metals), or infectious diseases can present with a rash.

Treatment Objectives

* Assess for more serious health condition
* Relieve minor symptoms

History

* Current medications with recent changes/additions in medications taken
* Sensitivity/allergy to substances
* Pruritis (itchiness)
* Recent exposure to others with rash
* Immunization history if infectious rash is suspected (e.g. measles, chickenpox)
* Past medical history
* Infant who has been dressed too warmly or exposed to hot weather

Assessment

* Obtain vital signs, paying particular attention to any fever, tachycardia and hypotension.
* Assess affected area for quality of rash: size, shape, pattern (linear, scattered, etc.), presence of hives, itching/burning, redness, etc.
* Assess rash for secondary changes (development of blisters, etc.)
* Prickly heat will look like tiny pimples and usually appear on the head, neck and shoulders

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any reaction to food, medication or environmental allergen that causes lightheadedness, difficulty breathing or swallowing
* Any rash with fever or severe illness
* If prickly heat is accompanied by a fever of 100.4 degrees or higher in an infant younger than 3 months and if fever doesn’t come down within 20 minutes of removing some of the infant’s clothing
* Any rash that becomes blue or purple or if blood-red spots appear
* Any rash with large (greater than one inch in diameter) blisters
* Any rash that becomes worse or shows signs of infection
* Any painful rash
* Any rash that results from a bite or sting
* Any rash associated with medications
* Any rash on the face or near the eyes
* Severe itching
* Other symptoms concurrently

Treatment

* For rashes of all origins, it is recommended that the area be kept clean and dry.
* Dust powders and soothing lotions on the affected area and encourage client to wear loose-fitting clothing that will not rub the affected area.
* Hydrocortisone cream may relieve minor allergic or inflammatory irritations. Do not use if infection is suspected.
* For contact dermatitis (such as poison ivy), soothing lotions containing menthol, camphor, chamomile, eucalyptus or calamine may be effective at reducing symptoms.
* Corticosteroid creams and/or oral antihistamines may help reduce symptoms due to allergic reaction or poison ivy/oak, unless contraindicated.
* Topical anesthetic creams (over-the-counter benzocaine or lidocaine) may relieve the symptoms of minor burning and itching. Do not use on open wounds,
* For possible food and environmental allergies, encourage the client to take an antihistamine (Benadryl) if not contraindicated, and avoid further contact with the allergen.
* Diaper rash can be treated with a variety of barrier creams such as A&D ointment, Desitin, etc.
* Do not overdress children and infants
* Keep children and infant sleeping areas as cool as possible
* Keep children and infant’s skin cool and dry

Additional Considerations

* Rashes are common in infants. Diaper rash is uncomfortable but not dangerous.
* Contact dermatitis caused by plants (poison ivy, oak, etc.) is not infectious. However, the plant oils may last on clothing, objects, and/or pets for a long period of time.
* A painful rash that is located primarily on one side of the body or runs along a nerve path is suggestive of a herpes zoster (shingles) infection. Refer to Shingles protocol.
* If infectious rash is suspected, contact the local public health department.

***See also:*** Bites, Blisters, Burns, Fever, Heat-Related Illness, Influenza, Neck Pain/Stiffness, Allergic Reaction/Anaphylaxis

# SEIZURE/CONVULSION

A seizure is caused by abnormal electrical discharges from the brain. Seizures can be caused by a primary disorder (e.g., epilepsy), head injury, stroke, brain damage at birth, brain tumor, infection, fever (febrile seizures), or alcohol withdrawal.

Treatment Objectives

* Protect client from injury during the seizure
* Ensure an open airway after the seizure

History

* History of previous seizures
* Current medications taken
* Any trauma or injury to the client
* Loss of memory immediately preceding event

Assessment

* Obtain vital signs (watch for an elevated temperature, which may cause febrile seizures or temporary loss of breathing)
* Observe for twitching of the face or limbs
* Muscle spasms or tremors
* Loss of consciousness – partial or complete
* Loss of bladder or bowel control
* Any traumatic injuries after the seizure (e.g., head injury from the fall)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of seizure/convulsions, especially if the person has never had a seizure before, if the seizure lasts longer than 5 minutes, or if seizure is repeated
* No return of consciousness
* Pregnancy
* Known diabetes
* Injury after seizure
* Any life-threatening condition

Treatment

* If the client starts to fall, try to gently guide their fall to prevent head injury.
* Move any dangerous objects away from client.
* DO NOT place anything in client’s mouth.
* Do not hold or restrain client.
* Protect the person’s head. Place a thin folded towel or clothing beneath it.
* After the seizure has stopped, turn the client on their side to prevent choking on vomit or secretions unless a head or neck injury is suspected. Make sure the airway is clear.
* Check for other injuries post-seizure (i.e. broken bones, chipped teeth, bleeding)
* Febrile seizure: help to prevent febrile seizures in children by controlling elevated temperatures with acetaminophen or ibuprofen or by placing cool washcloths on the client – do not give aspirin to any client under the age of 18.

***See also:*** Fainting, Fever, Headache, Stroke, Diabetic Emergencies, Poisoning, Shock, Substance Abuse/Withdrawal

# SORE THROAT

Sore throats (also known as pharyngitis) are frequently caused by the same viruses that cause the common cold. Streptococcus (strep throat) is a less common but more serious cause of a sore throat.

Treatment Objectives

* Assess for more serious health condition
* Reduce discomfort

History

* Onset of pain
* History of recent fever
* Amount of pain (0-10 pain score)
* Pain on swallowing, difficulty swallowing, or inability to swallow
* Presence of ear pain
* Recent symptoms of an upper respiratory infection

Assessment

* Obtain vital signs
* Using flashlight, assess back of throat and tonsils for redness, pus, swelling

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Clients that cannot swallow their own saliva or are having difficulty breathing
* Any sore throat associated with a fever
* Any sore throat with enlargement of the tonsils with or without pus

Treatment

* Advise client that sore throats associated with the common cold typically resolve on their own within a day or two
* Sore throat lozenges and/or analgesics may help with discomfort.
* Encourage the client to drink adequate fluids
* Acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDs) are frequently effective at reducing the pain, if not contraindicated.
* Over-the-counter throat lozenges, sprays and gargles may provide temporary relief from pain.

Additional Considerations

* Some throat lozenges contain dextromethorphan which may not be good for elderly clients who are taking multiple medications.
* Although children frequently have viral sore throats, strep throat is unusual in children younger than two years.
* “Strep” throat is almost always associated with a fever. Viral sore throat may or may not have a fever. Clients without a fever usually do not need to be seen by a physician.

***See also:*** Congestion, Cough, Dehydration, Earache, Fever, Neck Pain/Stiffness, Toothache, Allergic Reaction/Anaphylaxis

# SPLINTER

Splinters can be caused by a sliver of any foreign material (wood, glass, etc.) that becomes lodged under the surface of the skin.

Treatment Objectives

* Prevent injury to client
* Remove foreign object from under skin

History

* Type of material believed to have caused the splinter
* Date of last tetanus shot, if known

Assessment

* Obtain vital signs
* Assess area surrounding splinter for bleeding or other injury

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any splinter that cannot be removed with tweezers
* Any client with signs of infection around the affected area

Treatment

* Wash hands with soap and water and put on clean exam gloves. Clean the area surrounding the splinter with soap and water.
* Place tweezers in boiling water for approximately five minutes to sterilize. If boiling water is not an option, hold instrument over a flame for 30 seconds to sterilize. Let cool before use.
* If splinter is sticking out of the skin, gently pull the splinter out with the tweezers at the same angle at which it entered. Once removed, wash the area with soap and water and apply a clean band-aid. Watch for signs of infection such as redness, pus or red streaks leading up the body from the wound.
* Be sure to clean tweezers after use.
* If the splinter breaks off under the skin or is deeply lodged, refer client to a medical facility for removal of the splinter and a possible tetanus shot.
* Small splinters can be left untreated. After a few days, a small pocket forms around the splinter. The splinter may come out spontaneously or become easier to remove with tweezers.

***See also:*** Infection

# TOOTH PROBLEMS – LOST/BROKEN TEETH

Cavities and infections can often cause teeth to become loose in the gum, thus leading to tooth loss. Teeth could also be knocked out by sports activities, fighting, or facial trauma in an accident.

Treatment Objectives

* Prevent injury to client
* Relieve discomfort

History

* Time and place the loss of or injury to the tooth occurred
* Circumstances surrounding loss
* History of dental problems
* Presence or absence of pain
* Pain score (0-10 scale)

Assessment

* Obtain vital signs
* Examine mouth for signs of the tooth injury

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client with a permanent tooth that has been broken, is loose, or was knocked out

Treatment

* If the tooth can be found, it should be handled very gently and only by the crown (avoid touching the root). Rinse the tooth off in cool water (no soap) and place it gently into the socket. Have client bite down on a piece of gauze or clean cloth to hold it in place. If unable to hold the tooth in place, gently wrap the tooth in gauze soaked in saline or water. Do not put the tooth in tap water or milk. Refer client to a dentist immediately – permanent teeth that have been knocked out may be able to be re-implanted if care is sought within 60 minutes.
* If bleeding is present, fold or knot a piece of gauze and place over the bleeding area in the mouth. Have client bite down on the gauze to apply pressure to the bleeding site for 20-30 minutes.
* A non-steroidal anti-inflammatory medication (ibuprofen, naprosyn, etc.) or acetaminophen may be helpful if the client is experiencing discomfort and requests a medication, unless contraindicated. Aspirin should not be taken because it may increase bleeding.

***See also:*** Infection, Fever, Sore Throat

# TOOTH PROBLEM – TOOTHACHE

Cavities and infection can cause toothache.

Treatment Objectives

* Prevent injury to client

History

* Onset of symptoms
* Pain score (0-10 scale)
* Location and quality of pain (dull, sharp, stabbing, etc.)
* The presence of fever
* History of dental problems
* Sensitivity to hot or cold

Assessment

* Obtain vital signs, paying special attention to the presence of fever
* Examine the face for swelling, redness or asymmetry

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Recurrent toothache or toothache that does not resolve within 1-2 days
* Any toothache associated with a fever, except in infants who may have a low-grade fever with teething
* Any toothache associated with facial swelling or asymmetry

Treatment

* If client requests medication, aspirin, acetaminophen, naproxen or ibuprofen may be helpful at reducing discomfort, unless contraindicated. Avoid aspirin if the client may require a dental extraction. Do not given aspirin to children younger than 18 years.
* Place a cool compress on the face over the affected area
* Over-the-counter medications for toothache (like Ambesol) may provide some relief from discomfort.

***See also:*** Infection, Fever, Sore Throat

# URINATION, DIFFICULTY WITH

Urinary symptoms may be caused by Kidney stones, urinary retention, urinary incontinence, infection of the urinary tract, enlarged prostate, or sexually transmitted disease.

Treatment Objectives

* Assess for more serious health condition
* Reduce discomfort

History

* Onset of symptoms
* Presence/absence of pain
* Pain score (0-10 scale)
* Presence of fever
* Frequency and/or urgency of urination
* Color of urine
* Recent increase or decrease in volume of urine produced
* Presence or absence of burning or irritation before, during or after urination
* History of urinary problems in the past
* Presence of penile or vaginal discharge
* Current medications

Assessment

* Obtain vital signs
* Gently palpate abdomen to assess for bladder distention and/or tenderness
* Inquire as to start of symptoms-time since last urination

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client with a distended bladder who is unable to pass urine - acute urinary retention and bladder distension lasting several hours can become an acute medical emergency
* Any client with urinary difficulties that do not resolve within one to two days or is associated with a fever
* Any client with urinary difficulties associated with pain and/or burning during urination, with or without a fever
* Any sexually active client with penile or vaginal discharge

Treatment

* If client is able to pass urine and the bladder does not feel distended upon palpation, encourage the client to drink more fluids than usual (unless contraindicated) but avoid caffeine and alcohol.

Additional Considerations

* Nausea and/or vomiting and chills and/or fever may be indicators of urosepsis. The presence of flank pain may be indicative of kidney infection.
* Incontinence, especially in dependent or debilitated people, may lead to urinary tract infections.

***See also:*** Back Pain, Seizures/Convulsions, Dehydration, Fever, Heat-Related Illness,

Confusion/Disorientation, Pregnancy, Rape/Sexual Assault

# VAGINAL DISCHARGE/ITCHING

Vaginal symptoms are frequently due to inflammation of the vagina caused by infection (bacterial or fungal) or chemical irritants (bubble bath, synthetic underwear, latex condoms/spermicide, etc.).

Treatment Objectives

* Assess for more serious health condition
* Relieve discomfort

History

* Onset of symptoms
* Color, consistency and amount of discharge
* Presence of foul odor
* Presence of itching, burning or pain
* Previous vaginal infections
* Possibility of sexually transmitted disease
* Recent antibiotic use
* Frequent douching
* Standing waist deep in high flood water for any period of time

Assessment

* Obtain vital signs
* Record symptoms as reported by client

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client with vaginal discharge with the exception of known yeast infections which have responded in the past to OTC medications
* Any child experiencing vaginal discharge

Treatment

* Treatment will be based on the cause of the discharge.
* If client has previously been diagnosed with a yeast infection and is familiar with the symptoms, over-the-counter treatment may prove effective.
* To help prevent future irritation, encourage client to bathe regularly, keep the groin area dry, wipe from front to back after urination/defecation, and wear natural-fibered underclothing.

Additional Considerations

* Newborns frequently will have vaginal discharge tinged with blood due to estrogen absorption from the mother. This should stop within two weeks after delivery.
* Vaginal discharge (aside from menses) in older children is abnormal and should be referred to a medical professional.

***See also:*** Abdominal Pain, Back Pain, Bleeding – Internal, Cramps – Abdominal, Fever, Difficulty with Urination, Childbirth, Pregnancy, Miscarriage, Rape/Sexual Assault, Infection

**SPECIAL CONSIDERATIONS**

# ALLERGIC REACTIONS/ANAPHYLAXIS

Allergic reactions can involve mild to severe symptoms. Severe generalized allergic reactions can result in urticaria (hives) with respiratory distress, partial or complete airway obstruction (sensation of throat closing), hypotension or evidence of shock, which may require epinephrine injection. Urticaria (hives) alone with a history of life-threatening allergic reaction may signal the onset of a severe allergic reaction. Some patients with severe asthma may manifest their allergic reaction primarily as an asthma attack. Also, failure to administer epinephrine early in pediatric patients increases the risk of anaphylaxis.

**SEE ALSO STANDING ORDERS FOR ALLERGIC REACTION / ANAPHYLAXIS IN APPENDIX IB**

Treatment Objectives

* Assess for more serious health condition
* Relieve minor symptoms

History

* Sensitivity/allergy to substances
* Past reactions to allergens
* Current medications with recent changes/additions in medications taken

Assessment

* Obtain vital signs and document
* Circulatory status: rapid and weak pulse
* Respiratory status: rapid and shallow breathing
* Drop in blood pressure
* Other signs of shock which include restlessness, irritability, excessive thirst, N&V
* Level of consciousness; drowsiness, loss of consciousness
* Skin for rash, specifically for presence of hives, itching/burning, redness, etc.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any reaction to food, medication or environmental allergen that causes lightheadedness, difficulty breathing or swallowing
* All cases of suspected shock, regardless of cause
* Any rash that results from a bite or sting
* Any rash associated with medications
* Any rash on the face or near the eyes
* Severe itching
* Other symptoms concurrently

Treatment

* For possible food and environmental allergies, encourage the client to take an antihistamine (Benadryl) if not contraindicated, and avoid further contact with the allergen. [See Benadryl in Appendix 1A as well as Standing Orders for Allergic Reaction/Anaphylaxis (Benadryl/Epinephrine) in Appendix 1B]
* If available, anaphylactic shock can be treated with an anaphylaxis emergency kit (e.g., Epi-pen) while waiting for EMS to arrive. (See Standing Orders for Allergic Reaction/Anaphylaxis in Appendix 1B).
* If available, nebulized albuterol can be administered if there is wheezing or shortness of breath. Keep person upright to reduce work of breathing. [See Standing Orders for Albuteral (Nebulizer) in Appendix IB.]
* All types of shock, regardless of cause, are medical emergencies, and local EMS should be contacted immediately.
* If client is not breathing effectively or has no pulse, initiate CPR.

Additional Considerations

* Call 911 immediately for any client that is confused, hypotensive, short of breath, or severely tachycardic.

***See also:*** Breathing Problems, Rash, Shock

# ALTITUDE SICKNESS – ACUTE MOUNTAIN SICKNESS (AMS)

Altitude sickness is divided into three syndromes: Acute Mountain Sickness (AMS), High Altitude Cerebral Edema (HACE), and High Altitude Pulmonary Edema (HAPE). AMS is the most common form of altitude sickness and will be discussed in this protocol. HACE and HAPE are serious forms and would need immediate urgent care. Transient shortness of breath or difficulty in breathing may be caused by high altitudes of 8,000-10,000 feet. Preexisting conditions may be exacerbated.

Treatment Objectives

* Assess for pre-existing health conditions and need for urgent treatment
* Relieve sensation of difficulty breathing when possible – assess if there is position of comfort or relief

History

* Presence of other acute symptoms
* Headache accompanied by poor appetite, nausea, fatigue, dizziness, difficulty sleeping
* Headache onset usually 2-12 hours after arrival at a higher altitude often after the first night
* AMS usually resolves with 24-72 hours of acclimatization.

Assessment

* Obtain Vital signs and document
* Listen to breath sounds for the presence of wheezes, rales or ronchi

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Symptoms increase and vital signs become unstable
* Symptoms are not relieved by descent to a lower altitude
* Any suspicion of a serious cause for shortness of breath
* Suspicion of stroke, heart attack or pulmonary embolus

Treatment

* Observe and refer for urgent care if symptoms
* Stop the ascent or move to lower altitudes
* Supplemental oxygen may be needed and EMS should be called
* Refer to Emergency Oxygen Therapy Protocol (p.155) if indicated.

Additional Considerations

* Volunteers and staff traveling to high altitude areas should be aware of signs and symptoms of AMS and how it could affect pre-existing conditions.
* Katrina evacuees to Denver Colorado experiencing acute symptoms were found to be related to altitude sickness.

# CHILDBIRTH, EMERGENCY

Childbirth can include full-term or pre-term delivery. If early in pregnancy and client is experiencing contractions/abdominal cramps and/or vaginal bleeding, see Miscarriage protocol.

Treatment Objectives

* Prevent injury to client or child
* Transfer client to medical facility as soon as possible

History

* Onset and frequency of contractions
* Number of pregnancies carried to term in past
* Any medical problems during pregnancy
* Past medical history
* Current medications

Assessment

* Obtain vital signs and document

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Contractions that are more frequent than every five minutes
* If the client feels the need to “push”
* A pregnant client who is in labor and has history of short labors
* Any client who has reported bloody show or leaking of fluid (water breaking)
* Any client who reports having “regular” contractions

Treatment

* Always use standard precautions
* If at all possible, transfer client to a medical facility for delivery. If transfer is not possible, attempt to receive guidance from a physician or EMS dispatcher over the telephone.
* Place clean sheets or newspaper over a mattress or, if necessary, on the floor and have the mother lie on her back with her knees bent, feet flat and knees/thighs wide apart. Head and shoulders should be raised. Ensure privacy.
* Sterilize a knife or scissors by either boiling in water for at least five minutes or holding over a flame for 30 seconds. If boiling, leave the utensil in the water until ready to use. This will be used to cut the umbilical cord.
* Before delivery, gather together a blanket or towel to wrap the baby, strong string or shoelaces to tie off the umbilical cord, a pail (in case the mother vomits), a large plastic bag or container for the afterbirth (placenta), sanitary napkins and diapers.
* For delivery, wash your hands with soap and water and put on clean exam gloves. Do not place your hands or other objects inside the vagina. Once the baby’s head is out, guide and support it to keep it free from blood and other secretions. Check to make sure the umbilical cord is not wrapped around the baby’s neck. If the cord is wrapped around the baby’s neck, gently and quickly slip the cord over the baby’s head. If too tight to slip over the head, the cord must be cut now to prevent the baby from strangling.
* Continue to support the head as the baby is being born. The baby will be very slippery so be very careful. Once the head and neck are out, the baby will turn on its side to allow passage of the shoulder. The upper shoulder usually emerges first. Carefully guide the baby’s head slightly downward. Once the upper shoulder is out, gently lift the baby’s head upward to allow the lower shoulder to emerge. Do not pull the baby out by the armpits. Carefully hold the baby as the rest of the body slides out. Note the time of delivery.
* To help the baby start breathing, hold the baby with his or her head lower than the feet so that secretions can drain from the lungs, mouth and nose. Support the head and body with one hand while grasping the baby’s legs at the ankles with the other hand. Gently wipe out the nose and mouth with sterile gauze or a clean cloth. If the baby has not yet cried, slap your fingers against the bottom of the baby’s feet or gently rub the baby’s back. If unsuccessful, give artificial respiration through both the baby’s mouth and nose, keeping the head extended. Once breathing, wrap the baby (including the top and back of the head) in a blanket or sheet to prevent heat loss. Place the baby on his or her side on the mother’s stomach with the baby’s head slightly lower than the rest of the body and facing the mother’s feet. The umbilical cord should be kept loose. It is very important to keep the baby warm and breathing well.
* It is not necessary or desirable to cut the umbilical cord right away. If possible, wait about a minute until the cord stops pulsating. If the mother can be taken to the hospital immediately after the delivery of the afterbirth (which occurs 5 to 20 minutes after delivery of the baby) then the baby can be left attached to the umbilical cord and afterbirth. If you must cut the cord, tie a clean string around the cord at least four inches from the baby’s body. Tie the string tight enough to cut off circulation in the cord. Using a second piece of string, tie another tight knot two to four inches past the first knot (approximately six to eight inches from the baby). With the sterilized utensil, cut the cord between the two ties.
* For delivery of the afterbirth, be patient. Do not pull on the umbilical cord to speed the delivery of the afterbirth. The mother’s contractions will eventually push out the afterbirth. Place all afterbirth in a container and take it with the mother and baby to the hospital so that it may be examined.
* After delivery, place sanitary napkins against the mother’s vagina to absorb blood. To help control bleeding, place your hands on the mother’s abdomen and gently massage the uterus, which can be felt just below the mother’s navel and feels like a large smooth ball. Do this every five minutes for an hour, unless medical assistance has arrived. If the bleeding is very heavy and/or prolonged, seek medical attention immediately. Keep the mother warm and comfortable.
* Encourage the mother to drink fluids.

***See also:*** Abdominal Pain, Cramps – Abdominal

# DEATH/SERIOUS INJURY

Death or serious injury could be due to natural causes (“old age”), exacerbation of a pre-existing condition, acute medical event (myocardial infarction), accident or criminal activity.

Treatment Objectives

* Provide privacy and support to family/other clients
* Contact appropriate authorities
* Document correctly
* Initiate condolence team

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All situations requiring emergency medical care beyond the scope of HS protocols

Management

* Use Red Cross personnel to provide for privacy and to support family members or other concerned shelter residents or clients
* Contact local EMS to provide emergency medical care. EMS will determine the severity of the situation and do further notification if a death is involved. Follow the directions of the local EMS and avoid disturbing the scene of the incident.
* Contact local law enforcement if a criminal act is suspected. Follow the directions given by local law enforcement authorities.
* Document all known information about the client and the incident.
* Notify your direct supervisor.

Additional Considerations

* Any death or serious injury should be handled with the utmost consideration and respect for the client and his or her loved one. Ensure privacy for both the body and the remaining family and friends. Disaster Mental Health workers should be consulted to provide additional support.
* Document all events very carefully and provide whatever support is required by local EMS and law enforcement.

# DIABETIC EMERGENCIES

There are two types of diabetic emergencies: hyper- and hypoglycemia. Hyperglycemia (high blood sugar) can be caused by stress, illness, diet or lack of adequate control with diabetic medications. Diabetic ketoacidosis (DKA) is a particularly severe form. Hypoglycemia (low blood sugar) can be caused by over-treatment with diabetic medications and/or lack of adequate food intake.

**SEE ALSO STANDING ORDERS FOR GLUCOSE/GLUCAGON IN APPENDIX IB**

Treatment Objectives

* Prevent injury to client
* Assess for more serious health condition
* Replace medications if lost/damaged due to disaster

History

* Major signs and symptoms of diabetic emergencies
* Type of diabetes: Type I (insulin-dependent) or Type II (non-insulin dependent)
* Normal daily blood sugar, if known (self-monitored)
* Type and dosage of diabetes medication taken and date/time of last dose
* Date/time and content of the last meal consumed and if there has been a recent change in diet
* Recent injury, infection, surgery or emotional stress
* Excessive thirst and/or drinking more water than usual
* Increased frequency and amount of urination
* Nausea and/or vomiting
* Confusion or loss of consciousness
* Abdominal pain
* Increased nervousness/anxiety
* Feeling or looking ill
* Shakiness/tremors
* Hunger
* Sweating (diaphoresis) and/or paleness

Assessment

* Obtain vital signs and document
* Tachycardia and tachypnea as a sign of DKA
* Abnormal pulse (rapid or weak)
* Assess mental status for signs of confusion
* Assist client, if necessary, in checking capillary blood sugar
* Assess level of consciousness
* Assess hydration status (skin turgor, mucous membranes, etc.)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client with confusions or a change in level of consciousness
* Any client with a blood sugar level greater than 300 for insulin-dependant diabetics or greater than 600 for non-insulin dependent diabetics
* Any client with a blood sugar level less than 50 for adults or less than 40 for infants and children that does not respond to oral glucose
* Any client with a symptomatic low blood sugar that does not feel better within five minutes of taking in sugar or carbohydrates
* Any client with a blood sugar greater than 300

Treatment

* If blood sugar is unknown, it may not be necessary to differentiate between insulin reaction and diabetic coma because the basic care for both conditions is the same and will not hurt the client until advanced medical care arrives. If client is conscious, give him or her sugar. Most candy, fruit juices and non-diet soft drinks have enough sugar to be effective. If the person’s problem is hypoglycemia, the sugar will help quickly. If the person has hyperglycemia, the excess sugar will do no further harm.
* Hyperglycemia (blood sugar greater than 200): Encourage client to treat their blood sugar with their normal amount of insulin (sliding scale) or medication, if available. If insulin is unavailable, refer client to local healthcare system for treatment. Encourage client to drink water or other sugar-free non-carbonated fluids. Have client recheck their blood sugar one hour after treatment.
* Hypoglycemia (blood sugar less than 50 for adults and less than 40 for infants/children): Have client recheck their blood sugar as abnormal values are frequently inaccurate. If value is still low or client is experiencing symptoms of hypoglycemia, encourage client to eat or drink a snack containing sugar or carbohydrates (fruit juice, candy, crackers, etc.) – but only if fully conscious. If client is confused but conscious, apply a glucose substance under the tongue (honey or cake frosting work well). Check vital signs frequently and if possible have the client check blood sugar level every 15 minutes until stable and greater than 70.
* Oral glucose or IM glucagon may be administered if patient has clinical presentation of hypoglycemia (e.g., altered mental status, diaphoretic) with blood sugar <70. Oral glucose if patient is “protecting airway”, glucagon if not. (See standing orders for oral glucose and IM glucagon located in Appendix 1B).

Additional Considerations

* Signs of hyperglycemia include excessive thirst and/or drinking more water than usual, increased frequency and amount of urination, nausea and vomiting, and abdominal pain. Hyperglycemia may lead to diabetic ketoacidosis (DKA) or hyperglycemic hyperosmolar state (HHS). Both are medical emergencies.
* Signs of hypoglycemia include increased nervousness and/or anxiety, shakiness, shivering, hunger, sweating, paleness, hypotension and/or tachycardia. Hypoglycemia is sometimes referred to as “insulin shock” and is a medical emergency.
* Experienced clients often recognize the difference between hyper- and hypoglycemia by how they feel.
* Blood sugar levels that fall outside of the normal ranges preset in a glucometer are frequently unreliable and should be rechecked. When in doubt, treat for hypoglycemia.
* In severe cases of both hyper and hypoglycemia, clients can become confused or even unconscious.

***See also:*** Seizures/Convulsions, Dizziness, Fainting, Confusion, Anxiety

# IMMUNE-COMPROMISED CLIENTS

Immune deficiencies could be caused by congenital disorders or through acquired means such as cancer, kidney failure, liver/spleen disease, HIV/AIDS or malnutrition. Deficiencies in the immune system can also be caused by certain medications, specifically cancer therapies, organ transplant medications and corticosteroids.

Treatment Objectives

* Prevent injury to client
* Reduce risk of infection

History

* Type of immune-deficiency (congenital vs. acquired infectious vs. noninfectious)
* Presence of any current infections
* Past medical history
* Current medications taken

Assessment

Obtain vital signs, paying special attention to temperature

Assess for signs and/or symptoms of infection

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any illness or infection that may affect the well-being of the client

Treatment

* Use universal precautions for all possible exposures to blood or body fluids
* Provide all clients with a clean and sanitary environment. Encourage hand washing by verbally reminding clients as well as posting appropriate signage.
* When possible in a shelter, offer the immune-compromised client a separate living space or arrange for alternate housing (hotel, trailer, etc.)
* Identify shelter residents who may potentially be infectious (with influenza, etc.) and move them to the Isolation Care Area of the shelter
* When there has been a spill or accident involving the body fluids of someone infected with the HIV virus, use standard precautions (appropriate for the situation) and an alcohol-based cleaning product to thoroughly clean the soiled equipment and environment. Be sure to dispose of soiled materials in a biohazard container. To prevent exposure, ideally clients could clean up their own spill.

Additional Considerations

* HIV/AIDS is the most common acquired immune-deficiency
* Individuals who are immune-compromised may be more susceptible to severe infections.
* Frequently, minor illnesses and infections progress to more serious illnesses in those who are immune-compromised
* Aside from HIV/AIDS, most other causes of immune-deficiency are not infectious and there is no need to treat the client as such
* HIV/AIDS cannot be spread by touching intact skin, so there is no need to wear gloves unless there is a possibility of blood or body fluid exposure

***See also:*** Infection, Fever

# INFECTION

Infection can be caused by any number of microorganisms: bacterial, viral or fungal. Signs and symptoms of infection will depend on the location and source of the infection.

Treatment Objectives

* Identify infectious process
* Treat or refer as needed
* Reduce complications
* Assess for more serious health condition

History

* Onset of symptoms
* Location of wound, if present
* Pain score (0-10 scale)
* Nausea and vomiting, generalized malaise, chills
* History of immune-deficiency
* Past medical history
* Current medications taken

Assessment

* Obtain vital signs, pay particular attention to an elevated temperature and document
* Assess wound (if present) for redness, swelling, pus, hardening of the tissue or red streaks that originate at the wound

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All clients with signs and symptoms suggestive of an infection

Treatment

* For wounds, see Cuts and Scrapes protocol
* For potential respiratory infection, see Congestions – Lower Respiratory protocol and Cough protocol
* For potential urinary tract infection, see Urination, Difficulty With protocol
* For potential vaginal infection, see Vaginal Discharge/Itching protocol
* For potential eye infection, see Eye Inflammation/Pain protocol
* For potential ear infection, see Earache protocol
* For potential influenza, see Influenza-Like Illness protocol
* See Fever protocol

***See also:*** Fever

# MISCARRIAGE/MISSED ABORTION/SPONTANEOUS ABORTION

Threatened fetal loss or fetal loss before week 20 of pregnancy—may be complete or incomplete loss of fetal tissue. Miscarriages are common and can occur naturally or due to trauma and/or injury to mother. May be due to uterine anomaly, incompetent cervix, fetal genetic factors

Treatment Objectives

* Early recognition and identification of possible miscarriage
* Timely referral for OB/GYN evaluation

History

* Onset and type of symptoms (abdominal cramping, abdominal pain, vaginal bleeding, etc.)
* Weeks gestation
* Number of previous pregnancies
* History of miscarriage in the past
* Past medical history; with attention to autoimmune disease, diabetes, infections
* Current medications

Assessment

* Obtain vital signs and document

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any pregnant client who experiences heavy or continuous bleeding
* Any pregnant client who has abdominal pain
* Any client that is tachycardic or hyper/hypotensive
* Any client that has both cramping and bleeding that occurs together

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All pregnant clients who experience abdominal cramping or vaginal spotting

Treatment

* Encourage the client to rest in most comfortable position possible until advanced medical assistance arrives
* Protect woman from getting chilled or overheated
* Take steps to minimize shock if profuse vaginal bleeding
* Provide for privacy
* If any tissue or unusual-looking clots pass, save in a container to bring to the doctor’s office for inspection

Additional Considerations

* Miscarriages occur in approximately ten percent of pregnancies, usually within the first twelve weeks of pregnancy

***See also:*** Abdominal Pain, Bleeding, Cramps – Abdominal

# POISONING: NATIONAL POISON CONTROL CENTER 1-800-222-1222

Poisoning can be either intentional or unintentional. Poisons can enter the body through ingestion, injection, inhalation, absorption. Prescription and non-prescription medications, household products, toxic gases and certain foods are the most common causes of poisoning but any substance, taken in sufficient quantity, can be harmful.

Treatment Objectives

* Prevent injury, illness or death from poisonous substance
* Refer to Poison Control Center
* Determine life-threatening vs. non-life-threatening exposure to poison

History

* Name and amount and location of substance, if known
* Time frame since poisoning
* How it entered the body
* Intentional (suicidal gesture) or unintentional
* Past medication history
* Current medications taken

Assessment

* Obtain vital signs and document on *Health Record*
* Assess for level of consciousness and respiratory and circulatory status
* Question if client is pregnant or possibly pregnant - important for poison control reporting
* Assess pupil size and reaction to light
* Record symptoms - look for nausea, vomiting, diarrhea, chest or abdominal pain, breathing difficulties, sweating, loss of consciousness, seizures, burn injuries around/in mouth or skin, headache, dizziness, weakness, irregular pupil size, burning or tearing eyes, abnormal skin color

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client who has been exposed to a toxic substance and is confused or has abnormal vital signs
* Any client who intentionally exposes himself/herself or another person to a harmful substance
* All other cases of exposure or suspected exposure to a harmful substance

Treatment

* Call local poison control number, then follow-up with either local EMS (for unstable clients) or the national phone number for the poison control center (1-800-222-1222)
* Follow the directions of the poison control center
* If ingested, do not give anything to eat and drink unless specifically directed to do so by poison control
* Remove client from source of poison if necessary and possible
* For ingested poisons: If directed by poison control center, give client syrup of ipecac or activated charcoal. Follow dosage instructions per client age/weight.
* Apply clean exam gloves in situations where contact with the hazardous substance is possible.
* Move client from exposure, if possible (chemical spill, toxic gas, etc.)
* If dry substance, use gloved hand or cloth to brush off chemical. Even though dry chemicals can be activated by water, continuous running water in most cases will flush the chemical from the skin before the water can activate it.
* If substance is present on the skin or in the eyes, and if directed so by poison control, flush the area with copious amounts of water (shower with cool water), and continue to do so until advanced medical care arrives. If treatment is required, transfer client to a local medical facility.
* If client vomits, use a clean container to save some of the vomit to send with client to hospital.
* If it is safe and possible, send the substance or container to the hospital with the client to assist with diagnosis and treatment.
* Food poisoning symptoms can start between 1-48 hours after eating contaminated food. If suspected food poisoning in a shelter environment, the shelter manager must be notified immediately.
* Victims of inhaled poisons need oxygen as soon as possible. If available, administer oxygen at a minimum of 2 liters/min until advanced help arrives.

Additional Considerations

* Children and older adults are at highest risk for unintentional poisoning - children from getting into household products and older adults from confusion over medications.
* There is a National Association of Poison Control Centers for more information.

***See also:*** Abdominal Pain, Breathing Problems, Seizures/Convulsions, Diarrhea, Dizziness, Fainting, Indigestion, Confusion/Disorientation, Nausea/Vomiting, Rash, Allergic Reaction/Anaphylaxis

# PREGNANCY

Treatment Objectives

* Maintain a healthy pregnancy

History

* Weeks of pregnancy and anticipated due date
* Number of previous pregnancies and deliveries
* Past medical history
* Current medications taken

Assessment

* Obtain vital signs and document

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any pregnant client with no prenatal care
* Any vaginal bleeding
* Stomach pain or cramps
* Persistent vomiting
* Severe, persistent headaches
* Swelling of the face or fingers
* Blurring or dimness of vision
* Chills and fever
* Sudden leaking of water from the vagina
* Seizures
* Difficulty breathing
* High blood pressure

Management and Health Teaching

* Encourage the client to eat well, including fruits, vegetables and fiber in her diet. A prenatal vitamin containing iron and folic acid may be recommended by the client’s physician.
* The client should consult with her physician before taking any medication, even over-the-counter medications, as they may be contraindicated in pregnancy.
* Ensure all pregnant clients continue with regular prenatal visits, even if she has no complaints.
* Assist with appointments in local area if client is displaced for any length of time.

***See also:*** Dizziness, Fainting, Nausea/Vomiting, Abdominal Pain, Emergency Childbirth

# RAPE/SEXUAL ASSAULT

Rape is a crime in every state. Sexual assault includes forced vaginal or anal intercourse, oral sex, penetration with an object, and/or forced touching or fondling.

Treatment Objectives

* Prevent further injury to client
* Preserve potential evidence

History

* Avoid questioning client about details surrounding the incident as this information may become part of a criminal investigation

Assessment

* Obtain vital signs
* Assess for cuts, bruises or burns that require immediate attention

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All suspected cases of rape and sexual assault
* Management and Health Teaching:
* Call the police immediately to report the crime
* Comfort the client and provide emotional support. Do not leave the client alone.
* Treat noticeable injuries like cuts, bruises or burns that require immediate care
* Encourage the client to NOT change clothes, shower or bathe, brush his or her teeth, or eat and/or drink anything as this may hinder the ability to collect evidence
* Refer client to a trusted physician or to the local emergency department for medical treatment
* Preserve any evidence
* Maintain safety for yourself as well as client
* Be aware that in a confused disaster environment, sexual predators may seek out victims that may include children as well

# SHOCK

There are several types of shock which are caused by various conditions. Anaphylactic shock is caused by an allergic reaction to a medication, food or insect sting. Cardiogenic shock can result from myocardial infarction or other cardiac disease. Shock can also be caused by a severe injury that results in heavy blood loss or lack of oxygen. Insulin shock is due to hypoglycemia and septic shock is caused by a severe infection

Treatment Objectives

* Prevent injury to client
* Assess for more serious health condition

History

* Known allergies to foods, insect stings or medications
* Past reactions to allergens
* Cardiac disease, past history of MI
* Recent trauma or injury
* Recent fever, infection or illness
* For diabetics, time and amount of last dose of insulin and time and quantity of last meal

Assessment

* Obtain vital signs and document
* Circulatory status: rapid and weak pulse
* Respiratory status: rapid and shallow breathing
* Drop in blood pressure
* Other signs of shock which include restlessness, irritability, excessive thirst, N&V
* Signs of bleeding
* Level of consciousness; drowsiness, loss of consciousness
* For diabetics, capillary blood glucose level
* Skin for sweating, paleness, ashen, bluish cool, moist skin
* Pupils for size and reaction to light

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of suspected shock, regardless of cause

Treatment

* All types of shock, regardless of cause, are medical emergencies, and local EMS should be contacted immediately.
* If client is not breathing effectively or has no pulse, initiate CPR.
* Keep the client lying down with feet elevated 8-12 inches (if the client is conscious and does not have injuries to the back, neck or head)
* Further treatment will depend on the cause of shock.
* If available, anaphylactic shock can be treated with an anaphylaxis emergency kit (e.g., Epi-pen) while waiting for EMS to arrive.
* For shock due to volume loss (e.g., bleeding), attempt to prevent further loss of fluid.
* Insulin shock can be treated with food containing sugar (fruit juice, honey, sugar water), if client is conscious.
* For suspected septic shock, keep the client lying down and cover with a light blanket until EMS arrives.
* Refer to Emergency Oxygen Therapy Protocol if indicated (p.155).

Additional Considerations

* Call 911 immediately for any client that is confused, hypotensive or severely tachycardic

***See also:*** Bleeding, Seizures/Convulsions, Dehydration, Diarrhea, Fever, Confusion/ Disorientation, Infection, Chest Pain/Pressure, Stroke, Allergic Reaction/Anaphylaxis

# STROKE

Strokes are caused by a lack of oxygen to the brain caused by either a bleed in an artery (hemorrhage) or by a blood clot

Treatment Objectives

* Prevent injury to client
* Decrease chances of permanent damage by rapid assessment and transport to higher level of care

History

* Onset of symptoms – are symptoms still present or have they subsided?
* Presence of headache before or in conjunction with facial paralysis
* Sudden paralysis or weakness on one side of the body with facial drooping
* Loss and/or slurring of speech
* Loss of vision in one eye or visual field in both eyes
* Mental confusion
* Lack of muscular coordination
* Loss of bladder and/or bowel control
* History of blood clots or previous TIA/CVA
* Current medications, especially aspirin or other blood-thinner
* Pain behind one ear or piercing pain of the face, scalp or ear

Assessment

* Check scene, then check person
* Obtain Consent
* Sudden signals of stroke, THINK F.A.S.T.
	+ Face – weakness on one side of the face and ask the person to smile

o Arm – weakness or numbness in one arm ask the person to raise both arms

o Speech – slurred speech or trouble getting words out Ask the person to speak a simple sentence

o Time – note time when signals were first observed

* Obtain vital signs, paying special attention to an elevated blood pressure
* Assess client’s coordination of movements and ability to move upper and lower extremities
* Assess the client’s ability to walk, observing gait and balance
* Check pupil size and reaction to light
* Assess facial symmetry. Look for differences between features of the right and left side of the face (e.g. smile/frown, raise eyebrows) and presence/absence of eyelid drooping.

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* All cases of facial drooping or paralysis, and/or can’t speak
* All suspected cases of TIA or stroke

Treatment

* If unconscious, maintain open airway
* Monitor ABCs
* Refer to Emergency Oxygen Therapy Protocol if indicated (p.155).
* Get the client to an acute care facility as quickly as possible
* Do not give client anything to eat or drink
* Do not give client any medications
* Place client on their weakened side so secretions can drain from the mouth
* Have the client rest quietly until local EMS arrives
* Provide privacy
* Comfort the client and family as much as possible

Additional Considerations

* A client’s prognosis improves when they can be transferred to an acute care facility for diagnosis and treatment within 30 minutes of onset of symptoms.

***See also:*** Paralysis/Weakness – Facial or Limb, Seizures/Convulsions, Headache

# SUBSTANCE ABUSE/WITHDRAWAL

Substance abuse can be caused by taking in excessive and persistent amounts of alcohol, illicit drugs and/or prescription medications taken outside the usual standards of medical practice or medical need. Steroids, growth hormone, diuretics and laxatives are also commonly abused substances. Withdrawal symptoms are caused when the client stops using the addictive substance.

Treatment Objectives

* Early recognition of withdrawal symptoms
* Care appropriate and timely referral to appropriate setting

History of substance abuse

* Recent change in mood or behavior
* Slurred or incoherent speech
* Sudden loss of weight or inattention to personal hygiene
* Past drug use/abuse (type of drug, amount taken, last time drug was used)
* Past medical history
* Current medications taken

History of withdrawal

* Nervousness, sleeplessness
* Nausea, vomiting, diarrhea (heroin)
* Muscle pain
* Agitation, hallucinations (alcohol)
* Last use of substance
* Length and frequency of prior use
* Past medical history
* Current medications taken

Assessment

* Obtain vital signs, if client is cooperative and document
* Assess level of consciousness, orientation to person, place and time
* Observe movements for coordination
* Listen for slurring of speech or nonsensical conversation
* Check arms and legs for signs of injection marks
* Smell for the scent of alcohol
* Check pupils for size and reaction to light

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any client who appears to be intoxicated or under the influence of a harmful substance and has an altered level of consciousness (difficult to arouse) as they may experience a drug-related emergency (overdose) or may attempt to harm themselves or others
* Any client with an altered level of consciousness or confusion
* Call local law enforcement if client becomes aggressive or uncooperative with efforts to help
* Any known or suspected alcoholic that has not had access to alcohol recently and is experiencing symptoms of alcohol withdrawal
* Any known or suspected drug abuser that has not had access to their substance recently and is experiencing symptoms of withdrawal

Treatment

* First, assess whether the situation is one that can be handled safely or if outside help is needed.
* If client is sleeping with normal breathing, and can be easily aroused, no immediate treatment is required.
* If unconscious, make sure the client is breathing. Initiate CPR, if necessary, and contact local EMS.
* If conscious and under the influence of a harmful substance, ask the client what drug he or she took, the amount and when it was taken. Contact local EMS and convey this information to them. Keep client awake and talking until EMS arrives. If client becomes aggressive, keep yourself and others away from client until help arrives – DO NOT attempt to restrain client.
* If vomiting, place client on his or her side to help prevent emesis from entering the lungs.
* Alcoholics who are experiencing symptoms of withdrawal typically self-medicate themselves by drinking.
* Refer client to Disaster Mental Health worker and the local health care system if client would like information regarding rehabilitation.

Additional Considerations

* Signs of drug usage and treatment will depend on the particular substance being abused.
* Nearly eight percent of the US population has a problem with alcohol use, with men being four times more likely than women to become alcoholics.
* Alcohol withdrawal symptoms usually occur 12-48 hours after the individual stops drinking and are characterized by sweating, weakness, tremors and perhaps seizures and hallucinations.

***See also:*** Nausea/Vomiting, Anxiety, Diarrhea, Seizures/Convulsions.

# VIOLENCE/DOMESTIC ABUSE

Abuse can be seen in various forms – emotion, physical or sexual – and usually involves a family member, neighbor or some other adult.

Treatment Objectives

* Identify potential cases of abuse and/or neglect
* Report such cases to the appropriate authorities
* Maintain safe environment

History

* Frequent complaints of pain or illness
* Injury that does not fit the description of what caused it
* Pain during urination
* Frequent broken bones
* Excessive aggression
* Social withdrawal or depression
* Child who has an unusual fear of adults

Assessment

* Obtain vital signs and document
* Observe for signs of malnutrition or unkempt appearance (possible neglect)
* Check skin for unexplained bruises, burns or cuts that may be at various stages of healing (physical abuse)

Contact Medical Command (or Local EMS/911 if emergent) for the following:

* Any serious injury to a client
* Notify local law enforcement of any violent or threatening behavior in a client in shelter
* Any client suspected of being physically or sexually abused

Treatment

* Provide comfort to the client and treat noticeable injuries such as cuts, bruises or burns
* Consult with a Disaster Mental Health worker regarding the most appropriate referral
* If child abuse or elder abuse is suspected, local authorities should be contacted.
* Suspected cases of sexual abuse or rape should be reported to local law enforcement. See Rape protocol.
* Be aware that in the shelter environment tensions will be heightened, and there may be increased risk for violence among shelter residents.
* Stay aware of environment
* Consult with Disaster Mental Health to strategize regarding stress reduction in at risk families and clients

Additional Considerations

* Many states have laws that require health professionals to report suspected cases of violence, abuse or neglect. If you are unsure of the law in the state where you are working, refer all suspected cases to the local healthcare system so they may take appropriate actions.
* Children and older adults are at higher risk of being abused than the general population.

***See also:*** Arm/Hand Injury and Pain, Bleeding, Bruising, Burns, Cuts and Scrapes, Leg/Foot Injury and Pain, Rape/Sexual Assault

**APPENDICES**

**1-A Medications**

**1-B Standing Orders**

**APPENDIX 1A: MEDICATIONS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Brand Name** | **Generic Name** | **Indications** | **Adult Dosage** | **Pediatric Dosages** | **Route of Administration** | **Frequency** |
| **PRESCRIPTION MEDICATIONS PROVIDED – SEE PRESCRIPTION MEDICATONS: STANDING ORDERS IN APPENDIX 1B** |
| Albuterol | Albuterol | Wheezing | 2.5 mg (1 neb) | 2.5 mg (1 neb) | Inhaled | See Appendix 1B,p.147 |
| Benadryl solution(IM injection) | Diphenhydramine | Allergic Reaction & Itching | 25-50 mg (0.5-1.0 mL) | 1 mg/kg | Intramuscular | See Appendix 1B,pp.148-150 |
| Benadryl (Q-Dryl)(oral liquid) | Diphenhydramine | Allergic Reaction & Itching | 25-50 mg (2-4 tsp) | 1 mg/kg | Oral | See Appendix 1B,pp.148-150 |
| Epinephrine |  | Severe Allergic Reaction&Anaphylaxis |  |  | IM | See Appendix 1B,pp.148-152 |
| Glucagon |  | Hypoglycemia | 1.0 mg (>44lbs) | 0.5 mg (<44lbs) | IM | See Appendix 1B,p.154 |
| Glucose, Oral |  | Hypoglycemia |  |  | Oral | See Appendix 1B,p.153 |
| OXYGEN |  |  |  |  |  | See Appendix 1B,p.155 |
| **MEDICATIONS PROVIDED (*USUALLY AVAILABLE OVER THE COUNTER*)\*** |
| Benadryl | Diphenhydramine | Allergic Reaction | 25-50 mg (1-2 tabs) | 1 mg/kg | Oral | Every 4-6 hours |
| Benadryl (Q-Dryl) | Diphenhydramine | Allergic Reaction | 25-50 mg (2-4 tsp) | 1 mg/kg | Oral | Every 4-6 hours |
| Povidone | Iodine | Antiseptic | Apply to affected area | Apply to affected area | Topical | As needed |
| Motrin | Ibuprofen | Pain, Fever | 800 mg (1 tab) | N/A | Oral | Every 6-8 hours |
| Motrin | Ibuprofen | Pain, Fever | 200-400 mg (2-4 tsp) | 10 mg/kg | Oral | Every 6-8 hours |
| Pepto-Bismol | Bismuth subsalicylate | Stomach Upset | 30 mL (2 Tbsp) | Not for under age 12 yrs | Oral | Every 1 hour to a maximum of 8 doses |
| Tylenol | Acetaminophen | Pain, Fever | 650 mg (2 tabs) | N/A | Oral | Every 4-6 hours |
| Tylenol | Acetaminophen | Pain, Fever | 650 mg (4 tsp) | 15 mg/kg | Oral | Every 4-6 hours |

**\*NOTE: These nonprescription “over-the-counter” medications may be given as directed in protocols**

**APPENDIX: 1B**

**Prescription Medications: Standing Orders**

**Respiratory Distress**

**Albuterol Solution with a Nebulizer**

Albuterol is a bronchodilator that relaxes muscles in the airways and increases airflow to the lungs.

**Assess**

Vital Signs, breath sounds, client’s history and use of bronchodilators.

**Indications**

To reverse severe bronchospasm. *Albuterol may be administered - if client is short of breath with clinical presentation of asthma/COPD (e.g., wheezing) and patient is prescribed albuterol for similar presentation.*

*See Breathing Problems- Asthma/COPD*. Client may present with wheezing, respiratory distress.

**Dosage**

Adult dosage: 2.5-5.0 mg (1-2 nebules)

Pediatric dosage: ***Ages 2-8:*** 2.5 mg;

***Ages 8 and above:*** 2.5-5.0mg

**Frequency**

Every 4 hours

**Route of administration**

 Inhaled

**Precautions**

Bronchospasm may worsen in rare situations due to patient tolerance or hypersensitivity.

If respirations worsen, discontinue use

Use with caution in patients with hyperthyroidism or coronary artery disease.

**Contraindications**

Known Hypersensitivity

**Possible Reactions**

Tachycardia, palpitations, peripheral vasodilation, cough, headache, dizziness, tremor, and nervousness may be seen infrequently.

**Allergic Reactions/Anaphylaxis**

**Diphenhydramine (Benadryl) Dosage**

**Epinephrine Auto-Injector**

**Adult dose (0.3 mg) & Pediatric dose (0.15 mg)**

* At the first suspicion of a medical emergency, the nurse/provider should:
* Call for help - activate the EMS system – Call 911
* Remain with the client
* Initiate basic life support measures:
	+ Circulation – Check for a pulse and initiate chest compressions if none felt
	+ Airway – maintain patent airway with client in position of safety/comfort
	+ Breathing – give supplemental oxygen via face mask at a minimum of 8 liters per minute or nasal cannula at liters per minute

(IT IS IMPORTANT TO NOTE THE NEW ORDER FOR RESUSCITATION IS “C-A-B”, BASED ON UPDATES FROM THE AMERICAN HEART ASSOCIATION IN 2010 THAT MAKES ASSESSING CIRCULATION AND GIVING CHEST COMPRESSIONS IF NECESSARY THE PRIORTITY OVER AIRWAY AND BREATHING)

*Continued on following pages 150-153*

*See also p121-22 Special Considerations Allergic/Anaphylaxis Disaster Health Services protocols for administration instructions. See also p 121.*

**Allergic Reactions/Anaphylaxis (continued)**

**MILD REACTIONS:** For mild allergic reactions, give Benadryl according to dosage chart below.

|  |
| --- |
| MILD |
| Signs and Symptoms* Mild SOB, able to talk
* Mild urticaria
 | TreatmentGive liquid PO Diphenhydramine (Benadryl) 12.5mg/5ml*See dosage chart immediately below***If condition worsens, use orders for severe reaction on next page.** |
| Diphenhydramine (Benadryl) Dosage\**The recommended dosage is 1-2 mg/kg body weight.**30 mg is maximum dose for children; 50 mg is maximum dose for teens and adults.* |
| Age*(As much as possible, avoid using age as basis for dosing. Use weight instead)* | Weight(lbs) | Weight(kg) | **Dose (mg)** | **Amount of Oral Liquid Diphenhydramine (Benadryl)** **12.5 mg/5ml** | **Amount of****Injectable (IM)****Diphenhydramine (Benadryl)** **50/mg/ml** |
| 1 - 6 months or > 6 months with weight below 20lb/9kg | \*\*\*\*DO NOT ADMINISTER DIPHENHYDRAMINE ((BENADRYL) TO CHILDREN 6 MONTHS AND BELOW OR TO INDIVIDUALS WHO WEIGH LESS THAN 20lbs (9kg) UNDER THESE STANDING ORDERS\*\*\*\* |
| 7-36 months | **20-32 lbs** | 9-14.5 kg | 17.5 mg | **7 ml** | **0.35 ml** |
| 37-59 months | **33-39 lbs** | 15-17.5 kg | 25 mg | **10 ml** | **0.5 ml** |
| 5-7 years | **40-56 lbs** | 18-25.5 kg | 30 mg | **12 ml** | **0.6 ml** |
| 8-12 years | **57-99 lbs** | 26-45 kg | 30 mg | **12 ml** | **0.6 ml** |
| 13 yrs and older | **100+ lbs** | 46+ kg | 50 mg | **20 ml** | **1.0 ml** |

Adapted from Immunization Action Coalition

[www.immunize.org/catg.d/p3082a.pdf](http://www.immunize.org/catg.d/p3082a.pdf) Item#P3082a (1/15) and [www.immunize.org/catg.d/p3082.pdf](http://www.immunize.org/catg.d/p3082.pdf) Item#P3082 (9/14)

**NOTE: 30 mg is maximum dose for children; 50 mg is maximum dose for teens.**

**Allergic Reactions/Anaphylaxis (continued)**

***SEVERE REACTIONS:***

**Epinephrine Auto-Injector is used on a person who is having a severe allergic reaction.**

Epinephrine is in a class of medications called sympathomimetic agents that work by relaxing the muscles in the airways and tightening the blood vessels.

|  |
| --- |
| *SEVERE* |
| *Signs and Symptoms*  *(sudden or gradual)****IF**** *generalized (bodywide) itching, erythema (redness) or urticaria (hives)* ***and/or***
* *angio edema (swelling of face, throat, tongue, lips and/or drooling)* ***and/or***
* *abdominal cramping*

***WITH*** * *respiratory distress (wheezing, stridor, unable to talk, voice change, tightness in throat/chest)* ***and/or***
* *shock symptoms (tachycardia, hypotension)*
 | ***Treatment****Give IM Epinephrine (Adrenaline Chloride)*  *See Epinephrine Dose chart on next page****\*Client must remain supine in Shock Position (feet slightly elevated) after epinephrine administration.\*****If EMS has not arrived, and symptoms are still present, repeat epinephrine at 5 - 15 minute intervals for up to 3 doses depending on response.* ***AND****If able to swallow, give liquid oral Diphenhydramine (Benadryl 12.5 mg /5ml):**[See Oral Diphenhydramine (Benadryl) dosage chart on previous page.]* ***OR****If not able to swallow, give IM Diphenhydramine (Benadryl 50 mg/ml):*  *[See IM Diphenhydramine (Benadryl) dosage chart on previous page]* |

**Allergic Reactions/Anaphylaxis (continued)**

#####  Epinephrine Dosage Charts BELOW and NEXT PAGE

##### Epinephrine Dosage Chart

***\*Client must remain supine in Shock Position (#1 on p.7) after epinephrine administration.\****

|  |
| --- |
| **Epinephrine Dosage (IM**)1 **The recommended dose for epinephrine is 0.01mg/kg body weight** |
| Age | Weight (kg)3 | Weight (lbs) | **Epinephrine Dose****1:1000 dilution** | **Epinephrine Auto-Injector2****Pediatric (Adrenaline Chloride 1:2000, 0.15mg/0.3ml)****Adult (Adrenaline Chloride 1:1000, 0.3mg/0.3ml)**  |
| 1-6 mos | 4–8.5 kg | 9–19 lbs | 0.05 mg (0.05 ml) | – |
| 7-36 mos | 9–9.5 kg | 20–21 lbs | 0.1 mg (0.1 ml) | – |
| 10–14.5 kg | 22–32 lbs | 0.1 mg (0.1 ml) |  – |
| 37-59 mos | 15–17.5 kg | 33–39 lbs | 0.15 mg (0.15 ml) | Pediatric (0.15mg) |
| 5-7 years | 18–25.5 kg | 40–56 lbs | 0.2–0.25 mg(0.2 – 0.25 ml) | Pediatric (0.15mg) |
| 8–10 years | 26–34.5 kg | 57–66 lbs | 0.25–0.3 mg(0.25–0.3 ml) | Pediatric (0.15mg) |
| ≥ 66 lbs | 0.3- 0.35 mg (0.3- 0.35 ml) | Adult (0.30 mg) |
| 11-12 years | 35–45 kg | 77–99 lbs | 0.35–0.4 mg (0.35–0.4 ml) | Adult (0.30 mg) |
| 13 yrs & older | 46+ kg | 100+ lbs | 0.5 mg (0.5 ml) | Adult (0.30 mg) |

1Dosage by weight is preferred.

2 Pediatric auto-injectors are for use for those 33-65 lbs; Adult auto-injectors are for use for those 66 lbs and greater.

 Auto-injectors should be injected into the anterolateral aspect of the thigh.

3 Rounded weight at the 50th percentile for each age range.

**See also**

**Epinephrine Chart Dosage by Actual Weight**

**(1 month-36 months)**

**on NEXT PAGE**

**Allergic Reactions/Anaphylaxis (continued)**

#####  Epinephrine Dosage Charts PREVIOIUS PAGE and BELOW

**Epinephrine Dosage (IM**)

**Dosage by Actual weight**

|  |  |  |  |
| --- | --- | --- | --- |
| Typical Age Range | Actual Weight(kilo/pounds) | **Actual Dosage Given****Epinephrine Dose****1:1000 dilution** | **Epinephrine Auto-Injector 2****Pediatric (Adrenaline Chloride 1:2000, 0.15mg/0.3ml);****Adult (Adrenaline Chloride 1:1000, 0.3mg/0.3ml)**  |
| 1-6 months | 4kg/ 8.8lbs | 0.04mg(0.04ml) | Not applicable for this age/weight range  |
| 5kg/ 11.0lbs | 0.05mg(0.05ml) |
| 6kg/ 13.2lbs | 0.06mg(0.06ml) |
| 7kg/ 15.4lbs | 0.07mg(0.07ml) |
| 8kg/ 17.6lbs | 0.08mg(0.08ml) |
| 7-36 months | 9kg/ 19.8lbs  | 0.09mg(0.09ml) | Not applicable for this age/weight range  |
| 10kg/22.0lbs | 0.10mg(0.10ml) |
| 11kg/24.2lbs | 0.11mg(0.11ml) |
| 12kg/26.4lbs | 0.12mg(0.12ml) |
| 13kg/28.6lbs | 0.13mg(0.13ml) |
| 14kg/30.8lbs | 0.14mg(0.14ml) |

**HYPOGLYCEMIA**

* **Glucose, Oral**
* **Glucagon for Injection** *(next page)*

|  |
| --- |
|  |

**Glucose, Oral**

Oral glucose is supplied as a gel for the treatment of hypoglycemia

*(If patient has clinical presentation of hypoglycemia (e.g., altered mental status, diaphoretic) with blood sugar < 70 - give oral glucose if “protecting airway”, glucagon if not. Glucagon on next page)*

**Assess**

Vital Signs, mental status, blood sugar

**Indications**

Altered mental status with a history of medication controlled diabetes

Hypoglycemia

**Dosage**

1 tube= 24 grams

**Frequency**

One time

**Route of administration**

By mouth

**Contraindications**

Unresponsive individual

Inability to swallow

**Possible Reactions**

A transient increase in blood glucose level

**GLUCAGON FOR INJECTION**

Glucagon is used to treat a very low blood sugar (hypoglycemia). It works by increasing blood sugar and relaxing smooth muscle of the gi tract.

*(If patient has clinical presentation of hypoglycemia (e.g., altered mental status, diaphoretic) with blood sugar < 70 - give oral glucose (on previous page) if “protecting airway”, glucagon if not.)*

**Assess**

Vital Signs, mental status

**Indications**

Severe hypoglycemia. Symptoms may include disorientation, unconsciousness, seizures or convulsions. Give glucagon if the client is unconscious, unable to eat or swallow a quick-acting carbohydrate, or repeated administration of a quick-acting carbohydrate does not improve the client’s condition.

**Dosage**

Glucagon comes in a kit that contains a vial of sterile Glucagon and a syringe of sterile diluents.

**Frequency**

Adults and pediatric patients weighing more than 44lbs: give 1 mg (1 unit) IM.

Pediatric patients weighing less than 44lbs: give 0.5mg (0.5 unit) IM.

**May repeat in 20 minutes.**

An unconscious patient will usually awaken within 15 minutes following glucagon injection. If response is delayed, an additional dose may be given, but emergency medical assistance should be contacted as soon as possible.

**Route of administration**

IM in outer thigh only

**Contraindications**

In clients with known hypersensitivity to it or in clients with known pheochromocytoma.

**Possible Reactions**

Nausea and vomiting

**Emergency Oxygen Therapy**

|  |
| --- |
|  |

**Assess**

Vital Signs, Mental status, Pulse oximeter

**Indications**

1. Patient is on continuous oxygen therapy.
2. Patient is symptomatic to include:
	* SpO2 less than 95% with symptoms
	* dyspnea, tachypnea, bradypnea, apnea
	* pallor, cyanosis
	* lethargy or restlessness
	* use of accessory muscles

**Dosage**

Start at 2 liters per minute (LPM) with a max of 6 LPM until targeted percentage of oxygen saturation is achieved (above 95%) or documented baseline is maintained.

**Route of administration**

Nasal Cannula

**Contraindications**

None

**Possible Reactions**

It is possible to give too much oxygen to an individual who is chronically hypoxic. This may result in a lower respiratory effort and rate.

**Appendix 2**

**Disaster Health Protocols Forms**

**Natural Disaster Morbidity Surveillance and Medical Evaluation Form**

* Complete this two-sided form for every disaster health client for whom you provide services (visits to shelter medical/nursing unit/first aid station).
* Repeat or follow-up visits for the same problem should be documented on the same form.
* Any subsequent visits for a new injury, acute illness, exacerbation of chronic disease or mental health concern should be documented on a new form.
* As medical records, these forms are confidential and remain on file at the shelter during the event.

**Natural Disaster Morbidity Surveillance Summary Report Form**

* Complete and submit this form for every operation period to the Mass Care Supervisor at the State Health Operations Center (SHOC) Phone 302-223-1720 or Fax 302-223-1724)

*Forms will be stocked in shelter bags delivered to site.*

**Natural Disaster Morbidity Surveillance and Medical Evaluation Form**

**(Side 1)**



**Natural Disaster Morbidity Surveillance and Medical Evaluation Form**

**(Side 2)**



**Natural Disaster Morbidity Surveillance Summary Report Form**

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**References**

Delaware Basic Life Support Protocols, Guidelines and Standing Orders for Prehospital and Interfacility Patients. Effective January 1, 2013.

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Medical Management of Vaccine Reactions in Adults

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<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0000211/>

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**Signature Page**

The preceding Disaster Health Services Protocols are approved for use by Delaware Division of Public Health Advanced Practice Registered Nurses (APRNs), Registered Nurses (RNs) and those APRNs and RNs working under the direction of the Division of Public Health, such as, but not limited to Delaware Medical Reserve Corps and Delaware Health and Social Services Registered Nurses.

**Effective July 1, 2017 through June 30, 2018.**

SIGNATURE DATE

Rick Hong, MD

Medical Director, Office of Preparedness

Division of Public Health

Delaware Health and Social Services