

Chapter 2

Injury Management & Emergency Medical Concerns

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• Emergency Medical Concerns

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Assessment of Injuries and Medical Concerns in the School Setting

When a student has an accident or emergent medical condition that requires immediate medical care, the school nurse or other staff member with First Responder or first aid training can give first aid at the scene or in the clinic. The principal should be notified immediately. The student's clinic card should also be pulled and emergency instructions followed. School administration has the authority to call an ambulance for emergency transportation and to notify the parent. When the parent is notified, share as much information as possible about what happened, including where the student is being taken for emergency treatment. The immediate care of the child is the school nurse's first responsibility, so another staff member may be assigned to make the calls and assist the nurse. A written plan for emergency procedures should be available in the school, so that everyone involved will be aware of individual responsibilities and will communicate appropriately. Attention to standard precautions is always necessary (see Ch. 4, Communicable Diseases and Infection Control). After an emergency situation is over, the school nurse and principal should review how well the plan worked and make adjustments as needed. Documentation should be completed and include details such as what happened and when, procedures done, whether parent(s) were called, whether the student left the premises and with whom, etc. Review the Accident/Incident Report Form at the end of this Chapter.

Initial Assessment

The process should be organized and systematic. History and physical assessment may be conducted simultaneously. Assessment of general appearance and the A-B-C's (Airway, Breathing and Circulation) should be completed first, with intervention as needed.

General Appearance	Assess overall impression of health, level of distress, emotional response and physical symptoms. Provide calm reassurance, safety of the area both for the first-responder and others in the area.
Airway	While completing the Airway Assessment, stabilize the head-neck if there is concern for a neck injury. Do this by instructing the student to lie still and by instructing an assistant to place hands on both sides of the child's head to prevent movement of the head and neck. Assess patency, ability to cry or talk, position, airway sounds, color. Open airway, perform obstructed airway maneuvers if needed.
Breathing	Assess work of breathing, rate, nasal flaring, retractions, difficulty speaking, breath sounds. Position for open airway, assist ventilations if needed.
Circulation	Assess perfusion of vital organs, skin color and temperature, active bleeding capillary refill, peripheral pulses. Initiate CPR if needed, control bleeding with direct pressure (using multiple sterile gauze pads with overlying barrier or gloves if available; if gauze is not immediately available, use a sufficient amount of child's clothing to prevent personal exposure to the child's blood). Position to maintain perfusion (legs elevated if shock symptoms).
Disability	Assess level of consciousness (alert or unresponsive), awareness of injury or illness, activity level, level of pain. Provide reassurance; orient to time, place and person as needed. Position to maintain comfort.
Expose/Examine	Open clothing as needed to observe breathing. Examine injuries, rashes as appropriate.
Fahrenheit	Check temperature, maintain temperature in a normal range using blankets (or undressing, sponging, fanning if hyperthermia is a concern).
Get Vital Signs	Obtain baseline HR, RR, BP (if possible), check capillary refill.
Head-to-Toe Assessment	Can be focused or complete, depending on student's health status, mechanism of injury and school policy.
Isolate	Provide isolation measures according to public health and school policy.

Triage

Triage literally means “to sort.” It is a means of sorting multiple victims and/or determining the urgency of each individual’s illness or injury. It is a way for the school nurse to decide the order of priority for emergency actions and treatment. The three commonly used triage categories are: Emergent, Urgent and Non-Urgent.

Emergent: Call EMS and notify parents	
This category represents an acute condition that is a potential threat to life or function and requires immediate medical attention. Examples include:	
<ul style="list-style-type: none"> • Cardiopulmonary arrest • Shock • Uncontrolled bleeding • Possible anaphylactic reaction even if respiratory symptoms (e.g., cough) or circulatory symptoms (e.g., dizziness) appear mild • Severe respiratory distress/failure • Severe burns • Seizure lasting longer than five minutes or associated with cyanosis or first-time seizure 	<ul style="list-style-type: none"> • Altered level of consciousness • Severe trauma • Limb trauma with loss of distal pulse or with obvious deformity • Spinal injury (suspected) • Severe pain, i.e., chest or abdomen • Femoral fracture • Heat stroke • Uncontrollable behavior that threatens self or others • Dental injury with avulsion of a permanent tooth • Ingestion of poison: call Georgia Poison Control Center (1-800-222-1222) for specific instructions • Child with diabetes - low blood sugar (with or without seizure) that requires glucagon
Urgent: Notify parent or guardian immediately	
This category represents a condition that is not severe or life-threatening, but requires medical intervention within two hours. Examples include:	
<ul style="list-style-type: none"> • Suspected fracture with pulses present and no obvious deformity • Lacerations requiring sutures without large amounts of blood loss • Head injury without loss of consciousness • Seizure (NOT first-time or status epilepticus) • Wheezing, unresponsive to medication • Persistent diarrhea/vomiting 	<ul style="list-style-type: none"> • Febrile illness with temperature greater than 100.4° F • Dental injury other than avulsion of a permanent tooth • Eye injury • Any abdominal pain after an injury • If moderate to large ketones are present in the urine, and/or the child is vomiting • If child has low blood sugar that requires treatment with more than two juices or glucose gel
Non-Urgent: Notify parent or guardian, per district policy	
This category represents a condition that is non-acute or minor. It may or may not require referral for medical care. Examples include:	
<ul style="list-style-type: none"> • Minor scrapes/bruises • Muscle sprains/strains (urgent if fracture suspected) • Headache without fever or vomiting or other symptoms • Wheezing that responds to treatment (without respiratory distress) 	<ul style="list-style-type: none"> • Mild pain • Upper respiratory infection toothache • Child with diabetes – If small to trace ketones in the urine • Child with diabetes – If child has a low blood sugar requiring treatment

Note: Always notify parents or guardians of any unusual event. Follow your school district’s guidelines. Always be alert for possible child abuse. For additional information, please see Child Abuse Prevention, Recognition and Reporting in Chapter 1.

Reporting Accidents

If there is no parent present and the child is being taken to the emergency room by ambulance, it is helpful for school personnel to communicate directly with the emergency department either by calling the hospital or sending a written description with as much detail as is known. Specifics of the incident will aid emergency personnel in quick diagnosis and treatment. Provide your name and number in case the ED physician needs further information.

If the student is going by ambulance to a Children's Healthcare of Atlanta facility, the Children's Transfer Center will arrange for the acceptance and admission with just one call.

Phone: 404-785-7778 or 888-785-7778 Fax: 404-785-7779

If you live outside of the metro-Atlanta area or a child is being transferred to a different hospital, please find out their preferred method of communication.

A sample Report of Accident/Incident Form is at the end of this Chapter. Completed documentation with as much information as possible is helpful if a witness or adult who is first on the scene is unable to verbally communicate with the receiving facility. Please follow your district specific guidelines for reporting and documenting incidents.

Suggested First Aid Procedures

- Have a written plan for emergencies, with someone designated to call 911 and/or to call parents while clinic personnel care for the child. Don't be surprised if you have to delegate someone at the time of the incident due to where it has occurred. Make sure that you make eye contact with that person as you tell him or her to call so there is no question that this task is done.
- Notify or delegate someone to alert the principal of the need to call 911 if situation is emergent or life-threatening.
- Keep a list of staff with current CPR or First Responder training in your manual and posted in the health clinic, the PE area and the front office. These trained personnel can be alerted to assist you in an emergency.
- Apply ice for most injuries (do not use for burns or for students who also have sickle cell disease).
- May use frozen gel packs, small freezer-size zip lock bag with a frozen sponge or ice cubes. Keep ice available in the health clinic if at all possible.
- Always put a thin layer of paper towels or cloth between skin and ice applications.
- Leave ice on for 10-15 minutes, and reapply every 30-60 minutes as needed to decrease pain and swelling.
- Keep student NPO (nothing by mouth) with most injuries because of the possible need for conscious sedation or surgery or possibility of vomiting with aspiration (heat cramps and heat exhaustion are exceptions to this rule).
- Use distraction techniques (music/headphones, a favorite book, etc.) to calm students.
- Use judgment regarding the decision to move the child. With possible neck or extremity injury, it will be advisable, at times, to NOT move the child until EMS arrives.

Pediatric Vital Signs

- The student's normal range should always be taken into consideration.
- Heart rate, BP and respiratory rate are expected to increase during times of fever or stress.
- In a clinically decompensating child, the blood pressure will be the last vital sign to change.
- Just because the BP is normal, don't assume that the student is "stable."
- Bradycardia (slow heart rate) in children can be an ominous sign, usually a result of hypoxia. Act quickly, as this condition in a child is extremely critical.
- In an otherwise healthy, well appearing older child or teenager, bradycardia may be their physiologic normal (i.e., in an athletic child or teenager with a low resting heart rate).
- Bradypnea (slow RR) is an ominous sign and is usually a sign of either respiratory fatigue or extreme obstruction. Act quickly.

Age Group	Respiratory Rate	Heart Rate	Systolic Blood Pressure	Weight in Pounds
Newborn	30-50	120-160	60-70	4.5-7
Infant (1-12)	30-50	80-140	70-100	9-22
Toddler (1-3 yrs)	24-40	80-130	80-110	22-31
Preschooler (3-5 yrs)	22-34	80-120	80-110	31-40
School-Age (6-12 yrs)	22-34	80-120	80-120	41-109
Adolescent (13+ yrs)	12-20	80-105	110-120	>120

Wong-Baker FACES Pain Rating Scale

All children may experience some pain from time to time whether it is from a headache, injury or cancer treatment. Only the child knows how much pain he/she has. They need to be able to communicate their pain to their school nurse or other designated staff member.

Communicating the Pain

Using a pain rating scale, like the one below, is helpful for young patients to communicate how much pain they are feeling.

Instructions

Explain to the child that each face is for a person who feels happy because he has no pain (hurt) or sad because he has some or a lot of pain.

Face 0 is very happy because he doesn't hurt at all.

Face 1 hurts just a little bit.

Face 2 hurts a little more.

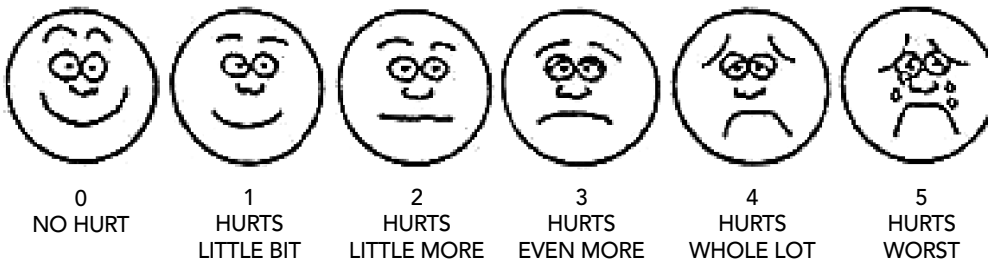
Face 3 hurts even more.

Face 4 hurts a whole lot more.

Face 5 hurts as much as you can imagine, although you do not have to be crying to feel this bad.

Ask the child to choose the face that best describes how he/she is feeling.

From Wong, DL, Hockenberry-Eaton M, Wilson D, Winkelstein ML, Schwartz P: *Wong's Essentials of Pediatric Nursing*, 6th Ed., St.



Louis: Mosby, Inc., 2001: 1301. Copyrighted by Mosby, Inc. Reprinted by permission.

Injury Management

Abdominal Blunt Injury

- Obtain history of injury from witness. Be aware that injury could have occurred prior to arriving at school or even days before if slow bleeding is from a spleen or other organ injury.
- Place student supine with legs elevated.
- Observe for change in vital signs, capillary refill, signs of shock, respiratory distress and level of pain.
- Keep student NPO (nothing by mouth).

Call 911 and notify parents if:

- Abdominal distension, rigidity or persistent pain.
- Blood in urine.
- Signs of shock such as:
 - Skin is cool and clammy—it may appear pale or gray;
 - The pulse is weak and rapid—breathing may be slow and shallow, or hyperventilation (rapid or deep breathing) may occur
 - Blood pressure is below normal
 - Nausea or vomiting
 - Eyes are lackluster and may seem to stare—sometimes the pupils are dilated
 - The person is unconscious, or if conscious, the person feels faint or is very weak or confused. Shock also sometimes causes a person to become overly excited and anxious

Abdominal Open Wounds

- **Call 911** and notify parents.
- Wearing gloves, control bleeding with firm pressure.
- Cover open areas with sterile, moist dressing. Do not try to replace protruding tissue.
- Hold dressing in place with firmly applied bandage.
- If breathing is difficult, keep student's head and shoulders elevated with a pillow or rolled blanket, etc.
- Give first aid for shock, if suspected (see Shock).
- Do not give fluids or food.

Amputation

- Wearing gloves, control bleeding with clean bandage. Elevate extremity. Remain calm. Observe for shock (see Shock).
- Stay with student! **Have other school personnel call 911 and parents, and try to find amputated body part.**
- Place detached part, wrapped in moist sterile gauze, in a plastic bag. Close bag and put into container of ice water. Send with student.
- Do not put amputated part *directly* on ice.
- Keep student NPO (nothing by mouth).

Bites (Animal)

Bites from many animals may transmit rabies and will need medical attention (dog, ferret, bat, raccoon, opossum, skunk, fox, coyote and cat). Information on snake bites can be found in this Chapter on page 30.

- For minor bites:
 - Wearing gloves, wash area well, with soap and water, irrigating for five minutes if possible.
 - Apply clean bandage. If the bite is bleeding, apply gentle pressure directly on the wound using a sterile bandage or clean cloth until the bleeding stops.
 - Medical attention is needed “promptly” if skin was broken. The longer the delay in proper cleansing/debridement of the wound, the greater the risk of infection.
 - Contact parent/guardian to seek medical attention.
 - Supply parent with as much information as possible regarding the biting animal.
 - Antibiotics may be prescribed, and rabies prevention treatment may be considered.

- For more serious bites:
 - Follow the same procedures as minor bites above.
 - Treatment considerations for the student with more serious injuries may include repair to damaged nerves, tendons, suturing and cosmetic repairs, as well as prescribed antibiotics and rabies prevention.
 - Keep student NPO (nothing by mouth), especially if it appears sutures may be needed.
 - Do not apply ointments or disinfecting agents.
 - Do wash with low pressure water irrigation if the child will permit.

NOTE: All animal bites should be reported to county animal control. Call Poison Control Center (800-222-1222) for advice related to rabies risk. See page 30 for more information on Snake Bites.

Bites (Human)

Because of the types of bacteria and viruses that are in the human mouth, human bites can be as dangerous as or even more dangerous than animal bites. If someone cuts his/her knuckles on another person's teeth, as often happens in a fight or while playing in a contact sport, this is also considered a human bite.

If a student sustains a human bite that breaks the skin:

- Treatment is needed promptly. Contact parent/guardian to seek medical attention (antibiotics may be prescribed).
- Wearing gloves, wash area well with soap and water, irrigating for five minutes if possible, using low pressure.
- Apply a clean bandage.
- If the bite is bleeding, apply gentle pressure directly on the wound using a sterile bandage or clean cloth until the bleeding stops.
- Supply parent/guardian with as much information as possible regarding the biting incident.

Treatment considerations for the student with more serious injuries may include repair to damaged nerves, tendons, suturing and cosmetic repairs, as well as prescribed antibiotics for infection prevention. As a result, keep student NPO (nothing by mouth), especially if it appears sutures may be needed.

If the student has not had a tetanus shot within five years, their doctor may recommend a booster. In this case, he/she should have the booster within 48 hours of the injury.

Bleeding

- Wearing gloves, press firmly over wound with clean bandage or gauze.
- Apply continuous pressure for seven to 10 minutes.
- Elevate bleeding body part gently, above the heart level.
- If bleeding continues, apply pressure to point over supplying artery in addition to maintaining direct pressure.
- Do not use tourniquet.
- Bandage wound firmly with pressure dressing and reinforce as necessary. Do not remove dressing.
- Notify parents.
- **Call 911 immediately** if blood is spurting out with each pulse beat, does not stop with normal measures, or amputation has occurred.
- Observe and treat for shock, if needed (do not elevate legs if head injury is suspected).

Burns

Chemical burns

- Call Poison Control Center at 800-222-1222 for further instructions.
- Wear gloves. Remove clothing and jewelry.
- Rinse burned area immediately with large amount of cool, clean water for 10-20 minutes.
- Follow recommendations for thermal burns (see below).
- Notify parents to seek medical attention.

Note: Chemical burns to the eye: refer to Eye Injuries section.

Electrical burns/Electrical shock

- **Call 911 if there is loss of consciousness; initiate CPR if needed.**
- Turn off power source. Do not touch student until power off.
- Treat any burns (see thermal burns, below).
- Notify parents.

Thermal burns

From heat or fire, three types may be present:

- Superficial—redness only
- Partial thickness—redness and blisters, very painful
- Full thickness—charred or pale, may involve muscle or other tissue
 - Cover with a cool, wet, sterile cloth. Do NOT immerse large burns with cold water; doing so can cause hypothermia
 - Continually observe for airway and breathing
 - Bandage area loosely with a sterile bandage
 - Notify parents
 - Keep student NPO (nothing by mouth)
 - Do not apply ice to burns, break blisters or remove tissue; do not put anything else on the burn
- **Call 911**
 - If burn is large or deep or involves the eye
 - On the face, hands, feet (unless small or superficial; first degree)
 - Student is unconscious or having difficulty breathing or is in substantial pain not managed with cool compresses

Cuts, Scrapes, Abrasions

- After controlling bleeding (using standard precautions), wash the wound gently with soap and water to remove dirt and decrease chance of infection. Irrigate with low pressure water for five minutes if tolerated. For abrasions, more vigorous washing may be needed to remove all material. Do this only if tolerated.
- Rinse and pat dry.
- Apply a clean bandage (non-adhering type for abrasions if possible).
- Time is important if there has been gross contamination (road burn) or if the child does not permit adequate washing of the abrasion.
- The general rule is not to close lacerations that are more than six hours old.
- Notify parents per school policy.

Note: There is much controversy about applying Neosporin® to minor cuts, scrapes, etc. The current recommendation by most dermatologists is that it is not necessary; only use soap and water and rinse off well. Refer to your district guidelines for further questions.

Dislocation

- Symptoms—severe pain and deformity are present with swelling.
- Check peripheral pulse in affected extremity.
- **Call 911 if no pulse.**
- Splint and immobilize the affected joint in the position found.
- Do not attempt to put joint back in place.
- Use sling if needed (i.e., shoulder).
- Place ice on dislocated joint.
- Keep student calm and quiet.
- Keep student NPO (nothing by mouth).
- Notify parents of need for medical attention.
- **Consider 911 if the parent cannot transport the child promptly to the hospital.**

Earache and Ear Injuries

- While wearing gloves, control bleeding of the external ear with pressure if necessary. Bleeding from the ear canal cannot be controlled by the layperson.
- Notify parents of earaches, injuries and draining ears; advise medical attention.
- Apply a warm compress or towel for an earache.
- Do not put anything in the ear, or attempt to remove foreign object from ear.

Eye Injuries

Knowing what to do for an eye emergency can save valuable time and possibly prevent vision loss. Below are some instructions for basic eye injury first aid.

Specks in the eye

- Do not let the student rub the eye. This can scratch or damage the cornea.
- Encourage the student to let tears wash the speck out. If this does not work, use saline eyewash or room temperature water.

- Have the student lift the upper eyelid outward and down over the lower lid. Using a clean finger and thumb, he should gently pull the upper eyelid down over the top of the lower eyelid. This should cause tearing and flush the object out. He may need to repeat this several times.
- If he can see the object, he may try to remove it from the eye with a sterile gauze or clean cloth.
- If the speck does not wash out, keep the eye closed, bandage it lightly and have the student see a doctor.

Blows to the eye

- Apply a cold compress without putting pressure on the eye. Crushed ice in a plastic bag can be taped to the forehead to rest gently on the injured eye. Place a cloth or some type of barrier between the skin and the cold pack.
- Examine eye with flashlight for hemorrhaging into the eye itself.
- In cases of pain, reduced or blurred vision, impaired movement of the eye globe (i.e., unable to look in a certain direction), nausea or discoloration (black eye), prompt transport to an ER should be arranged. Any of these symptoms could mean internal eye damage.
- Check for satisfactory extraocular movement (look up, down, side to side).

Cuts and punctures of the eye or eyelid

- Have the student see a doctor right away.
- Do not wash out the eye with water or any other liquid.
- Do not try to remove an object that is stuck in the eye.
- Cover the eye with a rigid shield without applying pressure. The bottom half of a paper cup can be used.

With any of the above situations, do not assume that any eye injury is harmless. When in doubt, have the student see a doctor right away. While waiting for parent, have student rest with eyes closed.

Penetrating eye injury

- Keep student lying down flat. Remain calm.
- **Do not** attempt to remove object.
- **Call 911 and parents.**
- Cover affected eye with small cup or eye shield. Do not put any pressure on the eye.
- Apply clean dressing or patch to unaffected eye to avoid eye movement.
- Keep student NPO (nothing by mouth).

Chemical burn to the eye

- **Note: It is a very good idea for the school nurse to educate science teachers about emergency actions needed for chemical spills/burns before they happen.**
- Time MAY be critical, particularly if substance is a strong alkalai. **Call 911 if substance is known to be alkaline and call Poison Control Center at 800-222-1222.**
- Irrigate eye with large amounts of low flowing lukewarm water under a water tap or flush with normal saline over a sink or eye station for about 20 minutes.
- Hold student's head with eye under the tap as water is running; you may have to hold the eye open with one hand while flushing with the other.
- Call parent and send to ER.
- While waiting for parent and/or EMS, have student rest with eyes closed and keep the room darkened.

Fractures, Sprains, Strains

Treat all injured parts as if they might be fractured.

Symptoms

Pain or guarding, swelling, discoloration, limited movement, bent or deformed bone, joint deviation.

Treatment

P-R-I-C-E (Protect-Rest-Ice-Compression-Elevate)

- Support and elevate injured part gently if possible. Do not move student unnecessarily.
- Apply ice to minimize swelling (unless student has sickle cell disease).
- Check pulse, capillary refill, movement and sensation distal to injury initially; and continue to monitor.
- Splint in position of comfort to limit movement (if pulses are present).
- Keep student NPO (nothing by mouth).
- **Call 911 if:**
 - Absent pulses
 - Bone/joint with severe swelling, deformity
 - Skin is broken over possible fracture (cover with sterile dressing)
 - Possible fracture of femur
- Notify parents to obtain medical care.
- Observe for shock and treat if necessary.

Refer to Preventing Playground Injuries and Sports Injuries for more information.

Groin Injuries

- **Sudden onset of testicular pain, notify parents to seek immediate medical attention.**
- Allow student to lie down.
- Keep student NPO (nothing by mouth).
- Notify parents to arrange very prompt transport to the ER. If treatment is delayed for just a few hours, the testicle may become non-viable and will need to be removed.

Head Injuries/Concussion

Head injuries that happen at school may vary from mild (temporary confusion or passing out) to severe (coma for a longer period of time). They are caused by trauma such as a hard bump or blow to the head or a sudden harsh movement or jarring of the head as in a fall. **Head injuries, including "mild" head injuries, should be taken seriously so that the student's brain can heal completely.**

A concussion is a type of head injury. Head injuries from falls, sports injuries and violence may be more serious. With a more serious head injury it should be assumed there may also be an injury to the neck or spinal cord. If there is an open wound, head wounds usually bleed easily, and there may be considerable swelling or bleeding under the skin. Evaluate for possible need for stitches (see also Lacerations).

For all head injuries:

1. Get a description of the accident from a witness.
2. Use the below guide in responding to the student with a head injury.
3. Document the incident with the:
 - Concussion Signs and Symptoms Checklist (included in this section)
 - “Report to Parent/Guardian of a Head Injury Form” (A sports concussion notification form may be found in the concussion reference guide in this section).
 - Any other school-required documentation.
4. Notify the parent and give the “Mild Head Injury and Concussion Teaching Sheet” to the parent (included in Chapter 11, For Families).
5. Instruct the parent to follow up with child’s primary care doctor.

Guide for response to head injury:

- Allow student to rest.
- Apply cold pack to injured area, if tolerated.
- If vomiting or a severe headache, **call 911**.
- If persistent headache or a history of lack of consciousness, call parents promptly and make arrangements for prompt medical evaluation.
- Allow student to return to class if no other symptoms or findings, and return in one to two hours or before leaving school for recheck.
- Advise teacher and parents of injury, and need for follow up with their primary care doctor in 24-48 hours.
- Provide family with teaching sheet.

For more severe injuries, when student is conscious:

- If a neck or spinal injury is suspected, do not move student, maintain a position of comfort.
- **Call 911** and notify parents.
- Observe and document any of the following symptoms:
 - Vomiting more than once
 - Confusion, being dazed, not able to recognize people or places
 - Is hard to wake up
 - Cannot think clearly or remember things
 - Decreased level of consciousness
 - Blood or watery fluid from the ears or nose
 - Neck pain
 - Scalp swelling that gets bigger
 - Headache that gets worse
 - Seizure
 - Blurred or double vision
 - Slurred speech
 - Numbness or tingling anywhere on the body
 - Unconsciousness, even if for a brief duration
- Control bleeding with pressure.
- Apply ice for swelling.
- Evaluate any laceration for possible need for stitches, but do not move neck to do so if there is neck pain (see also Lacerations).

For the unconscious student:

- Stabilize spine and maintain open airway, using jaw thrust maneuver, if spinal or neck injury suspected.
- **Call 911** and notify parents.
- Treat bleeding.
- Observe for shock or vomiting (log roll entire body to side if vomiting).

The best treatment for a head injury or concussion is rest, both cognitive (for the brain) and physical (for the body). This type of rest can be frustrating for the student and seem long, but is needed to help the brain heal and prevent another injury. **Rest is usually needed until the student is mostly symptom-free.** We encourage return to school as soon as possible as extended absences may increase work related stress. However, if academic work induces symptoms such as headaches, a brief absence from school, or accommodations such as delaying examinations may be appropriate. It is often best to work in conjunction with the teachers, school counselors and parents on a flexible plan for the child. For example, perhaps starting with half day of school or providing a place to rest/nap in the middle of the day.

Some students may need additional support or a 504 plan to assist with their return to school work. A student will need clearance from a doctor to return to sports. A student should be able to fully perform in school without symptoms before returning to full game play in sports.

Resources included in this section

1. Concussion Signs and Symptoms Checklist (CDC)

Note - please check the Websites listed below to see if these teaching sheets have been updated.

2. Report to Parent/Guardian of a Head Injury

Additional resources in this manual

1. Know Your Concussion ABCs, Fact Sheet for School Nurses - refer to the Prevention and Preparedness section in this Chapter.
2. Chronic issues related to Brain Injury / Concussion (including 504 planning), refer to Chapter 5.
3. Mild Head Injury and Concussion Teaching Sheet (Children's Healthcare of Atlanta). – refer to Chapter 11.

This sheet includes information on the following:

- Cognitive Rest
- Return to School, Bookwork, Studies Guidelines
- Return to Sports, Play, Activities Guidelines

Resources

Children's Concussion Video Series and Toolkit

choa.org/medical-professionals/physician-resources/concussion-resources/concussion-videos

Concussion and Mild TBI – CDC

cdc.gov/concussion/signs_symptoms.html

Concussion Program – Children's Healthcare of Atlanta

choa.org/concussion

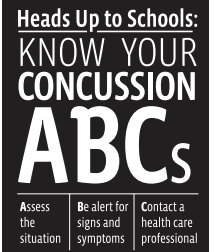
Heads Up to Schools: Know Your Concussion ABCs

cdc.gov/concussion/HeadsUp/schools.html

Pediatric Brain Injury – Brain Injury Association of America

biausa.org/brain-injury-children.htm

Concussion Signs and Symptoms Checklist



Student's Name: _____ Student's Grade: _____ Date/Time of Injury: _____

Where and How Injury Occurred: *(Be sure to include cause and force of the hit or blow to the head.)* _____

Description of Injury: *(Be sure to include information about any loss of consciousness and for how long, memory loss, or seizures following the injury, or previous concussions, if any. See the section on Danger Signs on the back of this form.)* _____

DIRECTIONS:

Use this checklist to monitor students who come to your office with a head injury. Students should be monitored for a minimum of 30 minutes. Check for signs or symptoms when the student first arrives at your office, fifteen minutes later, and at the end of 30 minutes.

Students who experience one or more of the signs or symptoms of concussion after a bump, blow, or jolt to the head should be referred to a health care professional with experience in evaluating for concussion. For those instances when a parent is coming to take the student to a health care professional, observe the student for any new or worsening symptoms right before the student leaves. Send a copy of this checklist with the student for the health care professional to review.

To download this checklist in Spanish, please visit: www.cdc.gov/Concussion.
Para obtener una copia electrónica de esta lista de síntomas en español, por favor visite: www.cdc.gov/Concussion.

OBSERVED SIGNS	0 MINUTES	15 MINUTES	30 MINUTES	<input type="checkbox"/> MINUTES Just prior to leaving
Appears dazed or stunned				
Is confused about events				
Repeats questions				
Answers questions slowly				
Can't recall events <i>prior</i> to the hit, bump, or fall				
Can't recall events <i>after</i> the hit, bump, or fall				
Loses consciousness (even briefly)				
Shows behavior or personality changes				
Forgets class schedule or assignments				
PHYSICAL SYMPTOMS				
Headache or "pressure" in head				
Nausea or vomiting				
Balance problems or dizziness				
Fatigue or feeling tired				
Blurry or double vision				
Sensitivity to light				
Sensitivity to noise				
Numbness or tingling				
Does not "feel right"				
COGNITIVE SYMPTOMS				
Difficulty thinking clearly				
Difficulty concentrating				
Difficulty remembering				
Feeling more slowed down				
Feeling sluggish, hazy, foggy, or groggy				
EMOTIONAL SYMPTOMS				
Irritable				
Sad				
More emotional than usual				
Nervous				

Danger Signs:

Be alert for symptoms that worsen over time. The student should be seen in an emergency department right away if s/he has:

- One pupil (the black part in the middle of the eye) larger than the other
- Drowsiness or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even a brief loss of consciousness should be taken seriously)

Additional Information About This Checklist:

This checklist is also useful if a student appears to have sustained a head injury outside of school or on a previous school day. In such cases, be sure to ask the student about possible sleep symptoms. Drowsiness, sleeping more or less than usual, or difficulty falling asleep may indicate a concussion.

To maintain confidentiality and ensure privacy, this checklist is intended only for use by appropriate school professionals, health care professionals, and the student's parent(s) or guardian(s).

For a free tear-off pad with additional copies of this form, or for more information on concussion, visit: www.cdc.gov/Concussion.

Resolution of Injury:

__ Student returned to class

__ Student sent home

__ Student referred to health care professional with experience in evaluating for concussion

SIGNATURE OF SCHOOL PROFESSIONAL COMPLETING THIS FORM: _____

TITLE: _____

COMMENTS:

* For more information on concussion and to order additional materials for school professionals **FREE-OF-CHARGE**, visit: www.cdc.gov/Concussion.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



Report to Parent/Guardian of a Head Injury

Dear Parents/Guardian,

Date _____

This is to inform you that your child _____ in Grade _____ has suffered a head injury today during school.

We: notified you and this is a follow-up informational letter.

attempted to notify you at _____ am/pm. _____
(Phone #)

The following events occurred: _____

Area of the head affected: _____ Time of injury: _____ am/pm

Your child's condition when first seen in the health clinic: _____

Treatment given your child: _____

Your child's condition before leaving school: _____

For instructions on caring for your child at home, please refer to the "Mild Head Injury and Concussion Teaching Sheet" provided to you by the school.

Please Note: We recommend strongly that with any serious head injury/bump that you at least call your healthcare provider and let him/her know about this incidence. The healthcare provider may recommend you bring your child in for an evaluation.

Sincerely,

(Print Name & Title) Phone #: _____



Heads Up to Schools: KNOW YOUR CONCUSSION ABCs

Assess the situation **B**e alert for signs and symptoms **C**ontact a health care professional

A Fact Sheet for School Nurses

What is a concussion?

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or blow to the body that causes the head and brain to move rapidly back and forth. Even what seems to be a mild bump to the head can be serious.

How can I recognize a concussion?

To help you recognize a concussion, ask the injured student or witnesses of the incident about:

1. Any kind of forceful blow to the head or to the body that resulted in rapid movement of the head.

-and-

2. Any change in the student's behavior, thinking, or physical functioning. (See the signs and symptoms of concussion.)

THE FACTS:

- * All concussions are serious.
- * Most concussions occur without loss of consciousness.
- * Recognition and proper response to concussions when they first occur can help aid recovery and prevent further injury, or even death.

To download this fact sheet in Spanish, please visit: www.cdc.gov/Concussion.
Para obtener una copia electrónica de esta hoja de información en español, por favor visite: www.cdc.gov/Concussion.

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How can concussions happen in schools?

Children and adolescents are among those at greatest risk for concussion. Concussions can result from a fall, or any time a student's head comes into contact with a hard object, such as the floor, a desk, or another student's head or body. The potential for a concussion is greatest during activities where collisions can occur, such as during physical education (PE) class, playground time, or school-based sports activities.

Students may also get a concussion when doing activities outside of school, but then come to school when symptoms of the concussion are presenting. For example, adolescent drivers are at increased risk for concussion from motor vehicle crashes.

Concussions can have a more serious effect on a young, developing brain and need to be addressed correctly. Proper recognition and response to concussion symptoms in the school environment can prevent further injury and can help with recovery.



What are the signs and symptoms of concussion?

Students who experience **one or more** of the signs and symptoms listed below after a bump, blow, or jolt to the head or body should be referred to a health care professional experienced in evaluating for concussion.

There is no one single indicator for concussion. Rather, recognizing a concussion requires a symptom assessment. The signs and symptoms of concussion can take time to appear and can become more noticeable during concentration and learning activities in the classroom. For this reason, it is important to watch for changes in how the student is acting or feeling, if symptoms become worse, or if the student just “doesn't feel right.”

SIGNS OBSERVED BY SCHOOL NURSES

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events *prior* to the hit, bump, or fall
- Can't recall events *after* the hit, bump, or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes

SYMPTOMS REPORTED BY THE STUDENT

Thinking/Remembering:

- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling more slowed down
- Feeling sluggish, hazy, foggy, or groggy

Emotional:

- Irritable
- Sad
- More emotional than usual
- Nervous

Physical:

- Headache or “pressure” in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Does not “feel right”

Sleep*:

- Drowsy
- Sleeps *less* than usual
- Sleeps *more* than usual
- Has trouble falling asleep

**Only ask about sleep symptoms if the injury occurred on a prior day.*



Remember, you can't see a concussion and some students may not experience or report symptoms until hours or days after the injury. Most young people with a concussion will recover quickly and fully. But for some, concussion signs and symptoms can last for days, weeks, or longer.



What are concussion danger signs?

In rare cases, a dangerous blood clot may form on the brain in a person with a concussion and crowd the brain against the skull. The student should be taken to an emergency department right away if s/he exhibits any of the following danger signs after a bump, blow, or jolt to the head or body:

- One pupil larger than the other
- Is drowsy or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination

- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Cannot recognize people or places
- Becomes increasingly confused, restless, or agitated
- Has unusual behavior
- Loses consciousness (even a brief loss of consciousness should be taken seriously)

For more information and tool kits for youth sports coaches and high school coaches, visit www.cdc.gov/Concussion.

What can school nurses and school professionals do?

Below are steps for you to take when a student comes to your office after a bump, blow, or jolt to the head or body.

1. **Observe student for signs and symptoms of concussion for a minimum of 30 minutes.**
2. **Complete the *Concussion Signs and Symptoms Checklist* and monitor students consistently during the observation period.** The form includes an easy-to-use checklist of signs and symptoms that you can look for when the student first arrives at your office, fifteen minutes later, and at the end of 30 minutes, to determine whether any concussion symptoms appear or change.
3. **Notify the student's parent(s) or guardian(s) that their child had an injury to the head.**
 - > **If signs or symptoms are present:** refer the student right away to a health care professional with experience in evaluating for concussion. Send a copy of the *Concussion Signs and Symptoms Checklist* with the student for the health care professional to review. Students should follow their health care professional's guidance about when they can return to school and to physical activity.

- > **If signs or symptoms are not present:** the student may return to class, but should not return to sports or recreation activities on the day of the injury. Send a copy of the *Concussion Signs and Symptoms Checklist* with the student for their parent(s) or guardian(s) to review and ask them to continue to observe the student at home for any changes. Explain that signs and symptoms of concussion can take time to appear. Note that if signs or symptoms appear, the student should be seen right away by a health care professional with experience in evaluating for concussion.



Children and teens with a concussion should NEVER return to sports or recreation activities on the same day the injury occurred. They should delay returning to their activities until a health care professional experienced in evaluating for concussion says they are symptom-free and it's OK to return to play. This means, until permitted, not returning to:

- Physical Education (PE) class,
- Sports practices or games, or
- Physical activity at recess.



What do I need to know about students returning to school after a concussion?

Supporting a student recovering from a concussion requires a collaborative approach among school professionals, health care professionals, parents, and students. All school staff, such as teachers, school nurses, counselors, administrators, speech-language pathologists, coaches, and others should be informed about a returning student's injury and symptoms, as they can assist with the transition process and making accommodations for a student. If symptoms persist, a 504 meeting may be called. Section 504 Plans are implemented when students have a disability (temporary or permanent) that affects their performance in any manner. Services and accommodations for students may include speech-language therapy, environmental



School Policies:

Students Returning to School after a Concussion

Check with your school administrators to see if your district or school has a policy in place to help students recovering from a concussion succeed when they return to school. If not, consider working with your school administration to develop such a policy. Policy statements can include the district's or school's commitment to safety, a brief description of concussion, a plan to help students ease back into school life (learning, social activity, etc.), and information on when students can safely return to physical activity following a concussion.

adaptations, curriculum modifications, and behavioral strategies.

Encourage teachers and coaches to monitor students who return to school after a concussion. Students may need to limit activities while they are recovering from a concussion. Exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games, may cause concussion symptoms (such as headache or tiredness) to reappear or get worse. After a concussion, physical and cognitive activities—such as concentration and learning—should be carefully monitored and managed by health and school professionals.

If a student already had a medical condition at the time of the concussion (such as chronic headaches), it may take longer to

recover from the concussion. Anxiety and depression may also make it harder to adjust to the symptoms of a concussion.

School professionals should watch for students who show increased problems paying attention, problems remembering or learning new information, inappropriate or impulsive behavior during class, greater irritability, less ability to cope with stress, or difficulty organizing tasks. Students who return to school after a concussion may need to:

- Take rest breaks as needed,
- Spend fewer hours at school,
- Be given more time to take tests or complete assignments,
- Receive help with schoolwork, and/or
- Reduce time spent on the computer, reading, or writing.

It is normal for a student to feel frustrated, sad, and even angry because s/he cannot return to recreation or sports right away, or cannot keep up with schoolwork. A student may also feel isolated from peers and social networks. Talk with the student about these issues and offer support and encouragement. As the student's symptoms decrease, the extra help or support can be gradually removed.

What can I do to prevent and prepare for a concussion?

Here are some steps you can take to prevent concussions in school and ensure the best outcome for your students:

Prepare a concussion action plan. To ensure that concussions are identified early and managed correctly, have an action plan in place before the start of the school year. This plan can be included in your school or district's concussion policy. You can use the online action plan for sports and recreation activities at: www.cdc.gov/concussion/response/html. Be sure that other appropriate school and athletic staff know about the plan and have been trained to use it.

Educate parents, teachers, coaches, and students about concussion. Parents, teachers, and coaches know their students well and may be the first to notice when a student is not acting normally. Encourage teachers, coaches, and students to:

- Learn about the potential long-term effects of concussion and the dangers of returning to activity too soon.
- Look out for the signs and symptoms of concussion and send students to see you if they observe any or even suspect that a concussion has occurred.
- View videos about concussion online at: www.cdc.gov/Concussion.

Prevent long-term problems. A repeat concussion that occurs before the brain recovers from the previous concussion—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions

can result in edema (brain swelling), permanent brain damage, and even death. Keep students with a known or suspected concussion out of physical activity, sports, or playground activity on the day of the injury and until a health care professional with experience in evaluating for concussion says they are symptom-free and it is OK for the student to return to play.

Create safe school environments.

The best way to protect students from concussions is to prevent concussions from happening. Make sure your school has policies and procedures to ensure that the environment is a safe, healthy place for students. Talk to all school staff and administrators and encourage them to keep the physical space safe, keep stairs and hallways clear of clutter, secure rugs to the floor, and check the surfaces of all areas where students are physically active, such as playing fields and playgrounds. Playground surfaces should be made of shock-absorbing material, such as hardwood mulch or sand, and maintained to an appropriate depth. Proper supervision of students is also important.



For more detailed information about concussion diagnosis and management, please download *Heads Up: Facts for Physicians about Mild Traumatic Brain Injury* from CDC at: www.cdc.gov/Concussion.



Monitor the health of your student athletes.

Make sure to ask whether an athlete has ever had a concussion and insist that your athletes are medically

evaluated and are in good condition to participate in sports. Keep track of athletes who sustain concussions during the school year. This will help in monitoring injured athletes who participate in multiple sports throughout the school year.

Some schools conduct preseason baseline testing (also known as neurocognitive tests) to assess brain function—learning and memory skills, ability to pay attention or concentrate, and how quickly someone can think and solve problems. If an athlete has a concussion, these tests can be used again during the season to help identify the effects of the injury. Before the first practice, determine whether your school would consider baseline testing.

Again, remember your concussion ABCs:

- A—Assess the situation
- B—Be alert for signs and symptoms
- C—Contact a health care professional

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* For more information on concussion and to order additional materials for school professionals **FREE-OF-CHARGE**, visit: www.cdc.gov/Concussion.

PREPARTICIPATION PHYSICAL EVALUATION HISTORY FORM

(Note: This form is to be filled out by the patient and parent prior to seeing the physician. The physician should keep this form in the chart.)

Date of Exam _____
 Name _____ Date of birth _____
 Sex _____ Age _____ Grade _____ School _____ Sport(s) _____

Medicines and Allergies: Please list all of the prescription and over-the-counter medicines and supplements (herbal and nutritional) that you are currently taking

Do you have any allergies? Yes No If yes, please identify specific allergy below.

Medicines Pollens Food Stinging Insects

Explain "Yes" answers below. Circle questions you don't know the answers to.

GENERAL QUESTIONS	Yes	No	MEDICAL QUESTIONS	Yes	No
1. Has a doctor ever denied or restricted your participation in sports for any reason?			26. Do you cough, wheeze, or have difficulty breathing during or after exercise?		
2. Do you have any ongoing medical conditions? If so, please identify below: <input type="checkbox"/> Asthma <input type="checkbox"/> Anemia <input type="checkbox"/> Diabetes <input type="checkbox"/> Infections Other: _____			27. Have you ever used an inhaler or taken asthma medicine?		
3. Have you ever spent the night in the hospital?			28. Is there anyone in your family who has asthma?		
4. Have you ever had surgery?			29. Were you born without or are you missing a kidney, an eye, a testicle (males), your spleen, or any other organ?		
HEART HEALTH QUESTIONS ABOUT YOU	Yes	No	30. Do you have groin pain or a painful bulge or hernia in the groin area?		
5. Have you ever passed out or nearly passed out DURING or AFTER exercise?			31. Have you had infectious mononucleosis (mono) within the last month?		
6. Have you ever had discomfort, pain, tightness, or pressure in your chest during exercise?			32. Do you have any rashes, pressure sores, or other skin problems?		
7. Does your heart ever race or skip beats (irregular beats) during exercise?			33. Have you had a herpes or MRSA skin infection?		
8. Has a doctor ever told you that you have any heart problems? If so, check all that apply: <input type="checkbox"/> High blood pressure <input type="checkbox"/> A heart murmur <input type="checkbox"/> High cholesterol <input type="checkbox"/> A heart infection <input type="checkbox"/> Kawasaki disease Other: _____			34. Have you ever had a head injury or concussion?		
9. Has a doctor ever ordered a test for your heart? (For example, ECG/EKG, echocardiogram)			35. Have you ever had a hit or blow to the head that caused confusion, prolonged headache, or memory problems?		
10. Do you get lightheaded or feel more short of breath than expected during exercise?			36. Do you have a history of seizure disorder?		
11. Have you ever had an unexplained seizure?			37. Do you have headaches with exercise?		
12. Do you get more tired or short of breath more quickly than your friends during exercise?			38. Have you ever had numbness, tingling, or weakness in your arms or legs after being hit or falling?		
HEART HEALTH QUESTIONS ABOUT YOUR FAMILY	Yes	No	39. Have you ever been unable to move your arms or legs after being hit or falling?		
13. Has any family member or relative died of heart problems or had an unexpected or unexplained sudden death before age 50 (including drowning, unexplained car accident, or sudden infant death syndrome)?			40. Have you ever become ill while exercising in the heat?		
14. Does anyone in your family have hypertrophic cardiomyopathy, Marfan syndrome, arrhythmogenic right ventricular cardiomyopathy, long QT syndrome, short QT syndrome, Brugada syndrome, or catecholaminergic polymorphic ventricular tachycardia?			41. Do you get frequent muscle cramps when exercising?		
15. Does anyone in your family have a heart problem, pacemaker, or implanted defibrillator?			42. Do you or someone in your family have sickle cell trait or disease?		
16. Has anyone in your family had unexplained fainting, unexplained seizures, or near drowning?			43. Have you had any problems with your eyes or vision?		
BONE AND JOINT QUESTIONS	Yes	No	44. Have you had any eye injuries?		
17. Have you ever had an injury to a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?			45. Do you wear glasses or contact lenses?		
18. Have you ever had any broken or fractured bones or dislocated joints?			46. Do you wear protective eyewear, such as goggles or a face shield?		
19. Have you ever had an injury that required x-rays, MRI, CT scan, injections, therapy, a brace, a cast, or crutches?			47. Do you worry about your weight?		
20. Have you ever had a stress fracture?			48. Are you trying to or has anyone recommended that you gain or lose weight?		
21. Have you ever been told that you have or have you had an x-ray for neck instability or atlantoaxial instability? (Down syndrome or dwarfism)			49. Are you on a special diet or do you avoid certain types of foods?		
22. Do you regularly use a brace, orthotics, or other assistive device?			50. Have you ever had an eating disorder?		
23. Do you have a bone, muscle, or joint injury that bothers you?			51. Do you have any concerns that you would like to discuss with a doctor?		
24. Do any of your joints become painful, swollen, feel warm, or look red?			FEMALES ONLY		
25. Do you have any history of juvenile arthritis or connective tissue disease?			52. Have you ever had a menstrual period?		
			53. How old were you when you had your first menstrual period?		
			54. How many periods have you had in the last 12 months?		

Explain "yes" answers here

I hereby state that, to the best of my knowledge, my answers to the above questions are complete and correct.

Signature of athlete _____ Signature of parent/guardian _____ Date _____

■ PREPARTICIPATION PHYSICAL EVALUATION

THE ATHLETE WITH SPECIAL NEEDS: SUPPLEMENTAL HISTORY FORM

Date of Exam _____

Name _____ Date of birth _____

Sex _____ Age _____ Grade _____ School _____ Sport(s) _____

1. Type of disability		
2. Date of disability		
3. Classification (if available)		
4. Cause of disability (birth, disease, accident/trauma, other)		
5. List the sports you are interested in playing		
	Yes	No
6. Do you regularly use a brace, assistive device, or prosthetic?		
7. Do you use any special brace or assistive device for sports?		
8. Do you have any rashes, pressure sores, or any other skin problems?		
9. Do you have a hearing loss? Do you use a hearing aid?		
10. Do you have a visual impairment?		
11. Do you use any special devices for bowel or bladder function?		
12. Do you have burning or discomfort when urinating?		
13. Have you had autonomic dysreflexia?		
14. Have you ever been diagnosed with a heat-related (hyperthermia) or cold-related (hypothermia) illness?		
15. Do you have muscle spasticity?		
16. Do you have frequent seizures that cannot be controlled by medication?		

Explain "yes" answers here

Please indicate if you have ever had any of the following.

	Yes	No
Atlantoaxial instability		
X-ray evaluation for atlantoaxial instability		
Dislocated joints (more than one)		
Easy bleeding		
Enlarged spleen		
Hepatitis		
Osteopenia or osteoporosis		
Difficulty controlling bowel		
Difficulty controlling bladder		
Numbness or tingling in arms or hands		
Numbness or tingling in legs or feet		
Weakness in arms or hands		
Weakness in legs or feet		
Recent change in coordination		
Recent change in ability to walk		
Spina bifida		
Latex allergy		

Explain "yes" answers here

I hereby state that, to the best of my knowledge, my answers to the above questions are complete and correct.

Signature of athlete _____ Signature of parent/guardian _____ Date _____

PREPARTICIPATION PHYSICAL EVALUATION PHYSICAL EXAMINATION FORM

Name _____ Date of birth _____

PHYSICIAN REMINDERS

- Consider additional questions on more sensitive issues
 - Do you feel stressed out or under a lot of pressure?
 - Do you ever feel sad, hopeless, depressed, or anxious?
 - Do you feel safe at your home or residence?
 - Have you ever tried cigarettes, chewing tobacco, snuff, or dip?
 - During the past 30 days, did you use chewing tobacco, snuff, or dip?
 - Do you drink alcohol or use any other drugs?
 - Have you ever taken anabolic steroids or used any other performance supplement?
 - Have you ever taken any supplements to help you gain or lose weight or improve your performance?
 - Do you wear a seat belt, use a helmet, and use condoms?
- Consider reviewing questions on cardiovascular symptoms (questions 5–14).

EXAMINATION		
Height _____	Weight _____	<input type="checkbox"/> Male <input type="checkbox"/> Female
BP _____ / _____ (_____ / _____)	Pulse _____	Vision R 20/ _____ L 20/ _____ Corrected <input type="checkbox"/> Y <input type="checkbox"/> N
MEDICAL	NORMAL	ABNORMAL FINDINGS
Appearance <ul style="list-style-type: none"> Marfan stigmata (kyphoscoliosis, high-arched palate, pectus excavatum, arachnodactyly, arm span > height, hyperlaxity, myopia, MVP, aortic insufficiency) 		
Eyes/ears/nose/throat <ul style="list-style-type: none"> Pupils equal Hearing 		
Lymph nodes		
Heart ^a <ul style="list-style-type: none"> Murmurs (auscultation standing, supine, +/- Valsalva) Location of point of maximal impulse (PMI) 		
Pulses <ul style="list-style-type: none"> Simultaneous femoral and radial pulses 		
Lungs		
Abdomen		
Genitourinary (males only) ^b		
Skin <ul style="list-style-type: none"> HSV, lesions suggestive of MRSA, tinea corporis 		
Neurologic ^c		
MUSCULOSKELETAL		
Neck		
Back		
Shoulder/arm		
Elbow/forearm		
Wrist/hand/fingers		
Hip/thigh		
Knee		
Leg/ankle		
Foot/toes		
Functional <ul style="list-style-type: none"> Duck-walk, single leg hop 		

^aConsider ECG, echocardiogram, and referral to cardiology for abnormal cardiac history or exam.

^bConsider GU exam if in private setting. Having third party present is recommended.

^cConsider cognitive evaluation or baseline neuropsychiatric testing if a history of significant concussion.

- Cleared for all sports without restriction
- Cleared for all sports without restriction with recommendations for further evaluation or treatment for _____

- Not cleared
- Pending further evaluation
 - For any sports
 - For certain sports _____
- Reason _____

Recommendations _____

I have examined the above-named student and completed the preparticipation physical evaluation. The athlete does not present apparent clinical contraindications to practice and participate in the sport(s) as outlined above. A copy of the physical exam is on record in my office and can be made available to the school at the request of the parents. If conditions arise after the athlete has been cleared for participation, the physician may rescind the clearance until the problem is resolved and the potential consequences are completely explained to the athlete (and parents/guardians).

Name of physician (print/type) _____ Date _____

Address _____ Phone _____

Signature of physician _____, MD or DO

■ PREPARTICIPATION PHYSICAL EVALUATION CLEARANCE FORM

Name _____ Sex M F Age _____ Date of birth _____

Cleared for all sports without restriction

Cleared for all sports without restriction with recommendations for further evaluation or treatment for _____

Not cleared

Pending further evaluation

For any sports

For certain sports _____

Reason _____

Recommendations _____

I have examined the above-named student and completed the preparticipation physical evaluation. The athlete does not present apparent clinical contraindications to practice and participate in the sport(s) as outlined above. A copy of the physical exam is on record in my office and can be made available to the school at the request of the parents. If conditions arise after the athlete has been cleared for participation, the physician may rescind the clearance until the problem is resolved and the potential consequences are completely explained to the athlete (and parents/guardians).

Name of physician (print/type) _____ Date _____

Address _____ Phone _____

Signature of physician _____, MD or DO

EMERGENCY INFORMATION

Allergies _____

Other information _____

Lacerations

- Wearing gloves, control bleeding with direct pressure (may take 7-10 minutes).
- **Call 911** if pulses further away from the heart than the laceration are absent or if bleeding cannot be controlled.
- Clean laceration with soap and water, dry laceration and cover with a clean bandage.
- Notify parents to have student evaluated for possible stitches (should be seen same day, within four hours) if wound is:
 - Gaping open or longer than ½ inch
 - Significantly contaminated
 - On the face, hand or foot
 - With tissue protruding
 - There is a crush injury
 - Keep student NPO (nothing by mouth), if stitches are a possibility
 - Do not apply ointment of any kind
 - Un/undervaccinated

Puncture Wounds

- **Deep puncture wounds of the foot, especially, may become infected and must receive medical attention.**
- Wearing gloves, rinse the wound thoroughly.
- Wash with soap and water, and dry.
- Do not probe or remove penetrating object.
- Apply clean dressing.
- Do not allow weight-bearing if there is a suspected foreign body in the foot. This may be the case even if a penetrating object has been removed.

Note: Notify parents to seek medical advice regarding injury and tetanus immunization status.

Snake Bites

- Bites should receive medical attention, whether from poisonous or non-poisonous snakes.
- **Call 911** and Georgia Poison Control Center (404-616-9000).
- Keep the student quiet and calm, lying down.
- Immobilize the bitten extremity, at or below the level of the heart. Remove jewelry at site of injury, as swelling may progress rapidly.
- Wash the area with soap and water.
- If snake is killed, bring with student to hospital.
- Note characteristics of snake: color, shape of head, pits, etc.

Spinal Injury, Suspected

- Immobilize head, cervical spine and neck. Do not move student.
- **Call 911.**
- Give aid as needed to maintain airway (use jaw thrust maneuver) and breathing, control bleeding, manage shock.

Sports Injuries

Safe Kids USA has estimated that each year, approximately 715,000 sports and recreation injuries occur in school settings alone. Additionally, nearly three-quarters of U.S. households with school-age children have at least one child who plays organized sports.

Consider these sports injury-related statistics provided by Safe Kids Georgia:

- Collision and contact sports are associated with higher rates of injury. However, injuries from individual sports tend to be more severe.
- The most common sports-related injuries in children are sprains (ankle), muscle strains, bone injury, repetitive motion injuries and heat-related injuries.
- The rate and severity of sports-related injury increases with the age of the child.
- Most organized sports-related injuries occur during practices (62 percent), rather than games.
- From 2001 through 2009, it is estimated that there are 1,770,000 emergency department visits, 6 percent of these for traumatic brain injuries, among children ages 14 and under for injuries related to sports or recreation.
- According to the CDC, overall the activities associated with the greatest Traumatic Brain Injury (TBI)-related ED visits include bicycling, football, playground activities, basketball and soccer.¹
- National surveillance of nine high school sports, revealed that numbers and rates of sports-related concussions are highest in football (55,007; 0.47 per 1000 athlete exposures) and girls' soccer (29,167; 0.36 per 1000 athlete exposures).

Many of these sports- and recreation-related injuries can be prevented through basic interventions and steps such as using protective safety gear, proper physical and psychological conditioning, a safe environment, adequate adult supervision and enforcement of safety rules. Pre-participation sports physicals are very important and can help eliminate unforeseen medical problems with athletes. The American Academy of Pediatrics recommends that before beginning a formal strength-training program, a medical evaluation should be performed by a pediatrician or family physician.²

Additionally, proper resistance techniques and safety precautions should be followed so the strength-training programs for preadolescents and adolescents are safe and effective. Proper technique and strict supervision by a qualified instructor are critical safety components in any strength-training program involving preadolescents and adolescents. Any sign of illness or injury from strength training should be evaluated fully before allowing resumption of the exercise program. The school nurse may play a role in tracking the types and numbers of injury, encouraging provision of adequate hydration, emphasizing the importance of safety gear and providing excellent first aid and referrals as needed.

Health education and physical education classes should include information on the importance of physical conditioning, adequate hydration, using proper protective equipment, and paying attention to any symptoms that develop and injuries that may occur in normal play.

See Preparticipation Physical Evaluation Form in Prevention and Preparedness Section of this Chapter.

See also resources from the Sports Medicine Program at Children's Healthcare of Atlanta.

choa.org/Childrens-Hospital-Services/Orthopaedics/Programs-Services/Sports-Medicine/Sports-Injuries-and-Conditions/Sports-Tips

¹ CDC Concussion in Sports and Play: Get the Facts, Fact Sheet; From cdc.gov/traumaticbraininjury/get_the_facts.html. Retrieved on 8/17/2015.

² AAP Policy Statement from the Council on Sports Medicine and Fitness; Strength Training by Children and Adolescents. *Pediatrics*, 121, no.4 (2008): 835-840.

Acute Orthopedic Sports Injuries (see Fractures, Sprains, Strains in this Chapter for specific treatment):

- Fractures are more common in growing children than sprains and strains. Look for pain, point-tenderness over growth plates, swelling and potential deformity, and check neurovascular status (pulses, capillary refill, skin color, temperature, sensation and motor function) frequently whenever a fracture is suspected.
- Dislocations occur when joints slip out of their normal position.
- Sprains happen when ligaments stretch or tear.
- Strains occur with stretching or tearing of tendons or muscles. Simple first aid treatment of these injuries includes P-R-I-C-E (Protect, Rest, Ice, Compress-gently and Elevate).

Whenever a fracture is suspected or a child complains of significant pain, the extremity should be splinted or immobilized in the position of comfort until further medical evaluation is complete.

Overuse Injuries

These injuries occur with chronic repetitive stress to normal tissues, producing an inflammation or irritation of the growth centers at the ends of the long bones. They are commonly seen in the 8-15-year-old age group. Overuse injuries can be caused or aggravated by inadequate warm-up, excessive duration or frequency of playing, improper technique or unsuitable equipment/shoes. Pain is with activity; tenderness is usually localized, and there are usually no other significant abnormalities. Examples include swimmer's shoulder, Little League elbow, gymnast's wrist and shin splints.

Overuse injuries include:

- Osgood-Schlatter Disease is the most common of the named overuse injuries. The patellar tendon of the thigh muscle pulls and overworks the growth plate of the tibia, causing a painful inflammation, especially with running and jumping, and a small bony prominence results below the knee. orthoinfo.aaos.org/en/diseases--conditions/osgood-schlatter-disease-knee-pain/
- Sinding-Larsen-Johansson Syndrome is an overuse injury causing anterior knee pain at the inferior pole of patella at the proximal patella tendon attachment; very similar to Osgood Schlatter disease, as both are overuse injuries. The location of pain is due to the insertion of the patellar tendon at the inferior pole of the patella in SLJ or at the tibial tuberosity in OSD.
- Sever's disease is an inflammation of the growth center of the heel bone (calcaneus), which occurs from both repetitive activities, such as running and jumping, as well as pulling of the Achilles tendon at its attachment point on the growth plate.

Treatment of overuse injuries is aimed at reducing symptoms—ice can be used for 20-30 minutes after activities and again in the evening. Parents should consult their healthcare provider about pain medication and activity modification.

Sports and Other Medical Conditions

Anabolic Steroids (and so-called "natural" muscle-building and performance-enhancing supplements) are sometimes used by student athletes in some areas. Anabolic steroids, commonly called "roids," "juice," "hype," "gym candy," "andro," "stackers," "pumpers," or "pump" by users, can be taken orally or by injection.

Oral steroids include Anadrol, Anavar, Dianabol and Winstrol. Injectable steroids include Deca-Durabolin, Durabolin, Depo-testosterone and Equipoise. Side effects of anabolic steroids include liver damage, testicular atrophy and impotence in males, amenorrhea and breast atrophy in females; severe acne; increased cholesterol; increased blood pressure; decreased glucose tolerance; growth plate damage; hirsutism; mood swings; aggressiveness; depression and addiction.

Ephedra-containing preparations are also used for weight loss, energy and performance enhancement. Side effects of these include nervousness, increased heart rate and blood pressure, palpitations, constriction of blood vessels, seizures and stroke. School nurses, trainers and coaches should stress the dangers of these supplements to student athletes, especially anabolic steroids and supplements containing ephedra. Perhaps most effective in the teen population is that anabolic steroids will cause a premature halt in physical growth (height). healthychildren.org/English/ages-stages/teen/substance-abuse/Pages/Anabolic-Steroids.aspx

Exercise-induced asthma is often seen, and exercise may be the only time these children experience asthma symptoms. Wheezing, persistent cough or chest tightness with exercise can often be prevented with a quick relief inhaler used before the activity, and students with asthma should always have ready access to their quick relief inhaler whenever symptoms occur. Parents should be encouraged to consult the child's healthcare provider if asthma symptoms with exercise are a concern.

Dehydration can occur when an athlete is trying to "make weight" to qualify to play sports like wrestling. Exercise in hot conditions with inadequate hydration is common and can be life-threatening. Marching band practices and performances, as well as sports practices and games, could also be potential situations where dehydration may occur. Coaches and trainers should provide and encourage constant and easy access to water during practices and games, and avoid practices in the hottest part of the day. Early morning practices are the safest in the hottest areas and times of year.

Recommendations for proper hydration during sports and activities: "Sufficient, sanitary, and appropriate fluid should be readily accessible and consumed at regular intervals before, during, and after all sports participation and other physical activities to offset sweat loss and maintain adequate hydration while avoiding overdrinking. Generally, 100 to 250 mL (approximately 3–8 oz) every 20 minutes for 9- to 12-year-olds and up to 1.0 to 1.5 L (approximately 34–50 oz) per hour for adolescent boys and girls is enough to sufficiently minimize sweating-induced body-water deficits during exercise and other physical activity as long as their preactivity hydration status is good. Preactivity to postactivity body-weight changes can provide more specific insight to a person's hydration status and rehydration needs.

Although water is often sufficient to maintain adequate hydration, long-duration (eg, ≥ 1 -hour) or repeated same-day sessions of strenuous exercise, sport participation, or other physical activity might warrant including electrolyte-supplemented beverages that emphasize sodium to more effectively optimize rehydration. This is especially justified in warm- to hot-weather conditions, when sweat loss is extensive." (Pediatrics, September 2011, Vol. 128, Issue 3)

Eye Injuries, including corneal abrasions, detached retinas and bleeding in the eye chamber, can occur in any sport and require immediate medical attention. Keep head elevated at 45 degrees from bed/ground. Keep child calm and relaxed. If there is any suggestion that the globe is ruptured, DO NOT put anything into the eye. Do not rub the eye. If there was a chemical contamination or spill into the eye, call the Georgia Poison Center (404-616-9000 or 1-800-222-1222) and irrigate the eye with water.

Head Injuries / Concussions may be inadequately managed when they occur, especially when more subtle signs of injury are not recognized during an athletic event. Repeated concussions can cause decreased performance in learning activities. No sport is "immune" from head injuries. Therefore, it is essential that all head injuries that occur during sports are evaluated promptly and the student be allowed to rest. It is highly recommended for students to be cleared by a doctor before returning to sports.

Refer to the Injury Management section in this Chapter for specific information on assessment of Head Injuries / Concussions. Refer to the Prevention and Preparedness section in this Chapter for information on Concussion ABCs. For information on chronic issues related to Brain Injury / Concussion or services available through the Children's Healthcare of Atlanta Sports Medicine program, refer to Chapter 5.

Low Blood Sugar can occur while involved in physical activity. Monitor for signs and symptoms. Children with known diabetes should check blood sugar prior to participating in and every hour of physical activity (see Hyperglycemia and Hypoglycemia Charts and the Diabetes section of Chapter 5 for additional information).

Menstrual Irregularities (athletic amenorrhea) are common, especially with long-distance female athletes. Menses usually returns after the training season.

Tinea Rashes (fungal infections) are common whenever moist conditions are shared (i.e., showers, mats). These rashes are usually easily treated with pharmacist-recommended over-the-counter medications, unless they involve the scalp or nail beds.

Stings and Insect Bites (See also Allergic Reactions)

Minor bites and stings

Symptoms: Redness, swelling, pain at site of sting

- If you see a stinger, remove it by flicking it out gently with an object like a driver's license or credit card.
- Do not squeeze the stinger.
- Wash with soap and water.
- Apply cold compress, and observe.

Severe reactions (Anaphylaxis), whether previous allergy known or not.

Symptoms: Facial swelling, respiratory distress, wheezing, persistent cough, severe hives, dizziness (child does not have to have ALL of these symptoms to have a severe allergic reaction; if two of more body systems are involved, or child has low blood pressure after a known exposure, treat for anaphylaxis)

- **Administer EpiPen and call 911 (use Anaphylaxis Action Plan).**
- Notify parents.
- If you see a stinger, remove it by flicking it out gently.
- Wash with soap and water.
- Apply cold pack to the affected area.
- Lay student flat on their back (in supine position) and elevate legs, as respiratory status tolerates.
- Facial swelling in itself does not necessarily warrant 911, particularly if it is localized away from the mouth.

Marked lip swelling or any tongue swelling (as evidenced by abnormal speech, raspy or hoarse voice) would warrant 911 and EpiPen use.

Emergency Medical Concerns

Abdominal Pain

- Allow student to rest in position of comfort.
- Check child's temperature.
- Notify parents/school nurse for severe pain, persistent pain or pain made worse with movement; pain associated with vomiting or vaginal bleeding; or pain located in the right lower area of the abdomen. (Be alert for possible appendicitis, ectopic pregnancy, ovarian/testicular torsion or ovarian cyst.)
- Ask if child has eaten, needs to go to the bathroom.
- Do not give anything by mouth unless pain is minimal and child states he missed a meal and feels hungry.

Allergic Reaction, Anaphylaxis

Students with known history of severe allergies should be known to appropriate school staff, and should have an Anaphylaxis/ Allergy Action Plan available at all times.

Facts about Allergies

- Insects whose stings or bites can cause allergies include bees, hornets, yellow jackets, wasps, ants, deer flies, black flies and yellow flies.
- Foods that most commonly cause allergic reactions in children are peanuts, tree nuts (almonds, pecans, walnuts, etc.), milk, eggs, soy, fish, shellfish and wheat. Often, allergies to milk, eggs and wheat may be outgrown; but allergies to nuts and seafood are more often lifelong. For additional information on food allergies, please refer to this "Clinical Report – Management of Food Allergy in the School Setting" at pediatrics.aappublications.org/content/early/2010/11/29/peds.2010-2575.
- Latex allergies can occur in children, especially children with severe chronic conditions such as spina bifida.
- The amount of exposure to the allergen that will cause a reaction varies from person to person. Ingesting even a tiny amount of food containing the allergen can often be a problem.
- Symptoms of a minor reaction include watery, itchy eyes; a stuffy nose; hives; or sneezing.
- Specific reactions to allergens vary from person to person as well. One child may have nausea and vomiting, and another may have hives and wheezing when exposed to the same offending allergen.
- Anaphylaxis symptoms often appear within one to five minutes, or may be delayed for several hours after exposure to the allergen. Anaphylaxis symptoms usually occur within 30 minutes of exposure.
- Each exposure to the allergen carries the potential for a more severe reaction.
- Insect sting allergy can cause fatal anaphylaxis, similar to food allergy. Allergic reactions to insect stings should be treated just like allergic reactions to foods— by giving epinephrine quickly. Unlike food allergy, insect sting allergy can be cured by insect-allergy shots that are given in an allergy physician's office on a regular basis. If a child has had a systemic allergic or severe reaction to an insect sting, the parents and the student should be told to ask his/her physician for a referral to an allergist for further evaluation and treatment to cure the life-threatening condition of insect sting allergy.
- The Asthma & Allergy Foundation state that more than 50 million Americans suffer from allergies. They are the sixth leading cause of chronic health diseases in the U.S. (all ages) and the third most common chronic health condition in children under 18 years of age (2015 data).

Allergic Reaction, Severe

An emergency situation may occur at any time or any place during the school day when a hypersensitive student is exposed to an allergen. Allergens can include insect stings, foods such as peanuts and eggs, and products such as latex.

Allergic reactions (anaphylaxis) can be life-threatening within minutes, requiring the immediate availability of emergency medication and staff trained to use it. Anaphylaxis is the collection of symptoms of allergic reaction affecting multiple systems in the body, such as breathing difficulties, shock, hives, nausea, vomiting, abdominal pain and facial swelling. Anaphylaxis is both preventable and treatable.

Researchers believe the prevalence of allergies, especially food allergies, is increasing, and children are the largest group of the population affected. It is estimated that one to two percent of the population is at risk for anaphylaxis from food allergies, insect stings and other sources such as drugs and latex, so there is high likelihood of these children attending any school.

Identification and treatment protocols for students with risk of anaphylactic reactions should be prescribed by their healthcare provider and provided to the school by a parent/guardian. School personnel should create a systematic team approach for dealing with these students—including precautions to prevent exposure to known allergens and preparations to deal with emergencies that happen in spite of precautions.

All appropriate school personnel should be aware of students who have been prescribed epinephrine. Information about the specific allergy, warning signs of reactions, and Anaphylaxis Action Plan (at the end of this section) should be available to clinic personnel, administrators, teachers and school staff including cafeteria workers. To provide confidentiality, these plans and lists should not be available or visible to other parents or students. This information should be discussed with parents and repeated for staff at the beginning of each school year. Appropriate school staff and faculty should receive annual training/in-service on this information for students who are in your school setting.

If emergency medication is prescribed, it should be clearly labeled with name and classroom of the student. Identified school personnel should be trained and updated regularly in the use of the injector and should know where it is kept. Expiration dates should be checked regularly, and parents should be notified when expiration time is within the month. Epinephrine should be kept in easily accessible locations. The epinephrine injector should be taken along whenever the child goes on field trips or other outings away from the school building.

If a severe allergic reaction (anaphylaxis) occurs, there are “3 R’s” for handling the reaction:

(adapted from the Food Allergy Network’s School Food Allergy Program):

- Recognize the symptoms.
- React quickly.
- Review what caused the reaction, and how well the emergency plan worked.

RECOGNIZE THE SYMPTOMS

Symptoms can occur in the skin, respiratory tract, gastrointestinal tract, and/or cardiovascular system and can include:

- Itchy skin, eyes, mouth or throat
- Hives (itchy, reddened, raised rash on any area of skin)
- Swelling of any body parts—eyes and lips especially
- Itching, swelling or tightness of the throat, often with a change of voice
- Runny or stuffy nose
- Red, watery eyes
- Coughing, usually a dry, shallow cough
- Wheezing

- Difficulty breathing; “chest feels tight”
- Difficulty swallowing
- Sense of doom or increased anxiety
- Dizziness
- Fainting or loss of consciousness
- Change of color (pale or blue).

The definition of anaphylaxis does not require a person to have all those symptoms. Epinephrine should be given if someone recognizes that any of those symptoms are present and there is reasonable evidence to think that the symptoms are due to an allergic reaction. Reactions can progress from one or more of the minor symptoms to difficulty breathing and loss of consciousness in a matter of minutes, so early recognition of symptoms is key.

REACT QUICKLY

Symptoms can progress quickly:

- Follow the Anaphylaxis Action Plan; remain calm.
- Use Epipen®/EpipenJr®.
- **Call 911** and parents (as symptoms may recur in 10-20 minutes, even if Epipen®/EpipenJr® was used).
- All people who receive epinephrine should then be made to lay flat on their back on the floor, with legs elevated, unless respiratory status does not tolerate this position. Epinephrine can be injected into thigh while person is standing, seated or lying down.
- Look for medical alert bracelet and/or check health information card to determine possible trigger.
- Keep student NPO (nothing by mouth).
- Encourage student to sit quietly, breathe slowly if primary problem is respiratory. If there are signs of shock, keep student supine with legs elevated.
- Maintain airway with head tilt, chin lift. Initiate CPR if needed.
- Give second dose of epinephrine using another auto injector in five to 20 minutes, if needed for symptoms that are worsening or not adequately improving.

Note: The EpiPen Jr. dose and the lower dose of the other epinephrine auto injector devices is 0.15 mg, which is designed for children weighing between approximately 30 to 65 pounds. In an emergency situation, if the 0.15 mg device is unavailable and the only device that is available is Epinephrine 0.3 mg, that 0.3 mg dose should be given even if the child weighs less than 65 pounds. It is preferable to give the 0.3 mg dose rather than withholding epinephrine. The reason why is because if no epinephrine is given, the child may die. There is no evidence that the 0.3 mg dose will harm a child weighing less than 65 lbs, and it could save his life.

Immediate notification of emergency team members by any school employee who sees any of these symptoms in a student (even a student not previously known to have allergies) is necessary for the best response. If possible, this notification should take place by phone, intercom, pager or walkie-talkie, since time is of the essence. The emergency team should, of course, be identified ahead of time—usually including the clinic personnel (school nurse if available), principal or designee, and other staff who are trained in first aid and CPR.

If emergency medication is kept in the classroom, the teacher should be notified to bring it to wherever the incident occurs. Someone should be designated ahead of time to notify EMS and parents. This person should have quick access to the Anaphylaxis Action Plan for the student. **Even if epinephrine is available and injected quickly, the student's symptoms can return after 10-20 minutes, so call 911 immediately after the injection.**

REVIEW

After the student has been cared for, the team needs to sit down and review what caused the reaction and how well the emergency plan worked. Usually it is best to do this the same day, while the incident is still fresh in everyone's mind. Everyone who was involved with the student before the incident was recognized, during the incident and with aftercare should be included in this meeting. Any need for changes should be discussed thoroughly and implemented immediately. Follow-up actions might include further training for staff, changes in location of equipment and medication and improved communication.

Some of the questions to ask include:

- Were preventive measures in place?
- How did the exposure occur?
- Was the recognition of symptoms prompt?
- Was the team notified appropriately?
- Were the details of the plan for this student readily available to the team?
- Did the team respond according to the plan?
- Were there problems with availability of medication, emergency equipment, notification of EMS and parents?

Epinephrine: Drug of Choice for Treatment of Anaphylaxis/Severe Allergic Reaction

Epinephrine is a natural hormone that the body releases frequently in response to stressful situations (i.e., you see a snake three feet away from you, you see a car slamming on brakes and almost hit you). It is also a "drug" used to treat allergic reactions. During an allergic reaction, while the nurse is getting out the EpiPen, the allergic-reaction victim's body has already begun releasing epinephrine.

Epinephrine is a drug (and natural hormone) that interferes with the body's response to an allergen. It acts in the body to relieve the respiratory symptoms of bronchospasm, reduce swelling and congestion in the throat and lungs, and helps counteract all of the symptoms of anaphylaxis. It therefore reverses hypotension, hives, swelling and GI symptoms. Epinephrine is available by prescription only and is available in three strengths, depending on the manufacturer.

- EpiPen® and EpiPen Jr.® are auto-injectors, about the size of a marker. Auvi-Q is approximately the size of a deck of cards. There are other epinephrine auto injectors that deliver the same epi doses, (though Auvi-Q is the only device that delivers a 0.1 mg dose), but the devices are not identical. Therefore, anyone who thinks they might give an epi injection must learn how to use the auto injector that the student or school has. The appropriate size should be ordered by the healthcare provider and available at all times in the school. The expiration date should be checked at the beginning of the year and noted carefully so that parents may be notified in a timely manner if it is to expiring soon.
- Emergency epinephrine is designed to be administered into the thigh muscle (through clothing if necessary).

INSTRUCTIONS FOR "EPIPEN"

- Pull off blue cap.
- Place orange tip against upper outer thigh.
- Press hard into outer thigh until pen clicks.
- Hold in place 3 seconds, and then remove. Someone else may need to help the child hold still.
- Send the used EpiPen®, EpiPenJr® with EMS personnel. Epipen has an orange plastic top that will automatically cover up the needle after it injects and the person that removes it from the thigh. Give it to the EMS personnel.
- **EMS (911) should still be called immediately** since a return of symptoms is possible within 5-20 minutes.
- The student should never be left alone until further medical attention is available.
- See also: epipen.com to learn more about anaphylaxis and treatment products.

In some cases, a student's healthcare provider may feel that an oral medication (antihistamine) can be used to treat minor symptoms. Commonly used antihistamines are:

- Diphenhydramine (Benadryl®)
- Hydroxyzine (Atarax®)
- Chlorpheniramine (Chlor-Trimeton®)

These are prescribed based on the student's weight. For those students that have difficulty swallowing pills, there are some antihistamines now in melt-away tabs.

For more information on Epinephrine, refer to Chapter 3, Administration of Medications – Epinephrine.

The Anaphylaxis/Allergy Action Plan is included on the next page.

Resource

American Academy of Allergy, Asthma & Immunology

aaaai.org/conditions-and-treatments/allergies/anaphylaxis.aspx

ANAPHYLAXIS ACTION PLAN

Date: _____

Name: _____ Age/DOB: _____

Allergy: Insect Sting Food Latex Medication

Food Allergies: _____

Other: _____

History of anaphylaxis: Yes No

History of asthma (high risk for severe reaction): Yes No

Other health problems besides anaphylaxis: _____

Other currently used medications: _____

Signs & Symptoms of Anaphylaxis May appear anxious or express a sense of pending doom

MOUTH itching, swelling of lips and/or tongue

THROAT* itching, tightness/closure, hoarseness

SKIN itching, hives, redness, swelling

GUT vomiting, diarrhea, cramps

LUNG* shortness of breath, cough, wheeze

HEART* weak pulse, dizziness, passing out

Only a few symptoms may be present. Severity of symptoms can change quickly.

**Some symptoms can be life-threatening - ACT FAST!*

ADMINISTER EPINEPHRINE IMMEDIATELY if **two or more** of above symptoms are present or **one** symptom after a known allergen exposure.

EPINEPHRINE IS THE FIRST LINE OF TREATMENT!

What to do in order of importance:

1. **ACT IMMEDIATELY:** Inject Auto-Injectable Epinephrine in thigh
 - EpiPen Jr. (0.15mg)
 - EpiPen (0.3 mg)
 - Other Auto-Injectable Epinephrine _____
2. **Call 911** or Rescue Squad
3. After giving epinephrine, lay the person on his back and raise the legs, as respiratory status tolerates, until the ambulance arrives. Observe for signs of improvement.
4. **If no improvement in 5-15 minutes, give second dose of epinephrine.**
5. Additional medications to be given: _____

IMPORTANT: ASTHMA INHALERS AND/OR ANTIHISTAMINES CAN'T BE DEPENDED ON IN ANAPHYLAXIS

EVENT REPORT: Please complete and send with patient to emergency department

Circle any symptoms above that were reported by patient or that you observed

Time patient first reported symptoms: _____ Date: _____

Time of first dose: _____ Time of second dose: _____

Name/Signature of person giving injection/treatment: _____

EMERGENCY CONTACT #1:

Name: _____ Phone: _____

Relationship: _____

EMERGENCY CONTACT #2:

Name: _____ Phone: _____

Relationship: _____

EMERGENCY CONTACT #3:

Name: _____ Phone: _____

Relationship: _____

Comments: _____

Parent/guardian permission to treat immediately

Signature/Date: _____

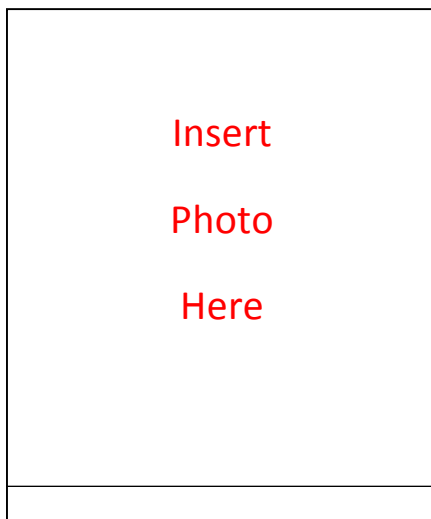
Healthcare Provider

Name: _____ Phone: _____

Signature/Date: _____

* This information is for general purposes and is not intended to replace the advice of a qualified health professional.

** This form was adapted from forms created by the Allergy & Asthma Network, Anaphylaxis Community Experts and the American Academy of Allergy, Asthma & Immunology.



Asthma, wheezing, difficulty breathing (See also Asthma, Chapter 5)

Students with history of asthma/breathing difficulties should be known to appropriate school staff and should have a health and emergency care plan (Asthma Action Plan, Chapter 5) developed and available at all times.

Early symptoms include coughing with exertion, recurring cough, mild wheezing. Later symptoms of increasing breathing difficulty include wheezing, rapid breathing, nasal flaring, increased use of chest muscles in breathing, feeling of chest tightness, excessive coughing, retractions, inability to speak a full sentence without stopping.

- Evaluate status of child.
- Follow Asthma Action Plan. Remain calm.
- Administer rescue inhaler or nebulization if available.
- Contact parent (especially if medication is not available).
- Encourage student to sit quietly, breathe out through pursed lips (extra pressure created helps to keep airways open).
- Observe student continuously.
- **Call 911** if unable to reach parent and/or breathing difficulty is getting worse.
- Maintain airway, initiate CPR, if needed.
- Keep student NPO (nothing by mouth).
- ALWAYS allow a child the use of their medication (albuterol) if they feel the need to use it; contact a parent AFTER allowing the child to use their medication if you have concerns.

For more details on this subject and for treatments, please refer to Chapter 5 and Chapter 6.

Breathing Stops

- **Have another staff member call 911 and call parents.**
- Open airway (head tilt, chin lift), check for breathing.
- If a spinal injury is suspected, use jaw-thrust maneuver.
- Begin CPR with artificial respirations, if needed.
- Perform measures for obstructed airway, if needed.

Chest Pain

Assess for:

- Level of pain
- History of trauma
- Illness
- Asthma (many children present with chest pain and no other symptoms, refer to asthma section of this Chapter)
- Sickle cell disease
- Vital signs (including apical pulse)
- Level of consciousness
- Respiratory effort
- Asymmetrical chest movement or abnormal appearance of chest

Note: To help assess level of pain, use a scale of 1 through 10 (10 being the worst level of pain), and/or for the really young student, use the Wong-Baker FACES Pain Rating Scale.

Severe pain

If pain is associated with any of the following symptoms, call 911 and notify parents.

While waiting, have student rest in position of comfort, observe continuously and reassess vital signs every three to five minutes:

- Severe chest pain
- Abnormal heart rate, palpitations
- Difficulty breathing or wheezing
- Anxiety, restlessness
- Diaphoresis, clammy, cool skin
- Nausea, weakness
- Cyanosis (blueness) of lips and nailbeds
- Capillary refill > three seconds
- Weak, thready or absent peripheral pulses
- Hypotension (low blood pressure)
- Decreased level of consciousness (or responsiveness).
- Have student describe if possible, his/her level of pain by using a scale of 1 to 10, 1 being the least amount of pain and 10 being the most pain.

Moderate chest pain

For chest pain lasting longer than three minutes, anxiety, elevation in vital signs, increased work of breathing:

- Encourage student to breathe slowly for one minute. Chest pain can be commonly associated with hyperventilation, especially in adolescents.
- **Do NOT have student breathe into a paper bag.**
- Monitor and support airway, breathing, circulation.
- Have student describe if possible, his/her level of pain by using a scale 1 to 10, 1 being the least amount of pain and 10 being the most pain.
- Rest in position of comfort.
- Observe continually, and **call 911** if any deterioration occurs.
- **Call 911 if pain persists for more than a few minutes AND is associated with any of the signs listed above under severe pain.**
- Notify parents.
- If student has history of sickle cell or increased work of breathing, assess temperature and notify parents immediately.

Mild chest pain

For chest pain with no history of trauma, asthma or sickle cell; no change in vital signs; no change in work of breathing:

- Allow student to rest in position of comfort and notify parents.
- Continue to monitor level of pain for any of the signs above under severe pain.

See also AEDs in Schools in the Prevention and Preparedness section of this Chapter.

Choking

If a student or staff member is found to be choking, use the choking guidelines that you were taught in your CPR certification class. All clinic personnel should be certified in CPR procedures.

The following is only a brief outline:

- Ask, "Are you choking?" If student is able to cough and talk, do nothing except observe and encourage coughing.

- If unable to cough, breathe, speak or if turning blue, use either the American Red Cross (ARC) methods of rescue or the American Heart Association (AHA) method of rescue; whichever one you have been certified in.

American Red Cross (ARC) method of rescue:

- Give five back blows between the shoulder blades with the heel of your hand.
- Give five Heimlich maneuver (abdominal thrusts).
- **Have someone call 911.**
- Continue alternating between back blows and Heimlich (abdominal thrusts) until the object is expelled or the student becomes unconscious.
- If unconscious, then follow the unconscious airway obstruction protocol.

American Heart Association (AHA) method of rescue:

- Omit the back blows (except for infants).
- Just do the Heimlich maneuver (abdominal thrusts).
- **Have someone call 911.**
- Continue with the Heimlich (abdominal thrusts) until the object is expelled or the student becomes unconscious.
- If unconscious, then follow the unconscious airway obstruction protocol.

Heimlich Maneuver (abdominal thrusts):

- For pregnant or too large a victim, use the upper chest technique.
- Standing behind victim, wrap arms around waist and grasp one fist with other hand.
- Press your fist, thumb side in, into the center of the victim's waist.
- Deliver firm, upward thrusts into the abdomen.

Dental Emergencies

Inflamed or irritated gum tissue

- Rinse red, swollen or sore gums well with warm salt water solution (½ teaspoon salt in a small glass of warm water) for one to two days only. Rinsing more than two days with salt water may result in further irritation to the gums. Direct parents to consult their dentist as soon as possible.
- Poor oral hygiene can cause inflamed, bleeding gum tissue. **Direct parents to consult their dentist as soon as possible.**
- Hormone changes such as puberty can cause hormonal gingivitis (a heightened response to the presence of plaque).
- Daily plaque removal by brushing and flossing will allow the gums to return to health.
- Toothpaste does not have to be used to remove plaque.
- A soft bristled wet toothbrush and dental floss can remove it.
- Bleeding gums may also be caused by a Vitamin C deficiency or a systemic problem.*
 - If the condition does not improve with good oral hygiene (brushing two to three times daily and flossing once a day), a dental consultation must be performed and possibly a medical evaluation.
- A blow (trauma) to the mouth can cause the gum tissue to swell and bleed.*
 - Gums and teeth should be kept clean to decrease the chance of an infection.
 - To help control swelling, a cold compress may be applied to the outside area to the cheek or lip.
 - To control bleeding, use sterile gauze (2 x 2 inch square) to apply direct pressure to the injured area.
- Give pain reliever with parent permission only.*

*See Important Notes under Dental First Aid Basic Supplies at the end of this section.

Canker Sores

Canker sores usually occur inside the mouth. They may be on the tongue and in the fold between the cheek and the gum tissue (vestibule).

- Canker sores may last approximately seven to 10 days (severity varies with each person).
- May present with localized fever, swelling and pain.
- Orabase* with benzocaine* may be applied for temporary relief if ordered.
- Rinse with warm salt water (½ teaspoon salt in a small glass of warm water) two to three times a day. Rinsing more days with salt water may result in further irritation of the gums.
- Avoid spicy and acidic foods.
- If condition persists for longer than 14 days, consult a dentist.

*See Important Notes under Dental First Aid Basic Supplies at the end of this section.

Cold Sores and Fever Blisters (may be herpetic and very contagious)

These are usually on the outside of the mouth, and commonly found on the lip or the skin directly around the lip. Cold sores and fever blisters usually recur in the same area each time.

- Avoid skin to skin contact—lesion may be contagious!
 - Apply petroleum jelly or Orabase* (with a Q-tip, cotton swab or gloved hands).
 - Avoid touching even one’s own sores as infection may spread to the eyes, hands, other areas of the body or to other people.
 - Avoid exposure to wind and sun.
- Lesions may last approximately seven to 10 days.
- Contact dentist if not healed in 14 days.
- Consult dentist for recommended over the counter (OTC) or prescription medications.

*See Important Notes under Dental First Aid Basic Supplies at the end of this section.

Toothache

Contact the parent or legal guardian if child has a toothache or other apparent dental emergency, and direct parent to see their dentist as soon as possible!

- Hot, Red and Swollen area needs IMMEDIATE Attention—Emergency Room.
- Check temperature by ear as orally is not recommended for toothache.
- Call and direct parent or legal guardian to take child to dentist as soon as possible.
- Rinse mouth vigorously with warm salt water to keep it clean.
- Use dental floss and toothbrush to remove any food trapped between teeth.
- If swelling is present, apply a cold compress to outside of cheek.
- Keep head elevated to reduce pressure to head area.
- Oil of cloves may be applied to the affected tooth with a cotton swab.
- DO NOT PLACE aspirin directly on the area—it will cause a chemical burn!
- Give pain reliever with parent or legal guardian’s permission only.

*See Important Notes under Dental First Aid Basic Supplies at the end of this section.

Prolonged or Recurrent Bleeding after Tooth Extraction (having a tooth pulled)

These activities create suction and can dislodge the blood clot in the extraction site.

- First 24 hours—do not rinse or swish.
- Do not use a straw when drinking beverages.*
- Do not drink or eat hot foods.
- Do not smoke for 48 hours.*

Do not be alarmed if there seems to be a lot of blood. Remember—the blood is mixing with saliva and may appear to be bleeding more.

If there is more than oozing (bright red) or it is frightening:

- At the extraction site, have the child bite down firmly on a sterile 2 x 2 inch gauze.
- Replace the gauze every 15 minutes for one hour.
- Encourage child not to chew on the gauze.
- If the bleeding persists, wrap a moistened tea bag in a sterile 2 x 2 inch gauze.
- Place the tea bag at the extraction site and have the child bite down for 30 to 45 minutes. Repeat as necessary.
- Avoid aspirin—it will reduce the blood's ability to clot.
- If bleeding cannot be controlled within an hour, **contact and direct the parent or legal guardian to call their dentist or physician IMMEDIATELY!**

*See Important Notes under Dental First Aid Basic Supplies at the end of this section.

Broken or Displaced Tooth

If tooth is broken, displaced or avulsed, **contact and direct the parent or legal guardian to take the child to a dentist AS SOON AS POSSIBLE!**

- Try to clean the soil, blood and other debris from the injured area with sterile gauze or cotton swab with warm water or diluted hydrogen peroxide.
- If the tooth is painful to touch, have child gently rinse with warm water or diluted hydrogen peroxide.
- To reduce swelling, apply a cold compress to cheek or lip area next to the injured tooth.
- If tooth/teeth is/are not out of alignment, check for tooth/teeth displacement by having child gently bite teeth together.
- Do not try to realign a tooth as this may cause more harm.
- If tooth has been pushed into the socket or gum, do not attempt to pull it into position. It may re-erupt normally on its own.
- If the broken tooth has created a sharp edge, it may be covered with wax to prevent tissue laceration.
- Wrap a sterile 2 x 2 inch gauze moistened with warm water around the tooth if it is sensitive to air when inhaling.

Traumatic Avulsion (loss of) Permanent Teeth

A permanent tooth that has been knocked out of the socket and has an intact root is an "avulsed" tooth. **Note: Baby teeth, which have been knocked out, cannot be replaced.**

- Contact the child's parent or legal guardian to take the child to their dentist immediately (within 30 to 60 minutes).
- Wearing gloves, control bleeding if needed with direct pressure.
- If the entire tooth is found:
 - Hold it by the crown and gently rinse the tooth with sterile or clean water.
 - DO NOT touch or scrub it, only remove gross amounts of dirt and debris. Removing any of the tissue or blood on the tooth will lessen the chances of a successful re-implantation.

- Try gently placing the tooth into the socket before the blood clot forms. It may take some force.
- Have child hold tooth in place by biting on clean gauze.
- If not current with his tetanus immunization, child should receive a booster injection within 24 hours. Tetanus (lockjaw) can cause serious health problems.
- If the child is uncooperative or the school nurse is uncomfortable with reinserting the tooth, place it in Hank's Balanced Salt Solution or a cup of milk. If not available, place it in a cup of sterile or clean water or saline.
- Look in the area where the tooth was knocked out to try to find it. **It is imperative to find it if at all possible!**
 - If tooth is found within one hour—many times it can be re-implanted and saved. **Time is extremely important.**
- If the tooth is broken off at the gumline, a root canal or possible extraction are the only options.

Lacerated Lip or Tongue

- Have child rinse mouth with warm water (vigorous bleeding may be expected at first).
- With gloves on, apply direct pressure to the bleeding area with moistened, sterile 2 x 2 inch gauze square, for 15 to 30 minutes.
- Assess mouth for missing broken/fractured, displaced or avulsed teeth, and any other trauma to the face.
- If lip is swollen or bruised, apply a cold compress or ice pack.
- See discussion of TETANUS under "Traumatic Avulsion"
- **If Injury is SEVERE:**
 - Assess child for possible head injury. Watch for nausea/vomiting, change in pupils, headache, dizziness or change in level of consciousness.
 - **Call 911, and contact the child's parent or legal guardian to take the child to the emergency room—especially if bleeding does not stop after 15 minutes!**

Possible Jaw Dislocation or Fractures

Contact the child's parent or legal guardian to take the child to an oral surgeon or hospital emergency room immediately! If a jaw fracture or dislocation is suspected, immobilize the jaw by any available means. A scarf, handkerchief, tie or towel can be placed under the chin and the ends tied on top of the child's head.

Tooth Eruption Pain

- Prolonged pain (over one week) is unusual and may be caused by inflammation of the tissue around an impacted or partially erupted tooth.
 - Discomfort associated with an erupting tooth is usually intermittent and less painful than with a badly decayed tooth.
 - This pain may be prolonged and periodic and is fairly common with eruption of first permanent molars and third molars or wisdom teeth.
- Vigorously rinsing with warm salt water two to three times a day will help relieve inflammation and dislodge debris and food which may be impacted.
 - **DO NOT** place an aspirin directly on the tissue in the area of pain as it will cause a chemical burn.
- A cold compress or a piece of ice wrapped in a sterile 2 x 2 inch gauze can be directly applied to the eruption site. The numbing effect of the cold can provide temporary relief.
- **If the pain persists—contact a dentist!**

Objects Wedged Between Teeth

- Try to remove the object with a toothpick, tweezers or dental floss.
- Remember to gently guide the floss against teeth so as to not injure the gum tissue.
- DO NOT try to remove the object with a sharp or pointed plastic or metal tool/instrument, as it may cause injury.
- If unsuccessful, contact the child's legal guardian to have the child taken to a dentist.

Orthodontic (braces) Emergencies or Problems (if an orthodontist is not immediately available)

- If there is a protruding wire, simply cover the end with orthodontic wax (which the child usually has), a piece of gauze, or a small cotton ball to stop the irritation and have the parent take the child to the dentist/orthodontist.
- If a wire or appliance becomes loose or broken and cannot be removed easily, contact the child's parents or legal guardian to take them to the dentist/orthodontist immediately!
- Do not attempt to remove any wire that is embedded in the cheek, gum or tongue.
- Contact the child's parent or legal guardian to take them to the dentist/orthodontist immediately.
- The placement and adjustment of orthodontic bands/wires can cause discomfort for a few days.
 - A semi-solid diet is recommended until the child is comfortable to resume a normal diet.
 - Pain medication may be ordered by the orthodontist.

Oral Piercing Complications

- Increased salivary flow
- Excessive drooling
- Infection
- Chipped or cracked teeth
- Injuries to the gums
- Damage to fillings
- Hypersensitivity to metals
- Scar tissue
- Nerve damage.

Swelling, up to five days after initial piercing, is normal. Excessive swelling with the potential to block the airway is possible.

Contact the parent or legal guardian to take the child to dentist or physician **IMMEDIATELY** if child presents with **any sign of severe swelling or infection** (swelling, pain, fever, chills, shaking or red streaked appearance around site of piercing)!

Clean and free any matter that may collect on the jewelry by rinsing. Most piercing guides recommend **avoiding** alcohol containing rinses, such as Listerine, due to the potential for irritation.

Remind students to always wash hands thoroughly before touching jewelry.

Your School First Aid Kit should contain these items for dental emergencies:

- Salt
- Hydrogen Peroxide solution (3%)
- Orabase with benzocaine—do not use Kenalog with Orabase, see important note below.
- Milk
- Hank's Balanced Salt Solution.

Basic Supplies

- Non-latex exam gloves (vinyl or nitrile)**
- Petroleum Jelly (Vaseline)
- Sterile cotton gauze square (2 x 2 inch)
- Sterile cotton swabs
- Gauze pads
- Dental floss
- Tea bags
- Flashlight
- Tongue blades
- Ice pack or wet frozen washcloth
- Toothbrushes
- Oil of Cloves
- Toothpicks
- Paraffin, candle or orthodontic wax
- Tweezers

** Special precaution must be used as children may have a known or unknown latex or rubber allergy.

Important Notes

- Written permission from a parent or guardian is required for any medications given to students in school. **Medications may only be given if there is written parental permission.**
- **DO NOT USE** any product with benzocaine on a child 2 years or younger as it can cause blood cell damage or death!
- **Aspirin should be avoided** in children with influenza, chickenpox or other viral illness because of the possible association with Reye's Syndrome.

For more information on this subject, routine care of the mouth and gums, or more emergency information visit dph.georgia.gov/oral-health.

Adapted and approved by the Georgia Department of Public Health for submission into the Georgia School Health Resource Manual.

Diabetes (See also Diabetes-Chapter 5)

Students with history of diabetes should be known to appropriate school staff, and should have a health and emergency care plan (Diabetes Management Plan) developed and available at all times.

Of utmost importance to school personnel is the ability to recognize the two most serious emergencies for diabetic children: low blood sugar (insulin reaction or hypoglycemia) and high blood sugar with moderate to large ketones (diabetic ketoacidosis). It is necessary to distinguish between the two because each condition requires completely different, but immediate actions. Always treat for low blood sugar levels if unable to distinguish between the two. The target blood sugar level is individualized; children generally are treated when the blood sugar level is below 70 or 80 or if they are symptomatic.

In either situation, you should assist students in checking their blood sugar if their blood sugar meter and supplies are available. If blood sugar meter and/or supplies are unavailable, the parent needs to be contacted to bring the student's meter and supplies immediately. If the student is having symptoms of a high blood sugar and no meter or supplies are available, the student needs to remain in the clinic until a parent brings in the meter and/or supplies to obtain a blood sugar measurement, and then you should follow the student's Diabetes Management Plan. If the student does not have a meter and/or supplies available and the student is having symptoms of a low blood sugar, treat immediately as outlined, following the student's Diabetes Management Plan, and contact the parent to bring in the student's meter and/or supplies immediately.

Treatment of high and low blood sugar levels is addressed in the student's Diabetes Management Plan. Please also use the Hypoglycemia and Hyperglycemia charts on the next page as a guideline for the signs and symptoms as well as treatment of low blood sugar and high blood sugar levels.

Hypoglycemia – American Diabetes Association
diabetes.org/type-1-diabetes/hypoglycemia.jsp

Treating Low Blood Sugar Video – Children's Healthcare of Atlanta
youtube.com/watch?v=-Jk98DexGF8&list=PL5D4F88C136E168EB&feature=plcp

Hypoglycemia

Causes	
Too much insulin	
Not enough food	
Increased physical activity	
Late or skipped meals (if on NPH, Novolog 70/30 or Humalog 75/25)	

Symptoms	
Sweating	Slurred speech
Shaky	Pale
Headache	Clammy skin
Hunger	Confusion
Irritable	Blurry vision
Weakness or Fatigue, Sleepy	Change in behavior
Anxious	Fast heartbeat
Numb lip/tongue	Dizzy
Poor coordination	Poor concentration

Do not leave student alone
Do not allow the student to return to class until blood sugar is greater than 70/80.
Notify parents of low blood sugar.

Severe Symptoms - Call 911
Unconscious
Unable to swallow
Combative
Seizure

Treatment - Check blood sugar level
Treat if blood sugar is below 70/80 or symptoms of low blood sugar are present as outlined in students' Diabetes Management Plan.
If the student does not have a plan or supplies and the student is having symptoms – TREAT AS OUTLINED BELOW
If student is able to swallow, give 15 grams of fast-acting carbohydrates such as three to four glucose tablets, 4 oz. fruit juice or regular (not diet) soda, or three packets (teaspoons) of sugar. If unable to take glucose tablets, juice, soda, or sugar, treat with 15 grams of glucose gel by placing small amounts of glucose gel into the student's mouth, allowing the mucous membranes to absorb the gel.
Recheck blood sugar in 10-15 minutes. If blood sugar level is not greater than 70/80, give another 15 grams of fast-acting carbohydrates. Then recheck blood sugar in 10-15 minutes. Repeat this three times. Notify the parent and/or doctor if it does not resolve after three attempts. Continue to treat with 15 grams of fast-acting carbohydrates and recheck blood sugar every 10-15 minutes until the parent/doctor returns the call.
Be prepared to give glucagon* and call 911 if student is not responsive, seizing or if their condition deteriorates.

Once the blood sugar is above 70/80
If the student is on intermediate acting insulin (ex: Novolog 70/30 or Humalog 75/25), after the above treatment follow with a snack like cheese and crackers or half of a sandwich.
If the student takes rapid acting insulin (Novolog or Humalog) at meals and snacks and will not be having a meal or snack within the next hour, follow the treatment for a low blood sugar with a small snack (15 grams of slow-acting carbohydrates such as crackers and peanut butter or half a sandwich).
If student is taking insulin using an insulin pump, follow Diabetes Management Plan for specific instructions on managing the pump.

* Glucagon Emergency Kit
If a severe low occurs (loss of consciousness, seizures or inability to safely eat or drink), Glucagon** should be administered if authorized by the Diabetes Management Plan.
A glucagon injection may be given for severe low blood sugars (unconsciousness, unresponsiveness, seizures or the inability to safely eat or drink). Refer to package insert and the Diabetes Management Plan for use and dose.
**Glucagon is a naturally occurring hormone made in the pancreas. It raises blood sugar levels by stimulating the liver to release stored glucose.

Hyperglycemia

Causes	
Not enough insulin	
Missed doses	
Too much food (carbohydrates)	
Infection, fever, illness	
Stress	
Growth and/or hormonal changes	
Spoiled or expired insulin (most insulin expires a month after opening)	

Symptoms	
Emotional stress	Poor Concentration
Blurry vision	Dry skin
Thirst	Face flushed
Dry mouth	Nausea
Frequent urination	Lethargic
Hunger	Sweet and fruity breath odor
Drowsiness / Sleepy	

Do not leave student alone
Extra insulin may be needed.
Follow instructions on Diabetes Management Plan .
When blood sugar level is high, students may need more frequent bathroom breaks and free access to water or sugar free fluids (if fully conscious and not vomiting).

Severe Symptoms – Call 911
Labored breathing
Confusion
Decreased consciousness - monitor airway

Treatment - Check blood sugar level
If blood sugar is greater than 300, check for ketones:
<ul style="list-style-type: none"> If ketones are trace to small, encourage the student to drink water and recheck in three to four hours. If ketones are moderate to large, call the parent as the student needs medical attention. <ul style="list-style-type: none"> – Call the doctor if parent cannot be reached. If any ketones are present, students should refrain from any physical activity. Notify the parent if hyperglycemia does not respond to treatment as outlined in Diabetes Management Plan.

If student is taking insulin using an insulin pump, follow Diabetes Management Plan carefully.
One should always suspect that the pump/tubing may not be working correctly:
<ul style="list-style-type: none"> Check site and have student change site, tubing and reservoir using new vial of insulin if there is any leaking, redness, tenderness or the cannula is dislodged. Check for ketones if blood sugar level is over 250.
IF NO ketones or ketones are TRACE to SMALL:
<ul style="list-style-type: none"> Bolus with pump ONE TIME per school plan. Recheck blood sugar level in 1-1.5 hours; if blood sugars have not decreased, give a second bolus by INJECTION of FAST-ACTING INSULIN using a SYRINGE per Diabetes Management Plan. Change the site, tubing and reservoir of the pump using a new vial of insulin to refill the reservoir.
IF ketones are MODERATE to LARGE:
<ul style="list-style-type: none"> Call the parent. Give a bolus by INJECTION of FAST ACTING INSULIN using a syringe per Diabetes Management Plan. Change the site, tubing and reservoir of the pump using a new vial of insulin to refill the reservoir. Offer sugar-free liquids every 30 minutes until parent arrives.

Dysmenorrhea (menstrual cramps)

- Allow student to rest in a position of comfort.
- Give analgesic if medication authorized and provided by parent.
 - Typically, non-steroidal anti-inflammatory drugs (NSAIDs) such as Ibuprofen are effective for menstrual cramps.
- Apply heating pad for 10 to 15 minutes; can sometimes help alleviate mild to moderate cramping.
- Notify parents if not better after 20 to 30 minutes and treatment is ineffective.
- Urge medical care if cramps are disabling or heavy bleeding occurs.

Fainting (including dizziness or threatened faint)

- Have student lie down with feet elevated 10-12 inches and loosen tight clothing.
- Maintain open airway.
- Do not give anything by mouth until student is alert. Then give juice or regular soda.
- If student vomits, turn to one side.
- Bathe face gently with cool water.
- Notify parents of episode.
- **Call 911** if not fully alert in two to three minutes.
- Do not allow return to physical activity.

Note: Repeated fainting episodes or fainting during physical exertion should be referred for prompt evaluation by the student's healthcare provider.

Headaches

- Let student rest.
- Assess headache history, quality of pain, location, radiation, duration and provoking factors.
- Headaches accompanied by the following require immediate medical attention:
 - Vomiting
 - High fever (any fever if HA persists)
 - Neck stiffness
 - Convulsions or seizure-like activity
 - Decreased level of consciousness or confusion
 - Increasing severity of pain
 - Sudden visual changes
 - Headache following a moderate to severe head injury
- May give analgesic if authorized and provided by parent
- If the student has diabetes, check blood sugar to determine if treatment is required as directed by Diabetes Management Plan
- Offer juice or crackers if student is hungry

Heat Illness (See also Preventing Heat Illness)

Assess for:		
<ul style="list-style-type: none"> • temperature • mental status/orientation 	<ul style="list-style-type: none"> • skin color • sweating 	<ul style="list-style-type: none"> • dizziness, lack of coordination

Types of Heat Illness	Symptoms	First Aid
Heat Cramps	Mild cramping of legs, muscle spasms, normal body temperature, awake and alert.	<p>Allow rest in a cool environment.</p> <p>Encourage fluid replacement with water or electrolyte drinks.</p> <p>Gently stretch the cramping muscles.</p> <p>Notify parents.</p> <p>Monitor for worsening symptoms.</p>
Heat Exhaustion	Body temperature elevated to 101° or above, skin is flushed not pale, moist, unusual fatigue, nausea/vomiting, headache, dilated pupils, cramping muscle spasms.	<p>Remove from activity.</p> <p>Allow rest in a cool environment (at least two hours).</p> <p>Loosen clothing, remove equipment such as pads and other excessive clothing, fan student and elevate legs.</p> <p>Rehydrate with water or electrolyte drinks if not vomiting (at least 4 oz. every 15 minutes).</p> <p>Apply cool, wet cloths to face, chest, armpits.</p> <p>Monitor for worsening symptoms.</p> <p>Notify parents if not totally back to normal in 30 minutes.</p> <p>Seek medical care if fever over 102° F, fainting, confusion or seizures occur.</p> <p>May not return to hot environment or any physical activity that day.</p> <p>Avoid exposure to high temperatures for several days.</p>
Heat Stroke (Medical Emergency)	Skin is red, hot and dry, decreased level of consciousness, extremely high body temperature (104°), incoordination, disoriented, twitching, seizures, diminished respirations.	<p>Call 911, notify parents.</p> <p>Transport to an air-conditioned room, remove equipment and as much clothing as possible.</p> <p>Sponge or spray with cool water, apply cool packs to head, armpits, groin and replace as necessary; fan student.</p> <p>Keep student NPO (nothing by mouth) because of altered level of consciousness.</p> <p>Keep from physical activity till medically cleared.</p> <p>Avoid exposure to high temperatures until approved by MD.</p>

Preventing Heat Illness

Heat illness is a preventable injury. When the body's ability to cool itself is overwhelmed, an increase of body temperature results.

Understanding the risk factors of developing heat illness are the keys to prevention:

- Hot, humid environmental conditions
- Dehydration
- High intensity exercise
- Use of heavy equipment or clothing
- Short-term illness, fever
- Deconditioning
- Certain medications (e.g., diuretics)
- Some chronic diseases (i.e., diabetes)
- Alcohol consumption
- Other substance abuse
- Recent move to hot, humid environment
- Eating disorders, obesity

The symptoms of heat illness range from mild to life-threatening. Recognition and treatment of mild symptoms can prevent more serious injury. A common symptom of heat illness is denial that one is developing overheating that will lead to an injury! When the body begins to overheat, you lose your cognitive ability to make rational decisions like stopping what you are doing to cool down. For a good example, refer to: well.blogs.nytimes.com/2008/06/09/a-common-symptom-of-heat-illness-denial.

Tips for preventing heat illness:

- Educate students about the importance of adequate hydration, early signs and symptoms of heat injury and the need to alert teacher or coach if they start feeling bad.
- Provide unlimited access to hydrating fluids, and insist that students drink frequently. Ideally body weight should be measured before and after practice. Student athletes should drink:
 - At least 16 oz. two hours before exercise.
 - Approximately 4-8 oz. every 10-20 minutes during exercise (depending on temperature, humidity and body weight).
- Allow for adaptation to hot, humid conditions by gradually increasing practice and exercise time and intensity over 10-14 days.
- Pay attention to the daily heat index (see chart), and schedule strenuous exercise in the early morning or evening. During PE and recess in the hotter parts of the day, plan indoor activities or modify intensity of activity and increase frequency and length of rest and water breaks.
- Wear loose fitting, light-colored clothing to help promote heat loss.
- When exercising outside, stay in the shade as much as possible.
- Avoid salt tablets. Cool flavored drinks with sodium, like sports drinks, can help replace electrolytes lost during sweating, particularly in poorly conditioned athletes or individuals who have not been eating regular meals and are therefore at risk for electrolyte imbalances.

Heat Index Chart

Heat Index	Air Temperature										
	70	75	80	85	90	95	100	105	110	115	120
Relative Humidity	Apparent Temperature										
0%	64	69	73	78	83	87	91	95	99	103	107
10%	65	70	75	80	85	90	95	100	105	111	116
20%	66	72	77	82	87	93	99	105	112	120	130
30%	67	73	78	84	90	96	104	113	123	135	148
40%	68	74	79	86	93	101	110	123	137	151	
50%	69	75	81	88	96	107	120	135	150		
60%	70	76	82	90	100	114	132	149			
70%	70	77	85	93	106	124	144				
80%	71	78	86	97	113	136	157				
90%	71	79	88	102	122	150	170				
100%	72	80	91	108	133	166					

The heat index shows the effects of the combination of heat and humidity. The apparent temperature is the heat your body “thinks” it is. To use the chart, locate the temperature along the top row and the humidity along the left-hand column. Where the two intersect is the current heat index.

Resources

A Guide to Heat Acclimatization and Heat Illness Prevention

nfhslearn.com/courses/34000

How to Acclimate Student Athletes to Heat

athleticbusiness.com/athlete-safety/how-to-acclimate-student-athletes-to-heat.html

National Weather Service Forecast Office

srh.noaa.gov/ffc/

Preseason Heat Acclimatization Guidelines for Secondary School Athletics

nata.org/health-issues/heat-acclimatization

Hyperventilation (often associated with numbness of hands)

- Be calm and reassuring with student.
- Have student sit down, and “coach” him to take slower breaths of normal depth.
- Tell student you will stay with him and distract his attention if possible.
- **Do NOT have student breathe into a paper bag.**

Nosebleeds (Epistaxis)

- Wear gloves, and encourage mouth-breathing.
- Place student in sitting position, head forward. Do not let student put his head back. This is to avoid swallowing blood.
- Apply constant, uninterrupted pressure by compressing nostrils together or affected nostril against bony cartilage (ideally, right under the nasal bridge) for at least seven to 10 minutes. Most children cannot apply enough pressure for a long enough time without assistance. Apply ice pack to nose or to the bridge of the nose or cheek, if tolerated. Icepacks help stop the bleeding by constricting the blood vessels.
- Avoid peeking to check bleeding status until the first seven to 10 minutes of pressure is done. If bleeding persists after this, repeat for another seven to 10 minutes. It takes time for the blood vessel to clot off and stop bleeding.
- Keep student quiet and notify parents if bleeding is not easily stopped.
- **DO NOT let student blow his/her nose.**
- **Do not stick packing into the nose as the removal of this can cause the clot to be dislodged, allowing another bleeding.**
- Prolonged or recurrent nosebleeds may need medical attention.

Seizures/Convulsions (See also Seizures, Chapter 5)

Students with known history of seizures should be known to appropriate school staff and should have a health and emergency care plan (Seizure Action Plan) developed and available at all times.

In the case of a seizure:

- Prevent student from hurting him/herself and lower him/her to the floor.
- Check time to monitor duration of seizure.
- Check airway and monitor breathing.
- **Do not put anything in the student’s mouth and do not restrain the student.**
- Consult and follow Seizure Action Plan.
- Loosen constricting clothing; turn to side if vomiting occurs.
- **Call 911 if:**
 - first known seizure
 - repeated seizures without regaining consciousness
 - seizure lasts longer than five minutes (unless noted in seizure action plan that seizures do last longer than five minutes)
 - student cannot be aroused after seizure.
- **If child has diabetes and is seizing, administer glucagon.**
- Notify parent(s).
- Assist to side-lying position after seizure.
- Allow student to rest and monitor him/her continuously after seizure.

Additional resources can be found from the Epilepsy Foundation at epilepsy.com/get-help/seizure-first-aid.

Shock (can occur with any severe infection or injury)

This is a medical emergency!

Symptoms: Skin is pale (or bluish) and cool to touch, moist and clammy, weak or lethargic, rapid pulse, rapid breathing, dilated pupils or dizzy when standing.

- Give urgent first aid measures immediately if cause of shock is known (i.e., control bleeding).
- Keep the student lying down with head flat, feet elevated.
- Cover enough to keep student warm but do not bundle or overheat student.
- If on the ground, place a blanket under student.
- **Call 911**, and notify parents.
- Do not give anything by mouth.

Prevention and Preparedness

Automated External Defibrillator (AED) Programs in Schools

On average, 900-1000 Americans will suffer sudden cardiac arrest every day. These tragic events happen to as many as three children and adolescents every day. When any sudden cardiac arrest occurs, time is critical—effective CPR within one to two minutes and shock with a defibrillator within three to five minutes is needed to have a chance to save the victim's life. These life-threatening cardiac arrests could happen in any school at any time to students, staff, parents or visitors, and local emergency services cannot be expected to respond within that critical time frame. For these reasons, many schools in Georgia are choosing to deploy AEDs and implement comprehensive AED programs. In 2008, the state legislature passed HB 1031, requiring all public high schools with interscholastic athletic programs to have an AED onsite (legis.ga.gov/Legislation/20072008/84498.pdf). Many Georgia school districts have deployed AEDs in all schools in their district.

A scientific statement was issued by the American Heart Association, American Academy of Pediatrics, National Association of School Nurses and others in 2016, titled "Cardiac Emergency Response Planning for Schools." This document recommends that a medical emergency response plan include the following elements:

- Effective and efficient communication throughout the school campus, including outdoor facilities and practice fields
- Coordinated and practiced response plan developed with administration, school nurses, team physicians, athletic trainers and local EMS
- Risk reduction efforts such as injury prevention and identification of students and staff at risk
- Training and equipment for first aid and CPR for staff and high school students
- Implementation of a lay rescuer AED program in schools with an established need (those with staff or students with known risk factors, or when a reliable local EMS call-to-shock response time of less than five minutes cannot be achieved).

Full article at:

<https://journals.sagepub.com/doi/abs/10.1177/1942602X16655839>

Project S.A.V.E. (Sudden Cardiac Death: Awareness, Vision for Prevention and Education), a program at Children's Healthcare of Atlanta since 2004, has a prevention manual and other resources in place to assist Georgia schools with development of a well-planned and practiced emergency response plan including implementation of a comprehensive emergency procedure, training of a first responder team, deployment of AEDs, maintenance checks, all-staff awareness and practice drills. Ideas for fundraising, sample forms and letters and training grants are also part of the free assistance offered to Georgia schools.

Once a school has implemented a quality plan, it can be recognized as a Project S.A.V.E. Heart-Safe school. More than 1,450 Georgia schools have already been recognized through this program. Project S.A.V.E. is the state affiliate of Project ADAM at Children's Hospital of Wisconsin. Visit choa.org/projectsave to obtain contact information.

Resources

Anyone Can Save a Life (excellent templates for sports emergency action plans and drills)

anyonecansavealife.org

Importance and Implementation of Training in CPR and AED in Schools

my.americanheart.org/idc/groups/ahamah-public/@wcm/@sop/@smd/documents/downloadable/ucm_424922.pdf

Project Adam – Children’s Hospital of Wisconsin (Sign up here for free quarterly e-newsletter and watch video)

projectadam.com

Parent Heart Watch – Protecting Youth from Sudden Cardiac Arrest

parentheartwatch.org

Sudden Cardiac Arrest Coalition

stopcardiacarrest.org

Sudden Arrhythmia Death Syndromes (SADS Foundation)

suddencardiacarrest.org/aws/SCAA/pt/sp/home_page

Sudden Cardiac Arrest Foundation You Can Save a Life at School

sca-aware.org/schools

The Louis J. Acompora Memorial Foundation

la12.org

Emergency Care for Students with Special Needs

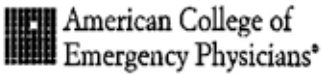
Children considered to have special (healthcare) needs are those children that have or are at risk for chronic physical, behavioral, emotional or developmental conditions that require health services within the school environment beyond those required by the general population of students. Often the conditions these children have end up requiring emergency care for acute life-threatening episodes at some time during their school career. Sadly, to this day these children still often lack good health records concerning their history, treatments and medications. It is even more important for these children to have plans in place at the very beginning of the school year that include not only their daily health directives but also any emergency directives that may arise.

The AAP (American Academy of Pediatrics) Committee on Children with Disabilities has published statements that emergency information should be considered a part of the overall plan of service for a special needs student. To accomplish this goal, they developed an “Emergency Information Form for Children with Special Needs (EIF Form)” that can be found on the next page. As is always good nursing practice, confidentiality should be adhered to at all times; keeping the records secure, yet readily available in an emergency.

For more information on this subject, including a completed example form, review the article, “Emergency Information Forms and Emergency Preparedness for Children with Special Health Care Needs.” *Pediatrics*. Vol. 125, No. 4, April 1, 2010, pp. 829 -837 (doi: 10.1542/peds.2010-0186) aap.org/en-us/professional-resources/quality-improvement/Quality-Improvement-Innovation-Networks/Documents/EMS%20FORM.pdf

Emergency Information Form for Children With Special Needs

Last name: _____



American Academy of Pediatrics



Date form completed
By Whom

Revised
Revised

Initials
Initials

Name:		Birth date:	Nickname:
Home Address:		Home/Work Phone:	
Parent/Guardian:	Emergency Contact Names & Relationship:		
Signature/Consent*:			
Primary Language:	Phone Number(s):		
Physicians:			
Primary care physician:		Emergency Phone:	
		Fax:	
Current Specialty physician:		Emergency Phone:	
		Specialty:	
Current Specialty physician:		Emergency Phone:	
		Specialty:	
Anticipated Primary ED:		Pharmacy:	
Anticipated Tertiary Care Center:			

Diagnoses/Past Procedures/Physical Exam:	
1. _____	Baseline physical findings:
_____	_____
2. _____	_____
_____	_____
3. _____	Baseline vital signs:
_____	_____
4. _____	_____
_____	_____
Synopsis:	Baseline neurological status:
_____	_____
_____	_____

*Consent for release of this form to health care providers

Diagnoses/Past Procedures/Physical Exam continued:

Medications:

Significant baseline ancillary findings (lab, x-ray, ECG):

1. _____

2. _____

3. _____

4. _____

Prostheses/Appliances/Advanced Technology Devices:

5. _____

6. _____

Management Data:

Allergies: Medications/Foods to be avoided

and why:

1. _____

2. _____

3. _____

Procedures to be avoided

and why:

1. _____

2. _____

3. _____

Immunizations (mm/yy)

Dates					
DPT					
OPV					
MMR					
HIB					

Dates					
Hep B					
Varicella					
TB status					
Other					

Antibiotic prophylaxis:

Indication:

Medication and dose:

Common Presenting Problems/Findings With Specific Suggested Managements

Problem

Suggested Diagnostic Studies

Treatment Considerations

Problem	Suggested Diagnostic Studies	Treatment Considerations

Comments on child, family, or other specific medical issues:

Physician/Provider Signature:

Print Name:

Emergency Preparedness in Schools

The possibility of an emergency occurring in schools can happen at any time, and school personnel to include School Nurses and the School Health Team should be prepared to handle them safely and effectively and to implement recovery efforts. School Administrators, School Nurses, School Police, staff, parents and local emergency organizations should work together to educate, address and promote school-wide safety and to plan for emergencies. Emergencies can vary from natural disasters to other emergencies. After all, safety is everyone's responsibility.

An Example of an Emergency Preparedness Checklist for School Nurses – Fulton County Schools Reference

- Establish list of individuals trained in CPR/AED and Stop the Bleed**
 - Include School Nurses, Clinic Assistant (CA) and other school staff who have been trained and are affiliated with your school.
 - Keep a copy of this list in the Emergency Supply Bag/Cart.

- Establish a designated location to store the Emergency Bag/Cart of supplies.**
 - Ensure the bag/cart can be easily transported to the evacuation site. The easier the bag/cart is to carry, push or roll, the better!
 - Ensure there are at least two (2) school staff designated to get the Emergency Supply bag/cart (1 should be the CA and another back up staff person) in the event of an emergency evacuation.
 - See attached list of recommended School Clinic Emergency Supply Checklist.
 - Conduct monthly checks of the Emergency Bag/Cart to ensure items are not expired, etc.

- Review the Schools Emergency Management Protocol on First Aid Team Duties and Checklist.**
 - See attached protocol (Review protocol periodically).
 - Ensure a copy of the protocol is placed in the emergency bag/cart along with several copies of the Emergency First Aid Station Medical Treatment Log (at least 15 copies).

- Maintain medical alert list of students with chronic illnesses, emergency medications, etc.**
 - Keep a medical alert list updated and current from in the Emergency Bag.
 - Ensure emergency medications are readily available in case of an emergency.

- Parents/Guardians of students that have severe chronic illnesses that may require daily maintenance medication(s) that are not kept or administered daily in the clinic may want to keep a dose (or two) at school in the event of an emergency.**
 - Follow-up annually with parents, and as needed.

- School Administrators should include in their Safety Plan any special accommodations for any student and/or staff who require additional assistance or consideration during an emergency.**

Georgia law requires every public school to prepare a school safety plan to help curb the growing incidence of violence in schools, to respond effectively to such incidents and to provide a safe learning environment for Georgia's children, teachers and other school personnel. The law also states that school safety plans must include the following strategy areas at a minimum:

1. Training school administrators, teachers, and support staff, including, but not limited to, school resource officers, security officers, secretaries, custodians, and bus drivers, on school violence prevention, school security, school threat assessment, mental health awareness, and school emergency planning best practices;
2. Evaluating and refining school security measures;
3. Updating and exercising school emergency preparedness plans;
4. Strengthening partnerships with public safety officials; and

5. Creating enhanced crisis communications plans and social media strategies. School safety plans of private schools may be prepared with input from students enrolled in that school, parents or legal guardians of such students, teachers in that school, other school employees, and local law enforcement, fire service, public safety, and emergency management agencies. Such plans shall be reviewed and, if necessary, updated annually. Such plans of public schools shall be submitted to the local emergency management agency and the local law enforcement agency for approval.

According to FEMA, the first step in the emergency planning process for schools is to form a collaborative planning team. The school nurse brings valuable knowledge and expertise in first aid, triage techniques and the medical needs of the students in the school (FEMA, 2018). The National Association of School Nurses (2014) also promotes the inclusion of the school nurse as a leader in all aspects of emergency preparedness and disaster planning. As the primary connection between the medical and public health community and often the only health care provider in the school building, school nurses are in a unique position to provide input in the development of the school safety/emergency-preparedness plan.

It is therefore important for school nurses to understand the roles and responsibilities of the district and local school level staff responsible for emergency preparedness and school safety plans. School nurses should lead the discussions regarding the expectations of their role in the plan and ensure that they are familiar with the resources available in order to contribute meaningfully to the planning and evaluation processes.

NASN Resources

NASN Position Statement: Emergency Preparedness and Response in the School Setting, The Role of the School Nurse
nasn.org/nasn/advocacy/professional-practice-documents/position-statements/ps-emergency-preparedness

School Planning

Caring for Children in a Disaster: Schools and Childcare Centers

Resources from the CDC to help schools plan, prepare and respond to disasters.

cdc.gov/childrenindisasters/schools.html

Guide for Developing High-Quality Emergency Operations Plans

A 75-page guide for K-12 schools and school districts from the U.S. Department of Education and other U.S. agencies.

rems.ed.gov/docs/rems_k-12_guide_508.pdf

Prepare Your School

This American Red Cross web page introduces their program Ready Rating™.

Redcross.org/get-help/prepare-for-emergencies/resources-for-schools#Tips-for-School

Preparedness 101: Zombie Pandemic

This CDC campaign includes activities to help schools work with children on the basics of emergency preparedness and response using a fun, fictitious scenario for students to keep schools prepared for emergencies.

cdc.gov/phpr/zombies_novella.htm

Community Planning

Are You Ready? A GUIDE

This is an in-depth guide to citizen preparedness from FEMA.

fema.gov/media-library/assets/documents/7877

Department of Homeland Security

dhs.gov

Disaster Behavioral Health Information Series

Resource collections from the Substance Abuse & Mental Health Services Administration.

[Samhsa.gov/dtac/dbhis-collections](https://samhsa.gov/dtac/dbhis-collections)

Medical Reserve Corps

A national network of local groups of volunteers committed to improving the public health, emergency response, and resiliency of their communities.

mrc.hhs.gov/homepage

Emergency Medical Services for Children | Innovation & Improvement Center

emscimprovement.center/

Emergency Preparedness and Response | Health and Safety Concerns for All Disasters

A CDC resource that addresses types of natural disasters, and health and safety concerns for all disasters.

emergency.cdc.gov/disasters/alldisasters.asp Plan & Prepare

Information from FEMA on how you can plan and prepare to protect your family, property, and community from natural and manmade disasters.

fema.gov/plan-prepare

Prepare, Respond, Recover

Information from the U.S. Department of Health and Human Services that assists the general public with planning, responding and recovering from natural and man-made disasters.

phe.gov/emergency/preparedness/pages/default.aspx

National Center for Disaster Medicine and Public Health

The NCDMPH serves as the Nation's academic center of excellence for education, training, and educational research in disaster medicine and public health preparedness, including resources related to children and schools.

usuhs.edu/ncdmph

Ready or Not? Protecting the Public from Diseases, Disasters, and Bioterrorism (2012)

A report from Trust for America's Health about protecting the public from diseases, disasters, and bioterrorism.

healthyamericans.org/report/101

Ready Responder

A toolkit from FEMA for first responders and their families.

ready.gov/responder

Planning and Coping for Children/General

Be a Hero!

An interactive website for kids, parents and educators from Ready.gov.

ready.gov/kids

Children's Psychosocial Needs in Disasters

An online learning object from the National Center for Disaster Medicine & Public Health.

ncdmph.usuhs.edu/knowledgelearning/2013-learning2.htm

Helping your children manage distress in the aftermath of a shootings

Tips from the American Psychological Association.

apa.org/helpcenter/aftermath.aspx

The Impact of Terrorism and Disasters on Children

An overview from the American Psychological Association that includes risk and protective factors.

Apa.org/about/gr/issues/cyf/disaster.aspx

Let's Get Ready!

Toolkits from Sesame Street including guides, videos, and more.

sesamestreet.org/toolkits/ready

Post Disaster Reunification of Children - A Nationwide Approach

A document from FEMA reflecting the nation's first attempt to establish a holistic and fundamental baseline for reunifying children separated as a result of a disaster.

fema.gov/media-library/assets/documents/85559

Unaccounted For: A National Report Card on Protecting Children in Disasters

A report from Save the Children.

Planning and Coping for Children / Hurricanes

savethechildrenweb.org/getready/report/disaster-report-2013.pdf

Hurricane Videos and Guides

These resources from Sesame Street includes videos and family guides.

sesamestreet.org/search?keyword=hurricane

Pandemic Flu

Pandemic Influenza

Information from the Centers for Disease Control and Prevention.

[Cdc.gov/flu/pandemic-resources/](https://www.cdc.gov/flu/pandemic-resources/)

School and Child Care Centers

Information from the Centers for Disease Control and Prevention.

[cdc.gov/flu/pandemic-resources/archived/schools-child-care-planning.html](https://www.cdc.gov/flu/pandemic-resources/archived/schools-child-care-planning.html)

Resources

Georgia Department of Education. (2019) *Emergency Preparedness and Response Resources*

[gadoe.org/External-Affairs-and-Policy/AskDOE/Pages/Disaster-Preparedness.aspx](https://www.gadoe.org/External-Affairs-and-Policy/AskDOE/Pages/Disaster-Preparedness.aspx)

Children and Disaster – American Academy of Pediatrics (AAP)

[aap.org/disasters/index.cfm](https://www.aap.org/disasters/index.cfm)

Disaster Planning for Schools – AAP

[pediatrics.aappublications.org/content/122/4/895.full.pdf+html](https://www.pediatrics.aappublications.org/content/122/4/895.full.pdf+html)

Disaster Preparedness Links – National Association of School Nurses

[nasn.org/nasn/nasn-resources/practice-topics/disaster-preparedness](https://www.nasn.org/nasn/nasn-resources/practice-topics/disaster-preparedness)

SETT – School Emergency Triage Training – National Association for School Nursing

[nasn.org/nasn/programs/conferences/sett](https://www.nasn.org/nasn/programs/conferences/sett)

CDC - Schools and Child Care – Preparing for the Unexpected

[cdc.gov/features/school-emergency-preparedness/index.html](https://www.cdc.gov/features/school-emergency-preparedness/index.html)

Georgia Emergency Management Agency School Safety Training

[gema.georgia.gov/school-safety-training](https://www.gema.georgia.gov/school-safety-training)

Department of Homeland Security – School Safety

[dhs.gov/school-safety](https://www.dhs.gov/school-safety)

NNEPI: National Nurse Emergency Preparedness Initiative

[nursing.gwu.edu/national-nurse-emergency-preparedness-initiative](https://www.nursing.gwu.edu/national-nurse-emergency-preparedness-initiative)

Ready Campaign – Federal Emergency Management Association

[ready.gov/kids](https://www.ready.gov/kids)

Red Cross Ready Rating Program

[readyrating.org/](https://www.readyrating.org/)

References

O.C.G.A. 20-2-1185 (2010). *School safety plans*

Federal Emergency Management Agency. (2018). *Multihazard Emergency Planning for Schools*.

[emilms.fema.gov/is362a/index.htm](https://www.emilms.fema.gov/is362a/index.htm)

National Association of School Nurses. (2014). *Emergency Preparedness and Response in the School Setting - The Role of the School Nurse*.

[nasn.org/advocacy/professional-practice-documents/position-statements/ps-emergency-preparedness](https://www.nasn.org/advocacy/professional-practice-documents/position-statements/ps-emergency-preparedness)

“Go Bag”

Suggested Emergency Supplies for the School Setting

Supply bag, sturdy with several pockets (may need two or more for a large campus, keep near entrances and in clinic); or may want to consider larger plastic container

- Personal protective equipment—gloves, goggles, gown, pocket face mask
- Band-Aids; triangular bandages; roller type bandages 2", 3", 4"; 4x4's; occlusive dressings (Vaseline gauze); tape; nonadherent dressings; absorbent dressings (ABD pads); Steri-Strips
- Eye pads and eye shield, eye wash (sterile saline/contact lens solution)
- Emesis basins
- Antiseptic solution, cleansing wipes, waterless hand cleaner
- Sterile water/saline
- Instant ice gel pack
- Small splints, tongue blades, sling
- Sugar cubes or glucose gel
- Bandage scissors, tweezers
- Stethoscope, blood pressure unit with child and adult cuffs
- Documentation forms, clipboard, pen and pencils, permanent markers, stick-on labels
- Penlight or flashlight
- Medical waste bag, paper bags
- School-approved emergency guidelines
- Communication device (cell phone may be best) with list of school and emergency phone numbers
- List of students and staff with known health concerns and individual emergency plans (keep a separate set in the bag)
- Small blanket
- Cooler with spigot and paper cups

If bag must be taken away from the clinic in an evacuation situation, take emergency meds (Epipen®, asthma inhalers, glucagon kit and other supplies for treating a low blood sugar).

(Adapted from the National Association of School Nurses' module, "Preparing a Response to Emergency Problems" by Lisa Marie Bernardo, PhD, RN and Lucretia Anderson, MN, RN, CRNP; "Development Coordination" by Keeta DeStefano Lewis, PhD, RN, 1999, available from NASN.)

Preventing Playground Injuries

Since many accidental injuries at school occur on the playground, the school nurse or another staff member should observe the area in use several times during the year.

Falls are the most common playground injuries accounting for more than 75% of all playground related injuries.

Supervision

All playgrounds present some challenge, and children will use equipment in unintended and unanticipated ways. Therefore adult supervision is always necessary. Lack of supervision is associated with approximately 45% of playground related injuries

- Children should dress appropriately for the playground. Necklaces, purses, strings or clothing with drawstrings can get caught on equipment and pose a strangulation hazard. Even helmets can be dangerous on a playground.
- Teach children that pushing, shoving and crowding while on playground can be dangerous.

- Monitor the injuries for patterns that indicate a problem with particular equipment or lack of needed supervision. The school nurse should also assess the need for further training of playground supervisors by monitoring first aid rendered on the playground.

Equipment

Not all equipment is appropriate for all children, especially if your school has preschoolers. Signs should be posted near equipment indicating the appropriate age of the users. Supervisors should direct children to equipment appropriate for their age.

Visual inspection of the equipment and the environment can prevent many injuries:

- Survey the area for immediate hazards such as unwanted objects on the ground, fencing between the play area and the street or parking lot and metal equipment in the sun or without protective surfaces to prevent injuries and burns.
- The playground surface is responsible for more than 70 percent of injuries. Hard surfaces such as asphalt, blacktop, concrete, grass and packed dirt should not be used. Acceptable surfaces depend upon potential fall height and may include loose-fill surfaces (sand, pea gravel, crumb rubber, wood products) and unitary surfaces (rubber tile, poured-in-place). The standard is 12 inches of loose fill, such as mulch or sand, for equipment up to eight feet in height. Manufacturers' recommendations for synthetic surfaces should be followed and playground surfacing material must be adequately maintained and its performance periodically verified. Cushioned surfacing should be under all equipment and extend at least six feet out in all directions.
- Examine equipment such as ladders, platforms and steps. Climbing equipment and monkey bars have the highest incidence of injury and need to be closely supervised. Steps and handrails should be kept in good condition and sized appropriately for a child's grip. Platforms should be surrounded by a guardrail or other protective barrier (29 inches high for preschoolers, and at least 38 inches high for school-aged children). Openings on playground equipment should be less than 3.5 inches or greater than 9 inches to prevent entrapment of heads or bodies.
- Swings are the moving equipment most likely to cause injuries. Swings should be:
 - at least 24 inches apart, and 30 inches from the frame
 - no more than two to each well-anchored frame
 - made with soft seats, not metal or wood
 - not attached to other equipment
 - surrounded with appropriate surfacing, which extends twice the height of the suspending bar. For example, if the top of the swing is 10 feet high, the surface should extend 20 feet.
- Slides should be well-anchored and have firm handrails and steps with good traction. Steps should have drainage holes to prevent slipping. There should be no spaces between the slide platform and the downhill surface which could catch strings from clothing and cause strangulation. Strangulation is the leading cause of playground fatalities. Metal slides should be shaded or covered to prevent burns in hot sun. Slides should be surrounded by guardrails and barriers. The minimum recommended length of exit zone at the bottom slide is 6 feet for slides less than 6 feet high or equal to the height of the slide up to a maximum of 8 feet and should not overlap with the use zone of any other equipment.
- Seesaws should have secure handles sized so children can grip easily. There should be a soft bumper under the bottom of the seat and covered pivot points to prevent pinched fingers.
- Merry-go-rounds should be firmly anchored into the ground and have easy-to-grasp handles. The surface under the bed should be positioned so that children cannot slide underneath. There should be a mechanism to control the speed of the unit.

Adapted from the National Program for Playground Safety-2000 guidelines and Public Playground Safety Handbook 2010 cpsc.gov/s3fs-public/325.pdf

Playground Report Card playgroundsafety.org/research/state-report-cards.

Special Considerations for Field Day & Other Outdoor Activities

Field days may require special considerations from clinic personnel. You may want to take first aid equipment to the field area or recruit volunteer parents to help. If there are volunteers, consider leaving the most experienced first aid provider in the clinic, perhaps with a walkie-talkie or cell phone for better communication:

- Since field days are usually held in a high spirit of competition and near the end of school, heat and smog alerts will be factors to consider.
- Prepare yourself by checking the predicted temperature and humidity for the day. If the heat index is too high, activities may need to be held early in the day or in a covered play area. Identify and designate shaded areas for scheduled breaks in case of excessive heat. Discuss this with the principal. Refer to a "Heat Index" chart. This chart can be used as a guideline for discussion with administrators and other staff members. You can also go online to weather.com and set up a daily alert to your computer.
- Remind teachers ahead of time, and again that day, to make provision for drinking water and ice on the field. Make a flyer with signs of heat-related illnesses available to teachers. Send reminders home with students the day before for parents to provide hats, sunglasses and sunscreen, if possible. Prior to field day would be a good time to consider sun-safety health education classes.
- Review the Preventing Heat Illness section of this Chapter.
- Remind students that drinking water frequently is the best prevention for heat-related illness. Drinking plenty of water the day before also helps with hydration. Provide breaks every 15-30 minutes (depending upon the heat index) and instruct students to drink during these breaks.
- Have water, ice and sports drinks available to replace fluids if a student has problems. Have a fan and towels available to assist with cooling. Consider using the covered play area for some activities for protection from direct sun.
- Make sure you have ice packs, splinting and dressing materials, and plenty of soap and water available. Volunteers may be used as extra observers, to provide transportation to first aid stations, and to "man" water stations. Field day should be fun for everyone and a great way to end the school year. Being prepared for any occurrence will help you relax and be a part of the fun.

Resources

Children's Healthcare of Atlanta

choa.org/Child-Health-Glossary/Summer-Safety/Heat-Safety

Children's Healthcare of Atlanta – Playground Safety

choa.org/Child-Health-Glossary/P/PL/Playground-Safety_KH_Parent

Extreme Heat: A Prevention Guide to Promote Your Personal Health and Safety - CDC

bt.cdc.gov/disasters/extremeheat/heat_guide.asp

Extreme Heat Media Toolkit, Print Materials

cdc.gov/extremeheat/materials.html

Safe Kids Worldwide – Playground Safety Tips

safekids.org/tip/playground-safety-ti

Emergency Transportation/Treatment Release

Student's Legal Name: _____ DOB: _____

Last: _____

First: _____, **Middle Initial:** _____

In the event that I cannot be reached in an emergency situation, I give permission for this student to be transported to:

- the closest local hospital or
- a specific hospital (name) _____,

and authorize the hospital to provide emergency medical or surgical treatment. I will assume full responsibility for all charges related to the above, and release the hospital, the school and school system, its agents, employees, administrators and assigns from any and all liability, claims and causes of action arising in connection with the transportation and/or treatment of the student named hereon.

Current health insurance information:

Company _____ ID Number _____

Name of insured _____

Parent/Guardian's Signature

Phone #: _____ (work)

Phone #: _____ (cell)

Date

Phone #: _____ (home)

This form may be part of your Student Health Form, and its specifics need to be approved by local school district administration and sometimes the attorney for your school district.

Accident/Incident Report Form

(Please print clearly)

Injured Person Information: Visitor Employee Student

Name: _____ Age: _____ Sex: Male Female

Address: _____ Grade: _____ Teacher: _____

Phone #'s: _____

School: _____ Date of Accident: _____ Time of Accident: _____

(Mo. Day Year)

(Hr. Min. AM or PM)

Location

- Classroom or Auditorium
- Cafeteria
- Corridor
- Commons Area
- Stairs (inside)
- Bathroom
- Showers or dressing room
- Parking area
- Driveway
- Shops
- Labs
- Homemaking
- Playground
- Street, Highway
- Athletic Field
- Other: _____

Type of Injury

- Abrasion
- Bite
- Blister
- Bruise
- Burn
- Cut/Laceration
- Poisoning
- Puncture
- Scratch
- Sprain
- Tooth Damage
- Other: _____

Possible Injury:

- Concussion
- Dislocation
- Fracture or Break
- Internal Injury
- Strain or Sprain

Body Part Injured

- Head
- Eye R L B
- Ear R L B
- Mouth
- Teeth
- Neck
- Chest
- Shoulder R L B
- Arm R L B
- Elbow R L B
- Wrist R L B
- Hand R L B
- Abdomen
- Hip R L B
- Leg R L B
- Knee R L B
- Ankle R L B
- Foot R L B
- Toe(s) R/L: _____
- Other: _____

Degree of Injury

- Non-disabling
- Temporary (lost time from school)
- Permanent disability
- Death

Accident / Incident Description (include cause):

Witness(es): _____ Who gave First Aid, if any? _____

Describe aid given: _____

Parent(s) notified? Yes No MD notified: Yes No MD name: _____

Principal notified? Yes No MD phone: _____

Released to: Parent EMS/Hospital Back to class Accompanied by: _____

Report Prepared by: _____ Title: _____ Date: _____

Days Lost From School: _____

(Continue on back of page as needed)

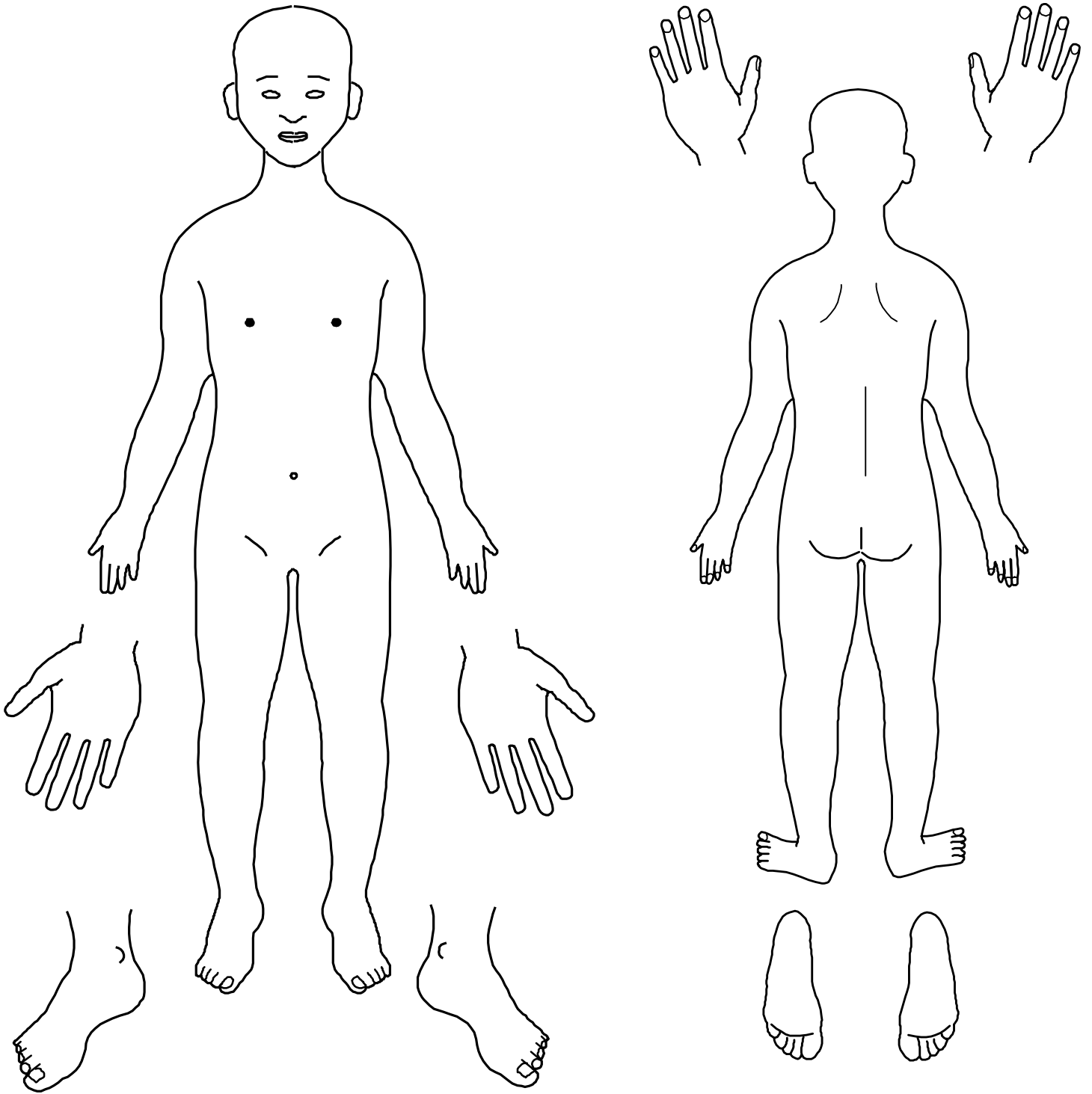
Body Diagram (Anterior/Posterior)

Right

Left

Left

Right



Accident Incident Report Form to Parent

School _____ Date: _____

Student Name: _____ Teacher: _____

Date of Accident _____ Time of Accident _____ AM/PM

Your child was seen in the clinic today for: _____

We noticed the following: _____

First aid or treatment given: _____

Your child returned to class and reported no further problems.

We attempted to call you at _____ Time: _____

Please help us assist your child further by doing the following:

Continue to observe at home.

Watch for signs of infection (pain, swelling, redness, heat).

Recommend healthcare provider follow-up for further recommendations or treatment.

Other: _____

Please feel free to call the school if you have any further questions or concerns relating to this visit. I can be reached at: _____ (Phone #)

Sincerely,

(Reported by) Title: _____