2022-2023

SSIS HEALTH OFFICE HANDBOOK PART 2

The Health Office Handbook Part 1 provides information for the members of the SSIS community to better understand how the Health Office within SSIS operates.

The Health Office Handbook Part 2 provides information and procedures for the School Nurse. This document is meant to be used by the school nurses.

Revised August 2022

Health Services-Non Emergency

The SSIS Health Office's goal is to promote the safety and wellbeing of your child in the school environment. In the event our nurse assesses your child and deems it medically necessary for your child to go home or to a higher level of care, you will be required to arrange pick up of your child within 30 minutes of receiving a call. This is to make sure the medical needs of your child are met in a timely manner and avoid any delay in medical care. If we are unable to reach the parent or guardian the nurse will call the emergency contact listed in your child's school record. If the nurse is unable to reach the emergency contact then transportation to a higher level of care will be arranged.

Health Services-Emergency

In the event of an emergency that requires transportation to a higher level of care, the nurse will provide a warm handoff of written communication to the next provider. This will include a form that will contain the student's name, date of birth, allergies, medications taken on a regular basis, medications or treatment provided in the health office, time and nature of illness or injury,e, blood pressure, pulse, respirations, oxygen saturation, temperature, parent or guardian contact information. This is to ensure a safe transfer of care for your child.

Process for releasing a sick or injured student from school to the parent/guardian:

For the safety and security of dismissing a student sent to the nursing office, the nurse will call the parent/guardian to arrange for pick up. When the parent/guardian arrives they will proceed to the students divisional office for ID check and verification. The parent/guardian will be given a signed dismissal slip. The divisional office will also let the nursing office know, the parent/guardian etc. have been vetted for pick up. Then, the parent/guardian will take that slip to the nurses office to pick up the student to take them home.

In regards to the High School. The same policy will apply. If the nurse does not deem the student in stable condition to go home independently, then the parent must arrange for pick up. The parent/guardian/etc will proceed to the divisional office to be vetted for pick up. Then, proceed to the nursing office to pick up the student. The only exception is when a parent is called to come pick up the student and the parent wants the student to walk/ride home on their own, the parent will have to call the divisional office to notify them of this. This will only apply if the nurse deems the student is able to walk/ride home safely. If this applies then the nurse will

dismiss the student after the HS office has been given permission from the parent and the divisional office emails the nurse permission was granted

Office Supplies and Documentation

The School Nurse will manage equipment, medication, and supplies in the Health Office including the arrangement of resupply of consumables. The School Nurse will accurately document confidential medical records (electronic and hard copies) and activity logs associated with the above activities.

Abdomen: blunt injury

Following a hard blow to the abdomen, an internal organ such as the spleen or liver may be ruptured and bleed into the abdominal cavity slowly and continuously.

Signs and symptoms:

- History of blow to abdomen
- Possible bruise visible
- Pain and tenderness to mild pressure
- Abdominal distention
- Vomiting
- Rapid, weak pulse with low blood pressure
- Blood in urine shortly after trauma or next day (in case kidney is bruised or torn)
- Gradual onset of shock or coma

Nurse management

- Notify parents and homeroom teacher
- Keep the student in clinic for 15 minutes after blow to abdomen
- Allow to rest in position of comfort
- Monitor pulse and blood pressure
- If a student has none of the above symptoms, may return to class. Send a note to the teacher to have the student return to the clinic before close of school or sooner if symptoms appear.
- Reassess the student
- If any symptoms ensue, refer to emergency room or physician
- Record on student health files
- Follow-up : check the student again on the following day

Abdominal pain

Pain or discomfort located between the bottom of the diaphragm and the top of the pelvic region. Abdominal pain may be due to a variety of conditions, including intra-abdominal causes and extra-abdominal causes.

Common causes considered by age of students:

- ❖ Pre-school: constipation, gastroenteritis, viral infection, UTI, pneumonia, trauma, lactose intolerance, sickle cell episode
- ❖ School age: gastroenteritis, viral infection, constipation, appendicitis, trauma, UTI, pneumonia, lactose intolerance, sickle cell pain episode
- ❖ Adolescent: appendicitis, in females: mittelschmerz, pelvic inflammatory disease, dysmenorrhea, complication of pregnancy

Assessment of location and severity of the pain:

- ❖ Diffuse abdominal pain: associated with diabetic ketoacidosis, food poisoning, gastroenteritis, intestinal obstruction, pancreatic disease, peritonitis, pharyngitis, sickle cell anemia
- ❖ Epigastric pain: associated with duodenal / gastric/ peptic ulcers, esophagitis, gastritis, gastroenteritis, GERD / hiatal hernia, MI, irritable bowel disease, liver conditions and ulcerative colitis.
- ❖ RLQ: associated with appendicitis, ectopic pregnancy, gastroenteritis, inguinal hernia, irritable bowel syndrome, kidney stone, ovarian conditions, pelvic inflammatory disease and testicular torsion
- ❖ RUQ: associated with acute pancreatitis, gall bladder conditions, kidney stone, duodenal ulcer, liver conditions, lower lobe pneumonia
- ❖ LUQ: associated with bowel obstruction, constipation, IBS, kidney stone, ovarian conditions, pelvic inflammatory disease and testicular torsion
- ❖ LLQ: associated with constipation, ectopic pregnancy, inguinal hernia, IBS, kidney stone, ovarian conditions, pelvic inflammatory disease, sigmoid colon and testicular torsion
- ❖ Suprapubic region: associated with dysmenorrheal, endometriosis, pelvic inflammatory disease, sexually transmitted disease, UTI / bladder infection

Signs and symptoms:

- ❖ Temperature, circulation, hydration status
- ❖ Signs of emergency surgical conditions:
- ● Peritonitis: guarding and rigidity of the abdominal muscles, rebound tenderness, decreased bowel sounds, abdominal distention or shock
- ● Intestinal obstruction: distention, decreased bowel sounds, persisted vomiting

- Appendicitis: fever, vague periumbilical pain which shifts to RLQ, localized tenderness to pressure (with or without signs of peritoneal irritation), may vomit, decreased bowel sounds, more likely to have constipation
- Complication of pregnancy (female with history of delayed menstrual period): lower abdominal pain, pallor or shock, abnormal vaginal bleeding

Nurse Management

❖ If signs of appendicitis presented or moderate – severe illness: notify the parents immediately and refer the student to a healthcare provide

❖ Mild illness: may rest for 15 – 30 minutes, then return to class if symptoms subside. If symptoms persist, notify parents and refer for evaluation

❖ No food or drink by mouth

❖ If student is sent back to classroom, re-evaluate within 2 – 4 hours, then notify parents

❖ If a student requires surgery, upon his / her return, follow the health care provider ‘s instruction regarding athletic or PE participation.

Abrasions

Abrasion is a denuded area of skin resulting from a scrape on a hard or rough surface.

Signs / symptoms:

- ❖ Most abrasions are superficial
- ❖ Minimal bleeding
- ❖ The presence of particles of dirt can be seen

Nurse Management

- ❖ Wash gently under running water and soap to remove foreign material
- ❖ Try to remove debris by gently rubbing with gauze pads
- ❖ Do not scrub a wound that is embedded with dirt, but refer to a physician
- ❖ Solutions that should not be used for cleansing the wounds : povidone-iodine, Dakin’s solution, hydrogen peroxide
- ❖ Antibiotic creams and topical medication should be used if available
- ❖ Small abrasions maybe let open to the air
- ❖ Cover large abrasions with sterile, non-adherent bandage or moist wound dressing within two hours of injury, and stay in place at least 48 hours up to 07 days to enhance optimal wound healing
- ❖ Notify parents if abrasion is not minor

Follow-up:

- daily wound and dressing recheck, replace dressing as needed
- re-evaluation after seven days : remove dressing change if the wound is well-healed; if not, refer to his/her physician
- repeat daily cleansing or more often to keep wound clean

Potential complications

- Pus on abrasion, located under crusts
- Cellulitis
- Lymphangitis
- Regional lymph node enlarged

Notes:

- Refer to physician if not improved in one day
- For lymphangitis, medical referral without delay

Allergies

The immune system reacts to a foreign substance that is not generally harmful (certain foods, latex, pollen, insect stings / bites, medications or pet dander).

Symptoms vary, depending on the person's specific allergy.

- Allergic dermatitis : rash (papules, vesicles) – pruritus – may have areas of excoriation from scratching
- Allergic rhinitis: allergic shiners: bluish discoloration and edema below eyes – allergic salute: nasal crease – clear nasal discharge – sneezing – itchy, watery and / or swollen eyes
- Atopic dermatitis (type of eczema): thickened, cracked or scaly patches of skin – patches red to brownish-gray in color – itchy skin – extremely dry skin may ooze
- Medication allergy: hives – rash – pruritus – difficult breathing / wheezing – anaphylaxis

Nurse management

- General treatment: avoidance of allergen – prescribed medications to reduce symptoms
- Allergic dermatitis: corticosteroid creams / ointments : to ease itching – antihistamine: to relieve severe itching
- Allergic rhinitis: antihistamine to relieve sneezing, runny nose, itching and watery eyes

- ❖ Atopic dermatitis: Corticosteroid creams / ointment to ease scaling of skin and itching – antihistamine to ease itching
- ❖ Medication allergy: discontinue medication that caused allergic response immediately – antihistamine to relieve mild symptoms of rash / hives/ itching – Epinephrine for severe allergic reaction

Note: parental notification and specialist referral are highly recommended

Allergy: latex

Latex allergy is a reaction to certain proteins found in natural rubber latex, a product manufactured from a milky fluid that comes from the rubber tree. Latex allergy may cause allergic reactions ranging from sneezing or a runny nose to anaphylaxis – a life-threatening condition.

Signs & symptoms:

- ❖ **Delayed**: itchy, red, mildly swollen skin rash on sites which touched latex, blisters appear in severe cases, symptoms typically appearing 10 – 30 hours after contact
- ❖ **Immediate**: involves parts of the body that did not touch latex, hives on any part of the body, hay fever-like :nasal stuffiness, sneezing, running nose, itchy nose, - eyes - or roof of the mouth, wheezing, coughing and shortness of breath , anaphylaxis

Nurse management:

- ❖ Delayed reactions: over-the-counter or prescribed steroid topical cream or ointment usually relieve rash
- ❖ Hives or “hay fever-like” signs: over-the-counter antihistamines or decongestants provide relief.
- ❖ Wheezing, coughing or shortness of breath: anti-inflammatory and bronchodilator is recommended – refer to the nearest medical facility for emergency cares
- ❖ Anaphylaxis : Epipen or Adrenaline injected as quickly as possible, followed by immediate transport to a hospital emergency department

Follow-ups:

- ❖ Educate persons to avoid contact and exposure to items containing latex
- ❖ Person with latex allergy may need to avoid certain foods: avocado, banana, kiwi, water chestnut, tomato, “pitted” fruits and nuts grown in the ground

- ❖ Develop an Individual Healthcare plan for a student with a latex allergy that includes specific actions to prevent exposure , staff training, and the emergency action plan
- ❖ School provides alternative gloves for staff who must use them in their daily job performance

Anaphylaxis

Anaphylaxis is a severe, potentially life-threatening allergic reaction. The reaction ranges from mild, self-limited symptoms to rapid death. Symptoms of a reaction can occur within seconds to minutes after exposure. Immediate action is required to prevent fatality

Signs and symptoms:

- ❖ Mouth: itching, swelling of lips and or tongue, tingling (burning) sensation in mouth or around lips
- ❖ Throat: swelling of the tongue and throat, itching, tightness / closure, hoarseness , changes in quality of voice
- ❖ Skin: itching, hives, redness, swelling
- ❖ Gut: abdominal pain / cramping, nausea/vomiting, diarrhea
- ❖ Lungs: respiratory difficulty, shortness of breath, cough, shallow-respirations, wheezing, stridor
- ❖ Heart: weak pulse, heart palpitation, drop in blood pressure, dizziness, lightheadedness, loss of consciousness

Nurse management

- ❖ Immediate injection of Adrenaline 1:1000 subcutaneously
    - 3 – 5 years : 0.15 cc
    - 6 – 8 years : 0.25 cc
    - 9 – 18 years: 0.3 cc
- ❖ Immediate call to Emergency Medical Service and transport to the nearest medical facility despite initial improvement after the first Adrenaline injection. The following should be sent with the EMS:
    - Allergen to which patient is reacting, if known
    - Signs and symptoms of distress
    - Emergency measures instituted
    - Patient response to emergency measures
    - Times of all activities, including giving adrenaline
- ❖ If student is still at school in 15 – 20 minutes, repeat dose of Adrenaline according to physician orders
- ❖ Monitor blood pressure – elevate legs if blood pressure is low

- ❖ Cover with blankets, if necessary, to keep warm; don't allow blankets to interfere with handling or observation

Follow-up:

- ❖ Review the student's individualized emergency plan to make sure there are no changes required based on this incident
- ❖ Provide health education with family, student, school staff regarding further exposure to sensitizing agent
- ❖ Ask about desensitization procedure by physician
- ❖ Have parent replace epinephrine if used
- ❖ Record as "medical alert" on student's record

Notes:

- ❖ Students enrolled with history of allergies : allergy screening questionnaire, then Individualized Healthcare Plan (IHP) must be developed
- ❖ Involved faculty and staff must be informed and trained for IHP

Asthma and Asthmatic emergencies

Asthma is a chronic inflammatory disease of the airways. It is best understood as the clinical result of two linked processes: airway inflammation and bronchial hyper-reactivity. Airway inflammation is often triggered by allergies or viral illness; bronchial hyper-reactivity may be induced by viral infection.

History

- ❖ Episodes of wheezing and shortness of breath related to exposure to an allergen, such as cats, dust, outdoor pollen or mold
- ❖ Prolonged and often refractory cough and wheeze with shortness of breath related to acute respiratory viral illness
- ❖ Shortness of breath, cough or wheeze triggered by exercise or cold air that takes more than just a minute or two from which to recover

Common signs and symptoms of asthma

- ❖ Shortness of breath
- ❖ Tightness (or pain) in chest
- ❖ Wheezing
- ❖ Coughing
- ❖ Difficulty sleeping due to coughing, wheezing and / or shortness of breath
- ❖ Children with a severe asthma attack often evidence observable signs
    - Sitting upright, leaning forward, using neck muscles to assist inspiration, nasal flaring may be present

- Abnormal breath sounds (decreased / wheezing)
- Prolonged expiration, sometimes with pursed lips
- High pitched cough, irregular high pitched wheeze
- Poor air movement, rapid shallow breathing
- Tachycardia (pulse >120)
- Speaking in very short sentences
- Inability to record a peak flow

Nurse Management

- ❖ Allow the child to assume a comfortable posture in a quiet setting
- ❖ Measure peak flow, if possible, to document severity and response to therapy
- ❖ Record pulse and respiratory rate
- ❖ Administering inhaled or nebulized bronchodilator a per student's Individualized Health Care Plan

Asthma emergencies

An acute asthma attack is a medical emergency that should be treated promptly and effectively.

Immediate danger signs:

- ❖ Struggling to breath – may be hunched over
- ❖ Abnormal breath sounds - absent / decreased / wheezing
- ❖ Retractions – intercostal – substernal – suprasternal
- ❖ Nasal flaring
- ❖ Using accessory muscles
- ❖ Bluish discoloration around lips or nail beds
- ❖ Tachycardia > 120 per minute
- ❖ Respiratory rate > 30 per minute
- ❖ Difficulty walking
- ❖ Difficulty carrying on a conversation
- ❖ Little relief from bronchodilator – not responding to medication
- ❖ Severely restless
- ❖ Decreased level of consciousness
- ❖ Symptoms worsening

Nurse Management

- ❖ Call EMS immediately
- ❖ Notify : parents and school authority
- ❖ Transport to nearest hospital for emergency care

Until EMS arrives:

- Continue to follow physician‘s orders
- Allow the child to assume a comfortable posture in a quiet setting
- Monitor vital signs
- Keep student calm
- Provide reassurance
- Do not leave student alone

Potential complications of severe asthma attack:

- Respiratory failure
- Death

Blister

Blister is a round or oval bubble or fluid under the skin that may or may not be painful or itchy depending on the cause.

Causes

- Irritation (friction / shoes; repetitive activity / rowing, shoveling)
- Burns from intense heat (sunburn, hot liquids or appliances…) or cold (frostbite)
- Contact dermatitis (poison ivy, oak and sumac, detergents, chemicals
- Allergies (medication)
- Infection (impetigo, eczema, ringworm, herpes, varicella)

Signs and symptoms:

- Blisters from irritation and burns: red and often painful
- Contact dermatitis and allergic skin responses: red and itchy
- Blisters present with some infections are called vesicles. Depending on the source of the infection these vesicles can be red, itchy and / or painful.

Nurse Management:

- Treatment is largely symptomatic.
- Skin covering the blister is best left intact.
- If the blister is broken, cover it with a sterile dressing and attempt to avoid activity that requires further friction or pressure on the affected area.
- Monitor for signs of infection

Boils (Furuncle)

A furuncle (boil) is a skin infection, involving the entire hair follicle and the adjacent subcutaneous tissue. Boils can be a small bump to an abscess filled with pus. They will sometimes drain on their own, but are usually picked at and opened.

Signs and symptoms:

- Pain, swelling and redness
- Gets to be about the size of a marble (1 – 2 cm) or larger
- Redness progresses to yellowish center of pus

Nurse Management:

- Usually must drain before they heal – Warm packs encourage draining
- Gently pressure to express pus, only if already draining
- Draining lesion must be cleaned frequently to prevent spread of infection
- If boils need to be lanced, student should go to a healthcare provider
- Do not squeeze hard to express “core” or “head” as most boils do not have one.
- Confer with parents about other family members with skin infections
- Discuss and monitor preventive measures if a student participates in any contact sport or sports that use mats.

Note: The child and their parents / guardians should be advised of the following:

- Try to keep hands off boils
- Wash hands thoroughly after touching a boil
- Do not reuse or share towels. Linens in contact with boils should be washed in very hot water.
- Dressings should be discarded in a sealed plastic bag
- Once the boil has formed, antibacterial soap / antibiotic ointment is not considered effective.

Burns

1. Superficial burns / first degree: only affects the top layer of skin (epidermis)
2. Partial-thickness burns / second degree: involves the epidermis and extends into the dermis
3. Full thickness burns / third degree: full thickness of skin is destroyed, involves the epidermis, dermis and fat layer – usually destroys the sweat glands, hair follicles and nerve endings as well.

Signs and symptoms:

- ❖ Superficial burns:
  - Begins with pain and redness as in minimal sunburn – no blisters
  - Later, slight to no peeling of skin.
- ❖ Partial-thickness burns:
  - Begins with redness and blisters as in moderate to severe sunburn
  - Later skin peels in large pieces, scarring only if secondary infection ensues
- ❖ Full thickness burns
  - Begins with little or no pain(nerves are gone) with red, black or white discoloration
  - Some unbroken blisters may be present
  - Third degree burns always scar and often need skin graft

Nurse Management

- ❖ General:
  - Rapidly immerse burn in cold water
  - Avoid greasy ointments, tight & air-excluding bandages
  - Check date of the latest tetanus booster
- ❖ Superficial burns:
  - Cool compress or submerge in cold water (not ice)
  - No further treatment necessary
- ❖ Partial-thickness burns
  - Cool compress
  - Keep blisters intact. Apply non-sticking dressing that does not exclude air
  - Notify parents
- ❖ Full thickness burns
  - Cover with clean or sterile dressing or sheet
  - Evacuate to emergency room
- ❖ Chemical burn

- Flush with copious amounts of cool water for 15 minutes

❖ Chemical or electrical burns: refer all cases for further medical treatment.

Notes:

❖ Facial burns: refer to physician in all cases
❖ Send date of last tetanus booster with all physician referrals
❖ Be alert to possible child abuse, self-tattoo, or deliberate injury
❖ Record shape / size or burns as well as report history of event
❖ Teach children safety rules: stop, drop, roll if their clothing catches on fire so they can help extinguish the flame and prevent getting burned more.

Canker sore

A canker sore is an aphthous ulcer occurring inside the mouth. The exact cause is unknown.

Signs and symptoms

❖ Indurated papules with surrounding redness and a white, gray or yellow center
❖ Often preceded by a burning sensation that progresses into an ulcer with surrounding redness
❖ Usually a single lesion but may occur in a cluster of 4 – 5
❖ May experience enlarged lymph nodes

Nurse Management:

❖ Mild cases: swishing the mouth with salt water or diluted hydrogen peroxide /water in a 1:1 solution
❖ Avoid irritating foods and liquids
❖ Advise careful tooth brushing to avoid the lesion
❖ Do not exclude from school since the condition is not considered contagious

Follow up: Refer to the health care provider if not healed in 2 – 3 weeks or if severe.

Chest pain

Chest pain can be from any structure in the chest: lungs, ribs, chest wall, diaphragm, joints between sternum and ribs, and heart. It can be caused from injury, infection, referred from the abdomen, or irritation and can be from stress or anxiety

Signs and symptoms:

- Conduct an assessment
    - Take a careful history: determine any recent injuries, presence of underlying health conditions.
    - Make close observation as a person describes symptoms: onset of symptoms (acute, gradual, growing worse); length of time with symptoms; any association with activity (including at rest, only after activity, on inspiration, after coughing…); what makes it better / worse?
    - Type of pain: constant, intermittent, sharp, dull…; are there associated respiratory symptoms?
    - Assess skin condition
    - Assess psychological demeanor (calm, anxious, dramatic)
- The person who has pain of acute onset that interferes with breathing and / or sleep, is precipitated by exercise, or is associated with alteration of vital signs and dizziness, palpitation, syncope, should be evaluated by their primary physician.
- EMS should be contacted if an individual is more seriously compromised.

Common illnesses that cause chest pain

- Costochondritis:
    - Inflammation in the cartilage between the sternum and ribs
    - It may be a viral infection or caused by frequent coughing.
    - The pain will occur with inhalation - tenderness over the costo-chondral joint (depression on side of sternum where rib joins sternum)
    - Be treated with OTC anti-inflammatories
- Musculoskeletal injury / pain:
    - Frequently strain chest wall muscles while wrestling, carrying heavy things, or exercising
    - Direct trauma to the chest may result in a mild contusion of the chest wall, or with more significant force, a rib fracture, hemothorax, pneumothorax.
- Respiratory conditions

- Children who have severe, persistent cough, asthma, or pneumonia may complain of chest pain due to overuse of chest wall muscles.
- Some children may complain of chest pain with exercise due to exercise-induced asthma

❖ Psychogenic disturbances
❖ Gastrointestinal disorders
- Burning, substernal in location, worsened by reclining or eating spicy foods

❖ Miscellaneous causes

Chickenpox (Varicella)
Chickenpox is an acute, highly contagious, generalized viral disease that is caused by the zoster virus. Transmission occurs through contact with respiratory droplets / secretions and direct contact. It is vaccine preventable.

Signs and symptoms:
❖ Usually a history of exposure
- Sudden onset of slight fever, mild constitutional symptoms and a characteristic skin eruption beginning on scalp, face or trunk
- Multiple lesions which constitute a vesicle on an erythematous base
- Average incubation period is 14 – 16 days, but may range 10 – 21 days. Contagious 1 – 2 days before the rash appears and until all blisters have formed scabs.

Nurse Management
❖ Exclusion from school until all lesions are scabbed over and dry (5-7 days)
❖ SEE CDC CHART
❖ Alert parents, faculty and school staff of possible outbreak chicken pox
❖ Symptoms screening for classmates, siblings and close contacts at school
❖ Advise parent to:
- DO NOT give aspirin or products containing salicylates due to the link with Reye's syndrome
- Oatmeal bath in lukewarm water or use of Calamine lotion to comfort the itching rash
- Trim fingernails to reduce secondary infections from scratching

Notes:

- Complications are uncommon, but may include dehydration from vomiting or diarrhea; secondary infection from scratching the blister; pneumonia and encephalitis are more serious complications.
- Chickenpox tends to be more severe in adolescents and adults.
- Chickenpox vaccine is available and highly recommended. It is compulsory for school entry.
- Adults may get “shingles” after exposure to varicella
- Pregnant women should be referred to their health care provider within 24 hours after exposure to chickenpox.

Common cold and related conditions

Common cold – viral infection of the upper respiratory tract.

- Flu – a group of respiratory viruses affecting the nose, throat, bronchial tubes and lungs.
- Allergy – body‘s immune system reacts to a normally harmless substance such as dust, pollen, pet dander, mold spores.

Signs and symptoms:

Allergy	***Cold***
Watery nasal discharge	Thickened and crusty nasal discharge (gradually)
More sneezing	Less sneezing
Little or no cough	Cough starts dry, and becomes loose – worse with exertion
Comes and goes during entire season	Duration 1 – 3 weeks
Eyes usually red	Eyes usually not red
Fewer lymph nodes in the neck	More lymph nodes in the neck

Symptoms	***Cold***	***Flu***
Fever	Occasionally	Sudden onset; last 3 – 4

		days; usually high (100 – 102°F or 39 – 39.9 °C)
Headache	Occasionally	Common
General aches and pains	Slight	Usually; often quite severe
Fatigue and weakness	Mild	Extreme; can last 2 – 3 weeks
Extreme exhaustion	Never	Early and prominent
Nasal congestion	Common	Sometimes
Sneezing	Usual	Sometimes
Sore throat	Common	Sometimes
Chest discomfort/ cough	Mild – moderate; hacking cough	Common; can become severe

Nurse Management:

- Exclude from school if student has fever or severe cough – exclusion until all the symptoms are gone for 48 hours without taking medicines
- Advise parents
    - Do not give aspirin to the child
    - To encourage the child to take plenty of fluid
    - To educate the child about hygienic use and disposal of tissue and thorough hand washing
    - To encourage the child not to pick at nose and to blow nose gently
    - To arrange a doctor visit for the child if persistent cough, high fever, earache, vomiting, headache, loss of appetite, sore throat…. happens
    - To educate the child the importance of covering mouth and nose when coughing or sneezing, keeping fingers away from eyes and nose, and hand washing.

Conjunctivitis
Inflammation and / or infection of the conjunctiva, caused by allergens, irritants, bacteria or viruses.

Signs and symptoms:
- Redness of sclera
- Discharge: purulent or watery
- Itchiness: student rubs eye(s)
- Crusts in inner corner of eyes, especially on waking from sleep

Physical findings that help differentiate cause:
- Allergic: discharge remains watery; bilateral
- Bacterial: purulent drainage, more crusting during sleep, usually begins in one eye and is spread to other by hand
- Viral: usually less severe, watery discharge but may be thick and white to pale yellow; lasts 3 – 5 days; most often bilateral. This is highly contagious but does not require antibiotics.
- All there may occur with common cold

Nurse Management:
- Check flu-like symptoms and allergic signs
- Check fingernails and nose for impetigo
- Check vision acuity if possible
- Exclusion from school until the treatment has begun

Differential diagnosis of three eye disorders

Parameter	Acute conjunctivitis	Acute iritis	Keratitis
Pain	Mild discomfort	Moderate - photophobia	Moderate to severe - photophobia
Vision	Normal	Slightly to moderately blurred	Blurred
Discharge	Often mucopurulent	Clear	Clear, scanty
Cornea	Clear	Clear	May appear normal

Pupil	Normal	Small and irregular	Normal or small
Response to light	Normal	Poor	Fair
Injection	Conjunctival	Conjunctival and circumcorneal	Minimal to moderate
Blepharospasm	Minimal to none	Moderate	Severe

Cystic Fibrosis

Cystic Fibrosis is an autosomal recessive genetic disease caused by a mutation of the Cystic Fibrosis Transmembrane Regulator gene. It affects mainly the exocrine glands which produce sweat, saliva, pancreatic digestive juice and respiratory tract mucus.

Signs and symptoms: vary with the severity of the disease.

- Salty taste to the skin – increased amount of sodium and chloride in sweat.
- Weight loss despite voracious appetite
- Foul-smelling, greasy stools – stools may be gray or clay colored
- Flatulence
- Abdominal pain
- Delayed growth
- Thick sputum
- Productive coughing
- Wheezing
- Frequent respiratory infections

Nurse Management

- Individualized Health Plan and Emergency Action Plan should be developed
- Chest physical therapy to loosen thick mucus secretions
- Physical activity as tolerated
- Monitor nutritional status : height and weight screening once per school year
- Educate staff regarding chronic cough:
    - Not contagious, allow bathroom privileges as needed, should not suppress cough – clears secretions, allow the student to keep a water bottle on their desk.

Dental emergencies

Injury to tooth (teeth)

Signs and symptoms

- Avulsed tooth – knocked out
- Fractured / chipped tooth
- Luxated / dislocated tooth
- Fractured jaw

Nurse Management

- Avulsed tooth
  - Gently rinse off debris – do not touch the root of the tooth
  - Wrap tooth in gauze, immerse in milk or normal saline for transportation
  - Inform the school authority; call parents for immediate dental visit
  - Primary avulsed teeth are not replanted but should be taken to the dentist for sure that the tooth was lost in its entirety and the root not broken.
- Fractured tooth
  - Save fragment or large chip
  - Cover jagged edge of tooth with gauze
  - Apply cold compress to cheek to reduce pain and swelling
  -
  - Cover jagged edge of tooth with gauze
  - Call parents for an urgent dental visit
- Luxated / Dislocated tooth
  - Reposition tooth gently
  - Put gauze around tooth and have student hold it there during transportation to dentist
  - Call parents for an urgent dental visit
- Fractured jaw
  - Placing a scarf, tie or towel under the chin – tie the ends on top of the head to immobilize the jaw
  - Apply ice to reduce swelling
  - Call parents for an urgent dental visit
- Toothache
  - Rinse mouth with warm water
  - Floss teeth to remove food particles that may be trapped between teeth
  - Notify parents for a dental visit if it ‘s persistent or severe

- ❖ Protruding braces wire
    - Use a tongue depressor or pencil eraser to bend the wire
    - If wire can not be bent easily, place a small piece of gauze or cotton over the end to prevent irritation to cheek or gum
    - Do not try to remove any wire embedded in the cheeks, gum or tongue
    - Obtain orthodontic care same day
- ❖ Red, swollen or sore gums
    - Have student rinse mouth with a warm salt water solution
    - Instruct student to repeat rinses every two hours, after eating or tooth brushing
    - If no improvement in 1 – 2 days, refer to doctor or dentist

Diabetes Mellitus

It is a condition in which insulin is insufficient in amount or has limited effectiveness to transport glucose from the bloodstream into cells.

- ❖ High glucose level in the bloodstream deprives the brain and muscles of glucose needed to function; the accumulation of glucose in the bloodstream damages tissues and blood vessels, leading to kidney, eye and neuropathies, heart disease and risk of stroke.
- ❖ Low glucose level in the blood can lead to loss of consciousness, brain damage and eventually death.

Classification

- ❖ Type 1 diabetes mellitus : once known as juvenile diabetes or insulin-dependent diabetes – in which the pancreas produces little or no insulin, a hormone needed to allow glucose to enter cells to produce energy.
- ❖ Type 2 diabetes mellitus: once known as adult-onset or noninsulin-dependent diabetes, is a chronic condition that affects the way the body metabolizes sugar.
- ❖ Gestational diabetes develops during pregnancy, affects how the cells use sugar – the body‘s main fuel. Gestational diabetes causes high blood sugar that can affect the pregnancy and the baby‘s health.

Signs and symptoms

- ❖ Increased hunger and thirst
- ❖ Increased urination
- ❖ Unexplained weight change due to high glucose levels in the bloodstream
- ❖ Fatigue

- ❖ Slow healing wounds
- ❖ Vision changes are also possible
- ❖ Inadequate levels of glucose in the brain and muscle tissues lead to weakness, disorientation and often unconsciousness

Nurse Management

- ❖ Follow Individualized Healthcare plans

Diarrhea

Diarrhea describes bowel movements that are loose or watery

Causes:

The most common causes of diarrhea are viruses, bacteria, parasites, medications, food allergies, diseases of intestines, malabsorption, radiation therapy, psychogenic diarrhea.

Signs and symptoms:

- ❖ Frequent, loose, watery stools
- ❖ Abdominal cramps / pain
- ❖ Fever
- ❖ Blood in stools
- ❖ Bloating
- ➢ Signs of dehydration (decrease urine output, thickening of saliva, thirst…)

Nurse Management:

- ❖ Drink plenty of clear liquid
- ❖ ORS for dehydration
- ❖ School exclusion and medical consultation is highly recommended
- ❖ Follow-up: obtain diagnosis and assess the risk to fellow students; check temperature and hydration status when student returns to school.

Ear pain

Ear pain can be caused by external or middle ear conditions or by referred pain from other sources.

- ❖ External ear including external auditory canal
    - Infection / Inflammation: otitis externa – cellulitis, furuncle or abscess, perichondritis of the pinna
    - Cerumen impaction
    - Trauma

- Foreign object
- Tumor or growth

❖ Middle ear – Eustachian tube, Mastoid
- Infection / Inflammation: acute and chronic otitis media, serous otitis media, mastoiditis
- Trauma
- Tumor or growth
- Allergies

❖ Referred ear pain
- Pharyngeal lesions: peritonsillar abscess, retropharyngeal abscess, nasopharyngeal fibroma
- Mouth lesions: acute stomatitis – glossitis – dental problem
- Laryngeal and esophageal sources

❖ Other: temporomandibular joint dysfunction

Signs and symptoms:

❖ Otitis externa (inflammation of ear canal): Pain on movement of pinna and erythema of ear canal – Itching – Irritation – Pressure and fullness of the ear may be reported – Rarely there may be hearing loss.

❖ Acute otitis media (acute infection of middle ear) – ear pain , and may accompany a simple “cold”. The tympanic membrane is dull, often bulging and sometimes red – fever – inability to sleep – lethargy, diarrhea and vomiting – sudden hearing loss may occur

❖ Serous otitis media (otitis media with effusion): Watery fluid fills the middle ear canal and can interfere with hearing – Often asymptomatic , afebrile with mild or intermittent ear pain – fullness or popping in the ear , dizziness or loss of balance may be reported – severe pain may be a sign of a ruptured eardrum of foreign body, especially if onset is sudden.

Nurse Management

❖ Severe ear pain: be evaluated immediately – refer to a physician

❖ Warm dry compress applied to the affected ear

❖ Mild earache with no sign of systemic illness : may return to the classroom – information to parents

Eczema (Atopic dermatitis)
Eczema is a form of dermatitis – Atopic dermatitis is a common type of eczema characterized by acute or chronic skin eruptions.

Signs and symptoms

- Acute: intensely itching, most, weepy, red with generalized rash, usually on front of elbows, back of knees, face and neck.
- Chronic or atopic: areas are wrist, neck, ankles (feet), front of elbows, back of knees, face and neck. Usually dry, scaly, easily irritated – may be red or depigmented
- "Itch-scratch cycle": scratching or rubbing itchy skin causes further irritation and traumatizes sensitive tissue which increases the risk of secondary infection.

Nurse Management

- Physician referral for significant cases
- Moist cold compress to relieve itching in acute cases – NO powder or lotion on weepy skin
- Chronic: calamine for itching
- Antibiotic ointment for secondary infection
- Oral antihistamine for itching (at bed time – watch for drowsiness)

Encopresis
Encopresis is stool incontinence by a child at an age that should be able to control bowel movements. The causes are physiologic and / or psychological factors.

- Physiologic factors: inadequate fluid intake, change in diet, inappropriate use of laxatives, anal fissure, congenital anal strictures or bands, Hirschprung's disease (congenital megacolon), organic anomalies
- Psychological factors: :withholding stool due to excessively stringent and /or too early toilet training, other emotional problems.

Signs and symptoms:

- Fecal impaction with leaking of liquid stool around impaction
- Fecal soiling of clothes
- Fecal odor
- Sometimes anemia and / or under nutrition

Nurse Management:

- Make change of clothing plus wash up facilities available

- ➢ Notify parents
- ➢ Refer to school counselor if it's repeated

Enuresis

Enuresis is repeated, spontaneous urinary voiding in clothes or in bed after the age when toilet training should be complete.

Causes:

- ❖ Idiopathic hereditary type
- ❖ Unusually deep sleep patterns
- ❖ Too young to be toilet trained
- ❖ Meatal stenosis in boys
- ❖ Boys with excessively long foreskin with poor hygiene
- ❖ Chronic UTI
- ❖ Small bladder capacity, irritable bladder, poor sphincter control, other organic conditions
- ❖ Various emotional / psychological problems, including sexual abuse

Signs and symptoms:

- ❖ Urine-stained and wet clothes
- ❖ Odor
- ❖ Urgency to void
- ❖ Bed wetting
- ❖ Symptoms of chronic infection: poor appetite, poor nutritional status plus anemia, itching, foul odor, low-grade fever, stained underpants from constant dribbling ,redness and / or impetigo in genital area
- ❖ Small caliber of urinary stream in boys with meatal stenosis
- ❖ Infection under an excessively long foreskin

Nurse Management

- ❖ Protect the privacy of student's problems from others. Eliminate shame, guilt or punishment
- ❖ Make toilet, washing and change of clothing facilities available
- ❖ Keep extra clothing at school
- ❖ Liaison with parents and doctor as necessary
- ❖ Educate the student

Eye trauma

Eye injuries in children commonly result from sport injuries or projectiles. Baseball is the leading cause of sport-related injuries. Facial injuries often accompany eye trauma.

- Chemical burns to the eye are ophthalmologic emergencies and must be referred for immediate emergency care.
- Corneal abrasion may result from a direct contact injury, contact lens or a foreign body with or without penetration.
- Foreign body injuries to the eye may present as either no-penetrating or penetrating. Penetrating injuries are ophthalmologic emergencies and must be referred for immediate emergency care.

Sign and symptoms:

- Pain in eye, red eye
- Photophobia, tearing
- Contusion or laceration wound around eye
- Eye held closed
- Tearing
- Opaque lens
- Decreased vision

Assessment:

- Obtain history and nature of physical injury or chemical exposure
- Assess visual acuity first by using Snellen Chart. The only exception is an acute chemical exposure / injury which requires immediate irrigation (flush with water).
- If a student is unable to open eye, do not force it.
- Check for visible contusion, lacerations on lids or eyeball
- Check for blood in anterior chamber (between iris and cornea)
- Check for extraocular movements
- Check for double vision (diplopia)
- Check for unequal or irregular pupils

Nurse Management

- Emergency referral to primary care provider:
    - All cases with chemical burn after irrigation with copious amount of water or saline
    - Impaired vision in any way
    - Painful eye or feels like a foreign object

- Contusion or laceration on the eyelid or eyeball
- Red eye persists for more than one hour

❖ Eye trauma without above symptoms, monitor:
- Small abrasion or laceration of skin around the eye – without other symptoms – can be washed and left uncovered
- Red spot limited to the sclera (white of the eye) is related to coughing or vomiting (subconjunctival hemorrhage will resolve spontaneously)
- Cold packs may be useful for minor trauma if primary care provider referral is not necessary.
- Avoid using any eye drop or ointment, especially those that contain any steroid

❖ Chemical burn
- The eye will be painful, sensitive to light and exhibit excessive tearing (lacrimation)
- Determine chemicals if possible. Send available chemical information with student to emergency treatment center
- Immediately flush / irrigate the eye with copious amounts of water or saline solution while both eyelids are held open. If only one eye has been exposed to the chemical, attempt to irrigate the eye with the child lying on side. If possible, pour water from the inner corner flowing toward the outer corner
- Notify parents
- Refer for emergency medical treatment
- Cool compress to the surrounding area may provide comfort

❖ Corneal Abrasion
- The eye will be painful, sensitive to light and exhibit excessive tearing (lacrimation)
- Remove contact lens if present
- Examine the eye for the presence of a foreign body. The absence of visible foreign body does not negate the presence of or irritation from a foreign body
- Notify parents
- Refer to ophthalmologist for evaluation and necessary treatment
- To minimize eye movement, patch both eyes with 4x4 gauze pads prior to travel to primary care provider or ophthalmologist

❖ Foreign body (non-penetrating)
- The eye will be painful, sensitive to light and exhibit excessive tearing (lacrimation) and have the sensation of a foreign body presence in the eye

- Remove contact lens if present
- Examine the eye for the presence of a foreign body. It may be necessary to invert the upper lid to see the presence of a foreign bod
- If foreign body is obvious try to remove it with a moistened cotton tipped applicator, flushing the lid. Have the student blink several times while the eye is immersed in water, or by sweeping the upper lid over the lower lid. As the upper lid moves back into position, the lower lid and tears may remove the foreign object
- If these attempts and maneuvers fail, notify parents and refer to the primary care provider
- To minimize eye movement, patch both eyes with gauze pads prior to travel to primary care provider or ophthalmologist

❖ Foreign body (penetrating)
- The patient will experience intense pain, sensitivity to light and exhibit excessive tearing (lacrimation). Penetrating injuries are ophthalmologic emergencies. Make no attempt to remove the object or flush the eye.
- Cover the injured eye with an eye shield or small paper cup – Anchor in place – Patch other eye to minimize eye movement
- Notify parents
- Refer to emergency medical center or ophthalmologist for immediate care

Fainting (Syncope)

Syncope is a brief, partial or complete loss of consciousness due to diminished oxygen supply to the brain. It may be caused by low blood sugar, standing in place for a long time, headache, seizure, depression or panic attack; or may be as a result of a more serious situation such as head injury or an underlying condition such as heart disease / complications.

Signs and symptoms:

❖ Loss of consciousness may be preceded by pale, cool, wet skin, lightheadedness, nausea, frequent yawn, and /or restless feeling
❖ Loss of consciousness
❖ As person begins to lose consciousness, they may have brief eye roll and / or body twitching
❖ Fainting related to hyperventilation is often accompanied by numbness around the mouth and fingers
❖ Fainting is different from a seizure:

- Fainter usually knows when it is going to happen.
- Seizure occurs with no warning except occasional aura.
- Seizure twitching is more severe and lasts longer.
- Post seizure sleep is longer and deeper.
- Fainter usually remembers what happened after they wake up.

Nurse Management:

- ❖ If you observe a person about to faint, instruct them to lie down to prevent falling.
- ❖ Help ease person to floor or reclining position
- ❖ Place person on back with no pillow and elevate feet 8 to 12 inches to encourage blood flow to head
- ❖ Roll person to side if they vomit
- ❖ As person awakens, do not allow them to stand immediately
- ❖ If the person does not awaken within 1 – 2 minutes, seek immediate medical attention. Prepare for the possibility of CPR.
- ❖ If fainting is as a result of head injury, seek immediate medical care
- ❖ If person is known to have diabetes, proceed with diabetes emergency action plan

Follow-up

- ❖ Determine history of fainting and if applicable, results of past medical evaluation for fainting
- ❖ If prior evaluation determined no cause or need for medical intervention, educate frequent fainters about safety: when experiencing warning symptoms, sit down in a chair, position the head between knees close to the floor. Educate students with postural hypotension about getting up slowly.

Fever

Fever is a sign of a variety of medical conditions, including infection. The normal temperature may differ slightly from the average body temperature of 98.6 F (37 C).

Use a reliable thermometer to confirm a fever, which is when a child's temperature is at or above one of these levels:

- measured orally (in the mouth): 99.5°F (37.5°C)
- measured rectally (in the bottom): 100.4°F (38°C)
- measured in an axillary position (under the arm): 99°F (37.2°C)

Classification:

- low-grade fever : 38 – 39ºC / 100.4 – 102.2ºF
- moderate fever : 39 – 40ºC / 102.2 – 104 º C
- high-grade fever: 40 – 41.ºC / 104 – 106ºF
- Hyperpyrexia: > 41ºC / 106ºF

Signs and symptoms:

- Person may feel cold or be shivering before an elevated temperature.
- May have signs and symptoms of infectious diseases: cough, diarrhea, vomiting, general weakness, muscle ache.
- Skin may feel sensitive to touch; described as “prickly”
- Eyes may appear glassy
- Face may be flushed
- Skin will be warm to touch
- Rapid pulse

Nurse Management:

- Assess vital signs
- Provide comfort measures: sponging body with lukewarm water; tepid shower is highly recommended to HS students
- Remove extra outer clothing
- Give fluids to drink
- Fever-reducing medication is given if temperature is at or above 38.5ºC / 101.3ºC; and parental permission is on file.
- Send the student home if the temperature is at or above 37.8ºC /100.1ºF (ear temperature).
- Students should be fever free for 48 hours before returning to school.

Food Allergy

Food allergy is an exaggerated immune system response to any food. This is caused by an allergic antibody called IgE (Immunoglobulin E) which is found in people with allergies. Food allergies may develop at any time, even after eating the food repeatedly in the past without having problems.

Food intolerance is an adverse reaction to certain foods but which does not involve the immune system.

Signs and symptoms:

- Hives on any part of the body
- Rash
- Vomiting, diarrhea, abdominal cramping
- Wheezing, coughing, shortness of breath
- Anaphylaxis – a life threatening blockage of the airway and shock:
    - Uneasiness and agitation
    - Facial flushing
    - Rapid pulse, palpitation, thready or unobtainable pulse
    - Generalized itching, tingling, rash
    - Swelling of face, lips, tongue and / or eyelids
    - Blue or gray color around the lips or nail beds
    - Dizziness
    - Throbbing in the ears
    - Difficulty breathing, coughing and / or wheezing
    - Nausea, vomiting
    - Fall in blood pressure
    - Fainting, unresponsiveness

Note: not all signs and symptoms need be present in anaphylaxis

Nurse Management

- Notify parents
- Rash: over-the-counter or prescribed topical cream or ointment is given
- Hives: over-the-counter antihistamine is recommended
- Vomiting, diarrhea: offer small sips of water to avoid dehydration
- Anaphylaxis :
    - Immediate injection of Adrenaline 1:1000 subcutaneously
        - ★ 3 – 5 years : 0.15 cc
        - ★ 6 – 8 years : 0.25 cc
        - ★ 9 – 18 years: 0.3 cc

- ❖ Immediate call to Emergency Medical Service and transport to the nearest medical facility despite initial improvement after the first Adrenaline injection. The following should be sent with the EMS:
    - Allergen to which patient is reacting, if known
    - Signs and symptoms of distress
    - Emergency measures instituted
    - Patient response to emergency measures
    - Times of all activities, including giving adrenaline
- ❖ If the student is still at school in 15 – 20 minutes, repeat a dose of Adrenaline according to physician orders.
- ❖ Monitor blood pressure – elevate legs if blood pressure is low
- ❖ Cover with blankets, if necessary, to keep warm; don't allow blankets to interfere with handling or observation

Follow-up:

- ❖ Avoid contact and exposure to foods which trigger allergic reaction
- ❖ Develop an Individual Health Care Plan with input from the physician and family which includes specific actions to prevent exposure, staff training, and the emergency action plan with individualized orders.

Foreign bodies: eye, ear, nose

It is not uncommon for children to present with a foreign body in the eye, ear or nose. A variety of inanimate objects and vegetable materials can get in the ear and nose. Environmental materials such as dust, dirt, sand, and insects can also get in the eyes, ears, and nose.

Signs and symptoms:

- ❖ Eye: pain, tearing, irritation, inflammation
- ❖ Ear: usually no discomfort. Children report something in their ear.
- ❖ Nose: usually no symptoms at first. Children may report having put something in their nose. After a few days, a unilateral sero-purulent foul-smelling discharge

Nurse Management:

- ❖ Eye
    - Never remove an intraocular foreign body or if history indicates there was a projectile object involved. Refer immediately to an ophthalmologist.

- Pull down the lower lid with the tip of the index finger. If foreign body can be seen in the sac of the lower lid, remove with a moistened cotton-tipped applicator.
- If not successful after 1 – 2 attempts, or if foreign body is in any other location, refer to a primary care provider.
- Patch both eyes with gauze pads to minimize eye movement prior to travel to a primary care provider or ophthalmologist.
- Minor irritation from foreign object (glitter, sand in eye)
    - ★ Fill paper cup to brim with tap water
    - ★ Have student position irritated eye in water, look into cup and blink eye, much like opening eyes in swimming pool
    - ★ Flush eye at eye wash station or with hand held eye wash bottle

❖ Ear
- Do not try to remove unless foreign body can be seen easily and grasped with forceps or fingers.
- If the object is an insect, do not attempt to examine it with an otoscope as the light may irritate the insect causing it to move and creating discomfort for the student. Take the student into a dark room and shine a flashlight into the ear and the insect may crawl toward the light and out of the ear canal.
- If the attempt is not successful, refer to a primary care provider.

❖ Nose
- Try having child blow nose forcibly while holding the unaffected nostril shut
- Do not attempt to remove object unless it can be seen and grasped with forceps or fingers
- While removing a visible object, press the nose above the object so you can not push it farther in.

Fracture

❖ Simple fracture: The bone is lined up and does not need to be set, just immobilized
❖ Hairline fracture: A fine crack; this may not show immediately on x-ray
❖ Greenstick fracture: Split on one side but not the other
❖ Displaced fracture: end of bones are not lined up and may actually overlap
❖ Impacted fracture: two broken ends are jammed together
❖ Compound fracture: both ends ar apart and one or both protrudes through broken

Signs and symptoms:

- Localized pain following trauma
- Asymmetry compared to opposite side, but not always present
- Deformity is associated with severe pain
- Swelling and discoloration are not always present, but the likelihood of a fracture is greater if discoloration appears within 30 minutes
- Suspect “stress” fracture if painful from excess exercise, jogging, gymnastics, ballet training… Produces pain without swelling at site of fracture, especially on movement.
- Most frequently missed fractures: ribs, fingers, toes, elbow, knee and end of the radius in the forearm.

Nurse Management:

- Do not move the student until an assessment is done. Do not move the student if a fracture of the leg bones, pelvis or spine is suspected unless the student is in grave danger being left where he is. If a student must be moved under these circumstances, utilize multiple people and a device such as a backboard, or other large flat items in order to keep the student immobilized.
- Inspect for deformity, bleeding, and protruding bone
- Calm student. Shock may cause extreme “quietness” for the severity
- Check for pulses near injury; if skin color is white / pale or pulse is absent, gently reposition only until circulation improves. If a limb resists movement, stop. Immobilize beyond joints above and below ends of suspected fracture, leaving the limb in position. Splint only with a pillow if calling for emergency services.
- Cover exposed bone with sterile / clean bandage. DO NOT wash or probe
- Apply cold
- Summon emergency services, school authority and parents
- Monitor pulse, RR , checking for shock every five minutes until emergency services arrive
- Fingers / Toes:
    - If suspect fracture, tape to adjacent finger / toe (buddy splint). Refer to be seen within the day, sooner if deformity is present.
    - Jammed finger: buddy tape to adjacent digit. Check onset of discoloration, usually within 12 – 15 hours if fractured and more than 15 hours if only jammed

Follow-up:

- Splint / cast care as directed

- ❖ Check finger / toe for adequate circulation and sensation
- ❖ Assist with modifications for classes, writing, keeping cast dry…
- ❖ Assess proper crutch use

Other musculoskeletal concerns: Dislocation - Subluxation: partial dislocation

- ❖ Signs and symptoms: joint looks visibly deformed or out of place; area swollen; immovable; area intensely painful
- ❖ Nurse Management: depends on the severity of the injury

Head injury

- ❖ Trauma to scalp: laceration, bruise, abrasion
- ❖ Trauma to bonny skull; fracture
- ❖ Trauma to brain: concussion, contusion, laceration, hematoma

Signs and symptoms:

- ❖ Scalp injury
  - Abrasion
  - Laceration: more bleeding than similar cut on other parts of body
  - Bruise: causes mildly painful swelling. Edges may feel depressed.
- ❖ Skull fracture
  - Nondisplaced linear fracture: pain
  - Basal skull fracture: usually associated with severe injury which almost always produces disturbance of consciousness or leakage of blood or spinal fluid from mouth, nose or ear
  - Depressed skull fracture: due to a fragment or larger piece of bone pressing down on brain as a result of trauma
- ❖ Brain injury – Concussion
  - Vomiting
  - Unequal size of pupils
  - Unusually rapid or slow pulse rate
- ❖ More severe brain injury – contusion, laceration, subdural or epidural hematoma
  - Accompanied by moderate to severe loss of consciousness
  - Watch for a delayed or second episode of unconsciousness after apparently awakening from first

State of consciousness:

- ❖ Mild: momentary clouding of consciousness and transient confusion, and then apparently normal

- ❖ Moderate: Brief period of confusion, seeing stars, hearing bells ring, loss of memory of event; short period of unusual behavior; may require 15 – 30 minutes to recover; difficult concentrating, irritability, headaches lasting for weeks or months
- ❖ Severe: any of moderate above , plus : loss of consciousness; a gradual return to consciousness (several seconds to minutes) through state of stupor, confusion, automatic behavior and lucid recovery; if unconscious > 5 minutes, needs medical evaluation; check for retrograde amnesia; seizure – may require CPR

Nurse Management:

- ❖ Scalp injury
  - Abrasion: wash, pressure with gauze or other clean cloth until bleeding stops. Dressing is usually not necessary
  - Laceration: same as abrasion but apply pressure longer to make sure bleeding stops
  - Bruise: cold pack to relieve pain. Do not apply pressure.
- ❖ Skull fracture
  - Linear: limitation of activity as directed by physician
  - Basal: refer to medical facility
  - Depressed: if fragment is significantly depressed to encroach on brain, surgery may be required to elevated bony segment
- ❖ Brain injury
  - If all findings are normal, have the student rest with supervision for 15 – 30 minutes, depending on severity or injury and appearance of the student. Allow to return to class. Ask teacher for status report in one hour
  - Slightly woozy, but all other findings normal, notify parents to take child to doctor
  - If more extensive brain injury symptoms are present, student should be referred to physician immediately
  - Athletes with mild injury may return to competition that day if symptoms leave. Observe for dizziness, headache, nausea, photophobia

Notes

- ❖ Guidelines for management of concussion in sports
  - Recognize the signs and symptoms of a concussion
  - Remove from the event and evaluate on site. Assume a concussion if the athlete exhibits confusion and / or unusual behavior (even without loss of consciousness)

- Monitor as indicate
- Refer for medical evaluation as appropriate
- Inform parent / guardian of possible / known concussion
- Any loss of consciousness – transport for immediate medical evaluation

❖ Return to play guidelines:

- The athlete should not play on the same day the concussion occurred
- Require medical clearance before the athlete may return to practice or play. Medical clearance is important to prevent second-impact syndrome. Second-impact syndrome can occur if a second head injury is sustained before the symptoms of the first concussion has subsided
- The athlete should not return to practice / play until totally asymptomatic

Headache

Headaches are common in children and have a wide range of causes with many levels of severity. Headaches are thought to be caused by changes in chemicals, nerves, or blood vessels in the area which send pain messages to the brain and bring on a headache.

Causes

❖ Acute headache: tension, fever, otitis media, exertion, trauma

❖ Chronic non-progressive headache: tension, migraine (vascular), depression

❖ Other important causes to consider: fatigue, skipped breakfast, not wearing vision correction, sinusitis, central nervous system bleeding, increased intracranial pressure

Signs and symptoms

❖ Tension-headache: dull / achy, diffuse, bilateral, radiates to cervical neck, nausea may accompany but rarely vomiting

❖ Precipitating factors include emotional stress and fatigue

❖ Vascular headache

- Migraine: throbbing / pounding, usually unilateral. Sluggishness or hunger may precede a childhood migraine- Feeling of doom, most children do not get an aura. Dizziness, light-headedness, pallor, or purple bags around the eyes may occur

- Cluster: burning, stabbing, often felt most around one eye – eye may be red and tear with runny nose – occurs 2 – 10 times / day , duration 10 minutes to few hours, never switches sides.
- Exertion (exercise-related) straining triggers severe throbbing usually at the base of the head, felt as a dull ache for 4 – 6 hours and may recur in later weeks or months upon exertion.

❖ Secondary to other conditions: sinusitis, dental problem, eye strain. May be associated with other symptoms such as cough, fever or blurred vision.

❖ Pathological conditions:

- Traction headache: brain tumor, intracranial hemorrhage or disorder of cerebrospinal fluid pressure
- Infection / Inflammation: meningitis, encephalitis and brain abscess – The nature of headache is sudden onset, increasingly severe within days, may be persistently one sided or localized. Headaches followed in time by abnormal neurological signs, such as vomiting without nausea, headaches that awaken the person, staggering gait and or confusion.

Assessment

❖ History: ask about occurrences, frequency, duration, cyclic nature, location and severity of headache. Determine associated symptoms and use of any medication or other care

❖ To ascertain if this is a benign condition or a pathological condition. If the exam is abnormal, then there is heightened concern for a more serious pathological condition causing the headache.

Nurse Management

❖ If student has a suspected pathological condition underlying headache, notify parent and refer to a healthcare provider

❖ Benign condition: headache diaries are useful for evaluation.

❖ Intervention is based on the cause

- Non-medication measures:
  - ★ Rest in quiet darkened room
  - ★ Cool or warm cloth on forehead
  - ★ Stress management / relaxation techniques
  - ★ Eliminate precipitating factors
  - ★ Biofeedback, good posture and daily exercise
- Medications
  - ★ Tension headache: non-prescription analgesics
  - ★ Migraine type: treat the headache as soon as it starts; Triptans are commonly prescribed

- ★ Cluster headache: children are usually referred to pediatric neurologists

Heat-related illness

Hyperthermia is a life-threatening increase in body core temperature.

Signs and symptoms:

- ❖ Heat cramps: muscle cramps often in abdomen or legs; excess perspiration; weakness and lightheadedness
- ❖ Heat exhaustion: Cool, pale and clammy skin; heavy sweating; weakness or tiredness; dizziness or fainting; headache; nausea or vomiting; muscle cramps; rapid heart rate
- ❖ Heat stroke: hot red dry skin; absence of sweating; rapid and strong pulse; extremely high body temperature; rapid breathing; confusion or lack of coordination; unconscious or seizures

Nurse Management

- ❖ Heat cramps
  - Move person to cool place and instruct person to rest
  - Give sips of water
  - Do not give liquid with caffeine
  - Do not give salt tablets
  - If person does not improve or if worsens, call EMS
- ❖ Heat exhaustion
  - Move person to cool area
  - Stop activity and instruct person to lie down and elevate feet 8 – 12 inches
  - Loosen clothing
  - Apply cool wet cloths to neck, armpits, groins
  - Use fan to cool and / or move to air-conditioned area
  - Sips of fluids
  - If nausea or vomiting occurs, discontinue fluids
  - Seek immediate medical attention if symptoms are severe, worsen or last over an hour
- ❖ Heat stroke
  - Call EMS
  - Meanwhile move the victim to c cooler environment
  - Reduce body temperature with cold bath or sponging, wet sheets or towels
  - Remove clothing, use fans, air-conditioners

- Be alert for vomiting and prevent aspiration
- Monitor consciousness and prepare for CPR

Herpes Simplex – Oral (cold sore, fever blister)

An acute viral infection with a local primary lesion (cold sore or fever blister occurring on the lips, chin, cheeks or nostrils), which is frequently latent and has a tendency to recur.

Signs and symptoms:

- ❖ Superficial clear blister on an erythematous base, usually on the face, lips, which crust and heal within a few days
- ❖ May have an itchy or tingling sensation before blister appears
- ❖ Small, gray-amber or gray-white circular crusts around the nose or on the lips
- ❖ During an episode, may recur over a period of one to three weeks, and then completely disappear
- ❖ Typical duration 7 – 10 days
- ❖ Contagious until the lesion is completely crusted over

Nurse Management:

- ❖ No exclusion from school
- ❖ Blisters should be kept clean to prevent bacterial infection
- ❖ Lesions are contagious, so hands should be washed after touching lesions
- ❖ Refrain from kissing when blisters are present
- ❖ Refer to health care provider if severe, frequently recurring or long-lasting

Potential complications

- ❖ Cross-contamination – Keeps hands away from eyes
- ❖ Meningitis or encephalitis
- ❖ The herpes simplex virus can be life-threatening to a person with a compromised immune system

Hives

Hives or urticaria is an allergic reaction or hypersensitivity with characteristic skin appearance. Hives appear as localized, pale, itchy, pink wheals (swellings) that may cause the skin to itch, burn or sting. They may occur singularly or in groups on any part of the skin and are very common.

Causes:

Chronic hives are triggered by an inflammation in the skin due to mast cells releasing histamines and other chemicals into the bloodstream. This causes small blood vessels to leak. Allergy or reaction to the following may trigger or cause hives:

- Foods
- Medications
- Emotional factors
- Inhalants
- Contact substances
- Physical factors
- Bacterial, viral or fungal infections

Signs and symptoms:

Hives can last from 30 minutes to 36 hours and as hives disappear, new hives may develop. Some people may experience angioedema with hives which manifests as swelling of the skin around the eyes, lips, hands, feet, genitalia and inside the throat. Other physical findings with hives include:

- Round, reddish-pink wheals on skin surface varying in size
- May run together causing irregular larger wheal
- Tend to be clear in center with surrounding redness
- Not tender or painful but itchy
- Seem to be intensified with heat
- Characteristically short-lived, but reappear often in other parts of body
- May be accompanied by swelling of lips, eyes, fingers, genitalia
- Never contagious
- Laryngeal edema (hoarseness and difficulty breathing) is the most serious complication. It requires immediate establishment of an airway and a call to EMS

Nurse Management

- Cool moist compresses to help control itching
- Avoid implicated foods or other suspect allergens
- Antihistamines if accidentally re-exposed

- ❖ Notify parents of occurrence of hives
- ❖ A child with hives that persist should be monitored carefully for signs and symptoms of a progressive and serious allergic reaction

Illness falsification

Illness falsification is considered a factitious disorder.

- ❖ Factitious disorder: a person acts as if he / she has an illness by deliberately producing, feigning or exaggerating symptoms. People with factitious disorders seek painful or risky tests and operations in order to obtain attention.

- ❖ Pediatric Condition Falsification (PCF) is a form of child abuse in which a parent / guardian / caregiver deliberately produces or feigns physical or psychological symptoms in a child under their care casing the victim to be regarded as ill or impaired by others. The child is presented for medical treatment and the parent or caregiver fails to acknowledge the deception. PCF often involves physical abuse, neglect, and emotional abuse. A child who is subjected to this behavior is a victim of child abuse by PCF.

- ❖ Notes:
  - Malingering: the individual also produces the symptoms intentionally, but has a goal that is recognizable when the circumstances are known.
  - Somatization: the occurrence of physical complaints for which medical evaluation reveals no physical pathology or when pathology is present, the complaints are grossly in excess of what would be expected from the physical findings. Pain and somatic symptoms are problematic when, regardless of cause, they become a dominant force in the child's life and impair functioning. Somatic complaints often have associated psychiatric symptoms, particularly anxiety or depression, although the cause of the condition remains unclear.

Signs and symptoms

- ❖ Factitious disorder
  - Child may present with an inconsistent medical history
  - Child may seek treatment from the school nurse /health office personnel frequently
  - May present with reports of symptoms that are not observable
  - May demonstrate an extensive knowledge medical terminology and descriptions of illness
  - Presence of bruises, infection

- Evidence of self bruising or ingestion of substances to causes illness
- Presence of symptoms only when the child is alone or not being observed
- Willingness or eagerness to have medical tests, operations or other procedures
- Reluctance by the child to have the school nurse speak with their parents or healthcare providers.

❖ PCF
- A parent or caregiver fabricates symptoms of illness in a child.
- The child is presented for medical assessment and care, usually persistently, often resulting in multiple medical procedures and hospitalizations.
- The perpetrator denies the etiology of the child's illness
- Symptoms of illness abate upon separation of the child from the perpetrator
- Possible exception: when the child has suffered permanent damage as a result of the abuse, the child is actively colluding with the parent, and the child has developed a psychiatric disorder.

Nurse Management

❖ Be alert to the possibility of PCF and Factitious Disorder
❖ If there are concerns regarding illness fabrication or discrepancies between the parent's reports of health problems in the child and the school nurse 's observations of the child 's health:
- Review the child's past medical history
- Consult with the child's physician / healthcare provider to review the child's diagnosis and health status. Discuss implications of school attendance and participation in school activities. Inform the provider of observations of the child in the school setting.

❖ Information about the child's attendance , school health records, parental reports of medical / health problems, educational testing and staff observations of health and behavioral issues are relevant and may be requested by the physician or legal authorities
❖ Be prepared to provide information should the family be referred to Child Protective Services
❖ Factitious disorders are usually treated with psychotherapy and / or family therapy
❖ Medication may be used to treat related disorders such as depression or anxiety

Impetigo

Impetigo is a highly contagious skin infection characterized by eruptions caused by either streptococcal or staphylococcal bacteria. It usually appears as red bumps that form on the face or extremities. The red bumps fill with pus, break open and form a honey-colored crust. The lesions are usually itchy, but not painful. Symptoms usually begin 1-3 days after exposure for streptococcus; usually 4 – 10 days for staphylococcus. Infection is spread by direct contact with secretions from lesions.

Signs and symptoms:

- Begins as a red sore
- Blisters which rupture easily, leave a red, raw looking base
- Itchy blisters, filled with honey-colored fluid that may be oozing and crusting over
- May have swollen lymph nodes near the infection

Nurse Management:

- A person who is untreated can spread the bacteria for as long as drainage occurs from lesions. Infected individuals do not transmit the infection 24 hours after antibiotic treatment is underway.
- Parents should keep contagious children home until 24 hours after starting topical or oral antibiotic therapy. Contacts of cases do not need to be excluded.
- Hygiene measures: wash the skin several times a day with an antibiotic soap to gently remove crusts and drainage
- Antibiotic therapy : prescribed by student's physician
- Draining lesions should be covered with a dressing

Lacerations

Soft tissue tears, cuts (lacerations) are common in children and are often the result of falls or contact with sharp objects.

Nurse Management:

- Minor cuts which are superficial, clean, linear, less than 1" long :
    - Wear gloves
    - Apply firm pressure with sterile or clean dressing until bleeding stops
    - Clean the wound thoroughly by irrigating with copious amounts of saline or water. Hydrogen peroxide is not appropriate for fresh wounds as it damages tissues and interferes with healing
    - Dry and apply butterfly dressing or steri-strip as directed

- ❖ Cuts which are contaminated, deeper, longer or wider than above; or located on the face or knee, elbow:
    - Apply firm pressure until bleeding stops
    - Cover with sterile dressing. May apply cold pack to prevent swelling
    - Refer to a health-care provider. If sutures are needed, they must be placed within 6 hours
    - Check last tetanus immunization date and record to accompany the referral

Follow-up:

- ❖ Change bandage as needed
- ❖ Note signs and symptoms of infection
- ❖ If there are sutures, watch for swelling which causes tension on sutures and tissues
- ❖ Follow primary care provider orders or local protocol if wound irrigation and dressing change is required during the school day

Menstrual disorders

- ❖ Amenorrhea : absence of menstruation
- ❖ Dysmenorrhea : painful menstruation
- ❖ Hypermenorrhea or menorrhagia : excessive bleeding in amount and duration, at regular intervals
- ❖ Intermenstrual: not excessive bleeding , occurring between otherwise regular menstrual period
- ❖ Menarche: onset of menses
- ❖ Menometrorrhagia: excessive and prolonged bleeding, frequent and irregular intervals
- ❖ Metrorrhagia: not excessive bleeding, but intervals are irregular
- ❖ Mittelschmerz: intermenstrual pain and / or bleeding; lasting a few hours to 3 days. Usually associated with ovulation
- ❖ Oligomenorrhea: infrequent, irregular episodes of bleeding, usually occurring at intervals greater than 40 days
- ❖ Polymenorrhea: Frequent but regular episodes of bleeding, occurring at intervals of 21 days or less

Signs and symptoms:

- ❖ Dysmenorrhea
    - Primary dysmenorrhea – pain, usually the first day or two of menses
    - Suprapubic pain radiating to the thigh and lower back
    - Associated nausea, vomiting, and diarrhea

- Amenorrhea: requires evaluation when:
    - Menarche delayed beyond age 15
    - No secondary sexual characteristics develop by age 14 (breasts, pubic and axillary hair)
    - Three years after developing secondary sexual characteristics if menstruation has not begun yet
    - Persons at risk: runners – gymnasts – ballet dancers – girls with too little body fat – possible development of osteoporosis due to lack of estrogen

Nurse management:

- Primary dysmenorrhea
    - Analgesic medication if parental permission is on file
    - Warm pad to lower abdomen and position of comfort
    - Encourage physical exercise and balanced diet to prevent constipation
    - Refer severe disorders for medical evaluation
- Amenorrhea: refer for medical evaluation girls who should have begun menstruating or have stopped

Mumps

Mumps is a systemic disease characterized by swelling or one or more of salivary glands, usually the parotid glands

Signs and symptoms:

- Non-specific prodrome, which includes myalgia, anorexia, malaise, headache and fever
- Unilateral or bilateral tender swelling of parotid or other salivary glands
- 30 % - 70% of mumps infection are associated with typical acute parotitis
- 20% of infections are asymptomatic
- Nearly 50% are associated with nonspecific or primarily respiratory symptoms, with or without parotitis

Nurse Management:

- Rapidly identify infected and susceptible persons
- No specific treatment for mumps
- Infected students should be excluded for 05 days from onset of parotid glands swelling

- ❖ Mumps vaccine has not been effective in preventing of infection after exposure; however, immunization will provide protection to subsequent exposures
- ❖ Recommend that unimmunized, pregnant females exposed to mumps consult with their healthcare provider
- ❖ Follow local health authorities decisions regarding outbreak control and management

Prevention:

- ❖ Mumps is a vaccine preventable disease
- ❖ Mumps immunization status should be assessed.
- ❖ The effectiveness of MMR against mumps is approximately 80% after one dose and approximately 90% after two doses – some cases can occur in vaccinated persons.
- ❖ Students should be kept home until 09 days after the onset of parotid swelling

Nosebleed (Epistaxis)

A nosebleed can be caused by trauma, scratching the nose, picking the nose, repeated nose blowing that irritates the mucous membranes and may start with sudden temperature change, dry air, or infection. Students with nosebleeds may also have a foreign body in the nose. Most nosebleeds come from blood vessels in the front of the nose.

Signs and symptoms:

- ❖ Blood coming from the nose
- ❖ Complaint of tasting blood or swallowing blood

Nurse Management:

- ❖ Instruct the person to breathe through their mouth. Reassure the young or anxious child that they can still breathe through the mouth
- ❖ Have the person sit down and lean forward to minimize the amount of blood swallowed that may cause vomiting
- ❖ Assist the person to firmly pinch his anterior nose below the bone continuously for 15 minutes
- ❖ If bleeding continues, hold nose closed another 15 minutes
- ❖ If bleeding continues, contact the parent to refer for medical care, vaso-constricting nose drops
- ❖ Other remedies have been tried with limited value: cold compress, pressure on upper lip

- ❖ Seek medical help if dizzy, light-headed, person is pale or rapid heart rate, or if person taking blood thinners

Follow-up:

- ❖ Restrict excessive physical exertion remainder of that day
- ❖ Avoid blowing the nose and dislodging the clot the rest of the day
- ❖ Inquire about any clotting abnormalities and use of aspirin
- ❖ Repeated nose-bleedings: refer to physician
- ❖ Assess if family history of bleeding disorders
- ❖ Assess if there is possible substance abuse by nasal snorting
- ❖ Assess if history of other types of frequent or excess bleeding such as with menstruation
- ❖ Assess if history of blood in stool

Potential complications:

- ❖ Choking on blood
- ❖ Vomiting from swallowed blood
- ❖ Anemia with frequent nosebleeds

Note: Young children have more nosebleeds because the blood vessels are more fragile. Most nosebleeds that occur in children are not serious and usually stop within a few minutes. High blood pressure does not cause nosebleeds, but it may increase the severity.

Pandemic Flu

A flu pandemic occurs when a new virulent influenza strain emerges for which the population has little or no pre-existing immunity, and for which there is no vaccine. The disease spreads easily from person-to-person, can cause serious illness, and sweeps across at least two regions of the world in a very short period of time. Healthy people may also be at increased risk of complications.

Pandemic flu does not mean that the influenza virus is more severe, but instead that the virus is more widespread

Pandemic phases as defined by the World Health Organization

- ❖ Interpandemic period:
    - Phase 1: no viruses circulating among animals have been reported to cause infections in humans

        - Phase 2: an animal influenza virus circulating among domesticated or wild animals is known to have caused infection in humans, and is therefore considered a potential pandemic threat.
- ❖ Pandemic Alert Period:
        - Phase 3: an animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks
        - Phase 4: small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans
        - Phase 5: larger cluster(s) but human-to-human spread is still localized, suggesting that the virus is becoming increasingly better adapted to humans but may not yet be fully transmissible (substantial pandemic risk)
- ❖ Pandemic period:
        - Phase 6: Pandemic phase: increased and sustained transmission in the general population

Signs and symptoms:

- ❖ Body aches
- ❖ Chills and fatigue
- ❖ Fever
- ❖ Headache
- ❖ Non productive cough
- ❖ Runny or stuffy nose
- ❖ Sore throat
- ❖ Nausea / vomiting / diarrhea can occur

Nurse management

- ❖ Surveillance – prompt identification of students and staff with flu-like symptoms
- ❖ Isolate symptomatic individuals in separate room while waiting to be sent home
- ❖ Infected individuals must be excluded from school until symptom-free for 24 hours without taking medicines
- ❖ Follow local health department guidelines
- ❖ Ongoing communication with school and public health authority regarding flu-like illnesses
- ❖ Disseminate educational information as appropriate

- ❖ Promote influenza vaccine

Note: influenza is spread by respiratory droplets. To prevent the spread of influenza:

- ❖ Promote cough etiquette
- ❖ Encourage frequent hand-washing
- ❖ Avoid close contact with sick persons
- ❖ Stay home from school / work when sick
- ❖ Obtain annual vaccination

Contact dermatitis

Skin reaction (contact dermatitis) due to the allergen, urushiol, of poison ivy, oak, and sumac plants. Most common on hands, forearms, and face

Signs and symptoms:

Reaction typically begins 1 – 4 days after exposure

- ❖ Red, itchy rash:
  - Small papules and vesicles
  - Rash may have a linear appearance where the plant brushes against the skin
  - May have large blisters and generalized weeping of skin. Oozing fluid from the blisters does not cause the rash to spread
- ❖ Localized swelling
- ❖ Healing: dryness, crusting and gradual shedding of crusts and scabs. May take 2 – 3 weeks to heal

Nurse Management:

- ❖ Wash skin thoroughly with cool water within 15 minutes of exposure or as soon as possible
- ❖ Apply cool packs 15 – 20 minutes – 3 – 4 times daily
- ❖ Calamine lotion applied to dry lesions
- ❖ Loose dressing may help discourage scratching
- ❖ Education staff: contents of blisters and weepy skin CANNOT cause rash in another individual or even in another location of patient – it is not contagious – no school exclusion

Puncture wound

Small but deep hole produced by a penetrating object. Most often occurs in hands and feet, but can be any body surface area. Object may penetrate the skin and leave a hole or remain partially or completely in wound

Signs and symptoms:

- ❖ Small object:
    - Small skin laceration
    - Little to no bleeding
    - Potential for retained foreign object
    - History of injury
    - If puncture occurred hours or days ago, may show signs of infection, swelling, pain, heat, pus drainage
- ❖ Large object:
    - May be medical emergency
    - May cause heavy bleeding and injury to areas beneath puncture site

Nurse Management:

- ❖ Clean and irrigate the sound if no evidence of embedded object
- ❖ Do not try to clean a major wound as it may cause heavier bleeding
- ❖ Do not probe or pull debris from a wound as it may splinter and leave pieces
- ❖ If object was removed and there is slight bleeding, encourage bleeding to clean wound
- ❖ Do not seal the hole with non-porous bandage
- ❖ If embedded object in wound, minimize movement and leave object in place
- ❖ Determine cause of puncture
- ❖ Determine date of last tetanus booster
- ❖ Seek emergency medical services if large object embedded and heavy bleeding

Potential complications:

- ❖ The wound is often deep with little bleeding so increased risk of infection because germs are embedded deeply and not washed out the flow of blood.
- ❖ Tetanus is a danger with puncture wound because tetanus bacteria grow well in a deep wound with little oxygen

Notes:

- ❖ If person bitten by an animal determine if animal is rabid
- ❖ Pencils are not made of lead but nontoxic graphite. Pencil lead is rarely embedded after puncture but more likely the “tattoo” from the graphite leaving a mark.

Rhino-sinusitis

Any case of viral rhinitis is rhino-sinusitis, because the mucous membranes of nasal passages and sinus cavities are identical. Sinusitis is inflammation of the mucous membranes that line the paranasal sinuses, and is commonly used to describe bacterial rhino-sinusitis.

Causes:

- 80% associated with acute viral rhino-sinusitis
- 20% from allergic inflammation
- Other factors that increase risk of sinusitis include smoke exposure, swimming, gastroesophageal reflux, cystic fibrosis, immunodeficiency, ciliary dyskinesia and nasal obstruction.

Signs and symptoms:

- Cough (worsening at night)
- Fever
- Runny nose
- Post Nasal secretions (purulent drainage)
- Bad breath or loss of smell
- Headache
- Snoring
- Earache
- Nasal speech

Nurse Management:

- If student has fever or looks ill, notify parents and refer to physician
- Cool compress on the forehead may make student more comfortable
- Encourage fluids
- Normal saline nose drops to assist with drainage and ventilation which can be done at home and school
- Monitor for complications
- Notify parents and refer to physician if the student does not improve in 72 hours
- Prevention: avoid allergens and treat allergies when appropriate

Follow up:

Sinus infections are usually curable medical treatment and self-care measures. Recurrent sinus attacks require follow up with a healthcare provider to assess for underlying causes such as nasal polyps or allergies.

Ringworm (Tinea)

Ringworm is caused by a fungus which can affect the skin on the body

- Tinea corporis: ringworm of the body - incubation: 4 – 10 days
- Tinea capitis ringworm of the scalp - incubation: 10 – 14 days
- Tinea cruris: ringworm of the groin area (jock itch)
- Tinea pedis: ringworm of the feet (athlete's foot)
- Onychomycosis: ringworm of the nails

Signs and symptoms:

- Tinea pedis: scaly lesions between toes. Itchy, vesiculo-papular (blisters or tiny pimples) or scaly lesions on sides of feet. Lesions may become infected due to scratching.
- Tinea cruris: discolored areas between upper thighs extending into groin and buttocks.
- Tinea corporis: small red bump or papule on body or face that spreads outward so that each affected area takes on the appearance of a red, scaly outer ring with a clear central area. The lesions are frequently itchy and can become infected if scratched. Maybe single or multiple lesions.
- Tinea capitis: in early stages, asymptomatic, but scalp or back of neck may itch. Flaky scalp that resembles dandruff may be present . Balding, round, oval or confluent patches on the scalp. Patches may be small as 1 – 2 cm up to 10 cm with hairs broken off in the center of the patch. Lesion will generally appear as an itchy, bald patch of scaly skin.
- Onychomycosis: thick and yellowed nails

Nurse Management:

- Tinea capitis: students who receive treatment may attend school and participate in usual activities; children who fail to receive treatment do not need to be excluded unless the nature of their contact with other students could potentiate spread.
- Tinea cruris, tinea corporis, tinea pedis : should not be excluded from school even before initiation of therapy.

Follow-up:

- Refer to health care provider for further assessment and appropriate treatment
- Inform parents to check contacts, family members, pets

- ❖ Work with maintenance personnel, teachers and coaches to assure proper cleaning of headphones, swimming pool and locker areas, PE mats, and other equipment with which skin contact is common.

Scabies

Scabies is caused by a tiny, eight-legged burrowing mite called Sarcoptes scabiei. It's A highly contagious infestation spread through close contact and shared clothing.

Signs and symptoms:

- ❖ Tiny, pale, irregular line which marks the path of the scabies mite
- ❖ Rash: tiny erythematous papules, vesicles, pustule and scabs – sometimes with tiny, linear dark scabs
- ❖ Location: back of hands, web of fingers, front of forearms, lower abdomen, chest, and axilla
- ❖ Itching is intense, especially at night – may persist a month after successful treatment until top layers of skin are shed
- ❖ Frequently found in other family members
- ❖ Secondary skin infections are frequent due to scratching

Nurse Management:

- ❖ Exclude from school and return after proper treatment applied
- ❖ Steroid ointments or lotions are contraindicated
- ❖ Instruct parent to wash clothes, towels and bed linen used by the infected person within the previous 2 days at 130 ° F or hotter, and dry in hot dryer
- ❖ Assess after first treatment: watch for new lesions – a second treatment may be necessary
- ❖ Watch for secondary infection and refer accordingly
- ❖ Check siblings in school
- ❖ Educate staff about scabies and transmission

Snake bite

- ❖ Remain calm and move beyond the snake's striking distance
- ❖ Let the victim sit down if possible with the bitten area is lower than the heart level; the bitten area must be immobilized
- ❖ Cover the bite with a clean gauze / dressing
- ❖ Pressure bandaging is applied from the above of the bite to limit the moving of the snake venom

- Call the ambulance from FV Hospital : (848) 5411 3500. In the event that FVH ambulance is unavailable, transfer the patient to the hospital by other means of transportation with nurse escort. Remember to keep the bitten limb immobilized completely & lower than the heart level during the transportation
- Doctors from FV Hospital will evaluate & provide basic treatment, then send the patient to Cho Ray hospital (201 B Nguyen Chi Thanh Street, district 05) for special treatment if needed

Cautions:

- Don't use a tourniquet or apply ice
- Don't cut the wound or attempt to remove the venom
- Don't drink caffeine or alcohol, which could speed the rate at which the body absorbs venom.
- Don't try to capture the snake. Try to remember its color and shape so that you can describe it, which will help in the treatment.

Sore throat

Pharyngitis often caused by viral, bacterial infection and / or irritation

Signs and symptoms:

- Dry, scratchy throat
- Pain with swallowing
- Frequent swallowing and sniffing (from sinus drainage)
- Presence / absence of fever and signs of systemic illness
- Appearance of tonsils and tympanic membrane

Signs and symptoms of Strep Throat:

- Sudden onset of sore throat
- Fever (>38.3 C or >101°F)
- Headache, nausea, abdominal pain, occasionally vomiting
- Marked inflammation of throat and tonsils: white or red tonsils may have thin white exudate
- Enlarged cervical lymph nodes

Signs and symptoms of Scarlet Fever:

- Diffuse redness of cheeks and upper chest on gooseflesh skin, the sensation of fine sandpaper

- ❖ The rash spreads and in 5 – 10 days, skin peels. Most cases are mild, lasting a few days, but severe cases occur.
- ❖ Complications: acute rheumatic fever, acute self-limiting glomerulonephritis (kidney disease) can be serious

Nurse Management:

- ❖ Minor, afebrile sore throat:
  - Warm salty gargles (1/2 teaspoon to 1 glass of water)
  - Warm fluid
  - Over-the-counter lozenges
- ❖ Strep throat and scarlet fever:
  - Return to school after 24 hours on antibiotic treatment and fever-free
  - PE return : full activity upon return to school if uncomplicated; may have ordered limitations

Sprain of ankle or knee

- ❖ Sprain: stretched or torn ligament (that connects bones)
- ❖ Strain: pulling or over-exerting a muscle or tendon (connects muscles to bone)

Signs and symptoms:

- ❖ History of trauma
- ❖ Person may feel a flash of heat or may describe hearing a “snap” or “pop”
- ❖ History of prior injury to same joint
- ❖ Pain / tenderness at site of injury
- ❖ Variable swelling and / or bruising

Nurse Management:

- ❖ Take detailed history of injury
- ❖ Assess pulse quality and capillary refill below the injured site
- ❖ Check range of motion and sensation
- ❖ Institute RICE principle:
  - Rest of the injured area for 48 hours
  - Ice placed on the injured area for 20 minutes every 2 – 3 hours for first 24 hours
  - Compression with elastic bandage or if authorized, splints
  - Elevate injured part

Sty (Stye)
It is a localized infection of the eyelash follicle at the margin of the eyelid or associated sebaceous or sweat gland.

Signs and symptoms:

- Tiny abscess on edge of eyelid
- Slight redness around abscess (may look like a pimple or boil)
- Local tenderness
- Eyelid swelling (this may make difficult to see because eyelid can't open fully)
- Usually filled with pus
- Tearing

Nurse Management:

- Warm compresses
- Refer to physician if the abscess is broken or redness or swelling extends beyond eyelid into face
- School exclusion not necessary

Warts

- Common warts: occur anywhere on the body, solitary skin-colored papule with irregular, scaly surface
- Plantar warts: appear flat as the papule is pressed into the skin of the foot; painful
- Filiform warts: usually confined to the face, appear as thin pieces of skin on a stalk

Nurse Management:

- Most disappear in one or two years
- Common warts: topical salicylate preparations used twice a day for up to 03 months
- Plantar warts: salicylic acid 40% plasters over 6 – 8 weeks
- Persistent warts and filiform warts : healthcare provider referral for removal