

Emergency Teaching Plan - Sickle Cell Crisis

Completed by: Laura Martens RN, BSN

Subject: Sickle Cells Crisis

Topic: How to respond to sickle cell emergencies

Type of Class: instructional session for school staff in the event they were to encounter a student in sickle cell crisis. NOT TO REPLACE EAP TEACHING. Reviewed in the beginning of the year.

Estimated time: 3 minutes

Developmental Level: High School graduate level

Enduring Understanding: What is Sickle Cell Disease?

Essential Question: Why is it important that I know how to respond to a crisis?

State Learning Standard: Ohio Emergency Guidelines

Follow fever, pain, seizures, headache, neck or back pain and difficulty breathing b/c no such guideline exists specific to sickle cell crisis. By following the algorithms, it will achieve the appropriate care needed for the child. I did find guidelines for teaching in the state of Maryland that I thought pertinent to address in my teaching,

“School-wide awareness and education regarding SCD management for school staff is necessary in the school setting. Awareness and education may include, but is not limited to:

Definition and types of SCD;

Effective SCD management principles;

Symptoms of a SCD crises to report to the school nurse;

Student’s emergency care plan/protocol;

Student’s emergency plans and protocols for substitutes including teacher, school health staff, transportation, coaches, and food services...” (MARYLAND STATE SCHOOL HEALTH SERVICES GUIDELINE, 2019)

National Learning Standard: following recommendations of current evidence-based resources - CDC, Mayo Clinic, and the National Heart, Lung and Blood Institute

Title of Lesson: How to respond to a student in Sickle Cell Crisis

Purpose: Identify those students who are at risk for serious, life-threatening emergencies

Objectives: By the end of this presentation:

1. Staff will be able to state what causes the crisis
2. Staff will be able to recognize emergent situations
3. Staff will verbalize what to do in emergent cases

Outcomes: Post Presentation I will have staff participate in 4 case scenarios to review what has been learned.

Strategies to Assess Baseline Knowledge: Not done. Assuming all staff are unfamiliar with Sickle Cell for a more standardized approach. Information will be coherent and in lay terminology. I will also utilize this opportunity to reiterate the importance of reviewing Ohio Emergency Guidelines. Detailed algorithms allow for appropriate care to be delivered by non-medical personnel in the absence of nursing judgement.

Procedure and Activities:

1. Start with the review of SCD and diagram
2. Relate it to why it is important
3. Discuss Emergent symptoms
4. What to do in less emergent situations and role of EAP
5. Provide handouts of a sample EAP for sickle cell crisis and Ohio Emergency Guideline algorithms that relate to the topic
6. Review case studies

Strategies to Assess Readiness to Learn: Assuming that most school staff are familiar with both the State of Ohio Emergency Guidelines and EAPs. My recommendations will build upon these. It is also a great time to illustrate to staff the usefulness of the Ohio Emergency Guidelines and to become familiar with many of them.

Planning for Diverse Learners: Tried to keep the information in lay terms. Utilized pictures into the slides and handouts. Incorporated the new material into case studies, so that they can apply their new knowledge.

Materials and Resources:

1. Slides
2. Handout sample EAP for sickle cell crisis
3. Handout of the Ohio Emergency Guidelines pertaining to symptoms

Reflection on Teaching

Effectiveness: How did the staff perform on the post-assessment. Were they engaged?

Personal Reflection: Feedback

Did I have enough time? Did I have too much or little material? Was the content able to be comprehended?

Maintain Accurate Records: Checklists of those who have been educated and when.

- Bus Drivers
- Coaches, Athletic Trainers, and Advisors for School Sponsored Activities
- Food Services Staff
- School Counselor

- Pupil Personnel Worker
- School Psychologist
- Teachers (including substitute teachers)
- Office personnel
- Volunteers

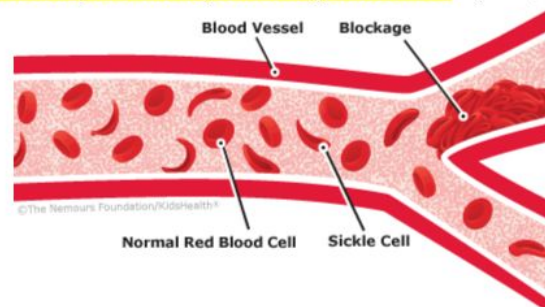
Slides

Sickle Cell Crisis

What you need to know

What is Sickle Cell Disease?

SCD is a group of inherited red blood cell disorders. Healthy red blood cells are round, and they move through small blood vessels to carry oxygen to all parts of the body. In someone who has SCD, the red blood cells become hard and sticky and look like a C-shaped farm tool called a “sickle”. The sickle cells die early, which causes a constant shortage of red blood cells. Also, when they travel through small blood vessels, they get stuck and clog the blood flow. This can cause pain and other serious problems such as infection, acute chest syndrome (aka difficulty breathing) and stroke. (CDC, 2019)



(Kids Health, 2018)

What is the big deal?

Sickle cell crisis has the potential to seriously harm the student and is life-threatening!

Early identification of symptoms and interventions lead to better health outcomes for the student, thus minimizing further complications associated with Stroke, Infection, Pain, and Respiratory functioning.

Activate EMS for severe symptoms: CALL 911

- Fever > 103 Degrees
- Seizure
- Inability to speak
- Inability to move one side of the body
- Fast, noisy, labored breathing
- Shallow respirations and blue/pale coloring of skin
- Prolonged erection > 4hrs (complication of disease and medical emergency)
- Severe, continuous pain in extremities, back, chest, head or abdomen 7/10 or greater.

Until help arrives, Remain calm, place child in most comfortable position, and monitor breathing and pulse

For Milder Symptoms: Pain rating of 6 or below with none of the severe symptoms present

Refer to student's individualized EAP

- Remain calm and reassure student; walk them to the clinic to see RN or to the office to follow EAP
- Let the child rest in a comfortable position
- Encourage fluids if student is fully awake and has no difficulty breathing
- Administer prescribed medications according to EAP: usually tylenol or ibuprofen
- Make sure student is in an environment not too hot or too cold (can worsen symptoms)
- Never apply ice packs to student's site of pain (can worsen symptoms)
- Notify parents if pain is not improved with the above interventions

Key Ideas

- These students may present with a huge array of symptoms. **The goal of this presentation is to make you aware of the life-threatening signs and symptoms related to Sickle Cell that require emergent care. Utilize the Ohio Emergency Guidelines.** Start with students primary symptoms and the algorithm will lead you down to the right interventions
- Always notify parents of a condition change ASAP
- These students will probably be wearing a medical alert bracelet - look for it!
- **Follow the student's EAP, this teaching is not a replacement for a student specific EAP**

Test Your Knowledge: Case Studies

You find a second grade student crouched down in the hall crying. He "went out to get a drink of water." He looks in severe pain (he is shaking and rocking back and forth). He is hot to the touch and is struggling to breath. He looks like he is breathing really fast. What do you do?

A fourth grade student came in from recess in 40 degree weather and complains to you of pain 4/10 in her extremities. What is the appropriate action?

A high school student collapses during gym class, and is difficult to wake up. She is unable to speak. Some of the kids say that they thought she may have had a seizure? What do you do?

A middle school boy approaches you while you are monitoring study hall. He says he is having a "problem" and "needs to see the nurse." He looks uncomfortable and awkward. You know the Nurse is not in today. What would you do?

Test Your Knowledge: Answers

You find a second grade student crouched down in the hall crying. He "went out to get a drink of water." He looks in severe pain (he is shaking and rocking back and forth). He is hot to the touch and is struggling to breath. He looks like he is breathing really fast. What do you do?

CALL 911 and notify parents

A fourth grade student came in from recess in 40 degree weather and complains to you of pain 4/10 in her extremities. What is the appropriate action?

Walk student to nurse's or main office

A high school student collapses during gym class, and is difficult to wake up. She is unable to speak. Some of the kids say that they thought she may have had a seizure? What do you do?

CALL 911 and notify parents

A middle school boy approaches you while you are monitoring study hall. He says he is having a "problem" and "needs to see the nurse." He looks uncomfortable and awkward. You know the Nurse is not in today. What would you do?

Will require further investigation by SN or office staff related to EAP. At a minimum, walk with student or have someone escort him to office. Let the office know he is coming so they can be aware. (Pt may be suffering from a prolonged erection.)

Handouts

186 Part II ■ Legal Foundations for School Nursing

BOX 10-6
Sample Emergency Action Plan (EAP)

SAMPLE EMERGENCY ACTION PLAN

Student with Sickle Cell Disease _____ D.O.B. _____
 Name _____ Home phone _____
 Address _____ Grade _____
 Parents/guardians _____
 School _____
 Healthcare provider(s) _____
 Insurance provider _____ ICD-10-CM _____
 IEP Date _____ 504 Date _____ EAP Date _____ EEP Date _____

(See Emergency Contact information attached)

(Student name) has sickle cell disease. Her typical symptom is throbbing pain in the hands, feet, arms, and legs. Pain can present anywhere in the body. If not treated promptly, mild/moderate symptoms can progress quickly into an emergency situation. Severe symptoms can present suddenly. Questions: Contact the school nurse.

If (student name) develops symptoms at school, follow the steps below:

If You See This: Do This:

NONURGENT: Mild Symptoms

- Minor localized pain in extremity
- Minor injury
- Feeling of something wrong
- Tiredness, mild fatigue

Do This:

- **Send to health office: Do not doubt student's complaint.**
- Provide oral hydration (at least 4 to 8 oz/hour).
- Allow to rest.
- Contact parent/guardian.
- Administer pain medication as ordered.
- Do not put ice on minor injuries.
- Observe and reassess frequently.
- Return to class if feeling better.
- Send home if pain persists or prohibits active learning.

URGENT: Moderate symptoms

- Moderate fever $\geq 100^{\circ}\text{F}$ (37.8°C)
- Swelling/tenderness in extremity
- Mild to moderate pain
- Increased fatigue

Do This:

- **Send to health office with escort: Do not doubt student.**
- Provide oral hydration (at least 4 to 8 oz/hour).
- Allow to rest.
- Contact parent/guardian to transport student for medical care or home.
- Administer pain medication as ordered.
- Elevate affected extremity.
- Do not put ice on painful area.
- Observe student closely. Do not leave unattended.

EMERGENCY:

- High fever $\geq 103.1^{\circ}\text{F}$ (39.5°C)
- Severe pain in extremities, back, chest, abdomen, or head
- Seizure
- Decrease in mental status/alertness
- Difficulty talking, walking, or moving
- Chest pain, shortness of breath, cough, or turning blue
- Swollen abdomen
- Paleness, dizziness, fainting, or rapid heart rate
- Loss of consciousness

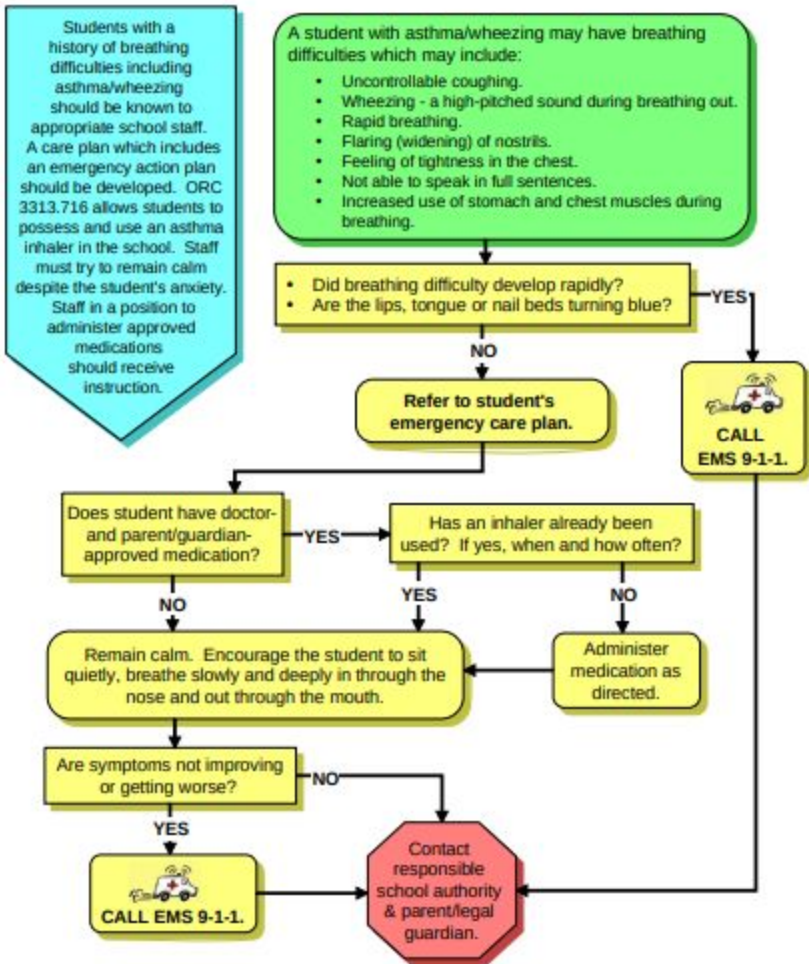
Do This:

- **Call 911.**
- Call the school nurse.
- Support the student until emergency medical services take over.
- Administer emergency interventions if ordered/indicated (list).
- Notify parent.
- Notify administrator.
- Staff member will accompany student to hospital.
- Follow up.

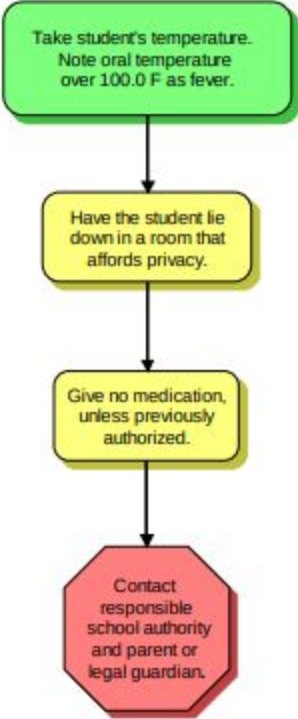
School Nurse: _____ Signature _____ Date _____
 Parent/Guardian _____ Signature _____ Date _____

(Selekman, 2019)

ASTHMA - WHEEZING - DIFFICULTY BREATHING

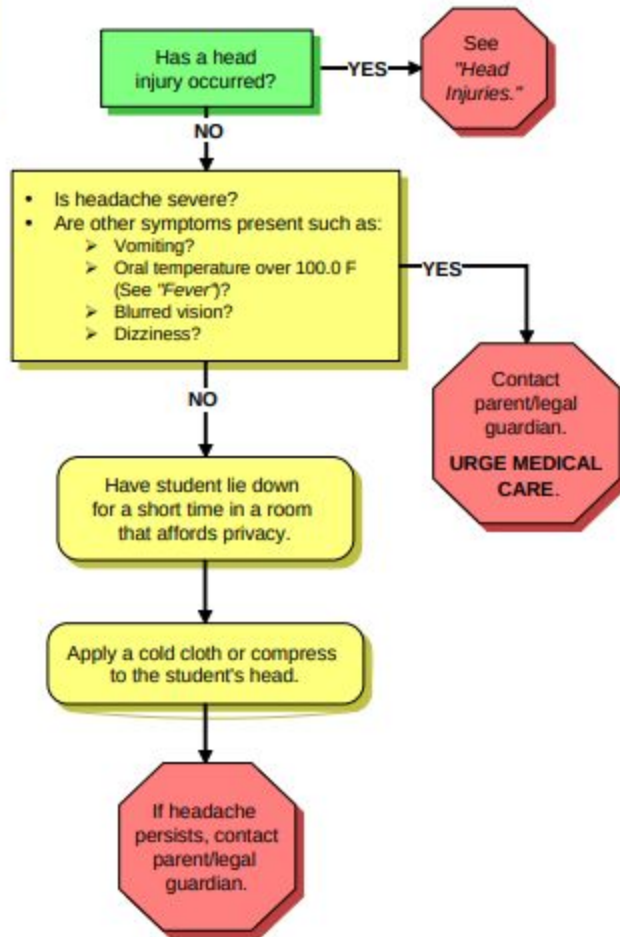


FEVER & NOT FEELING WELL

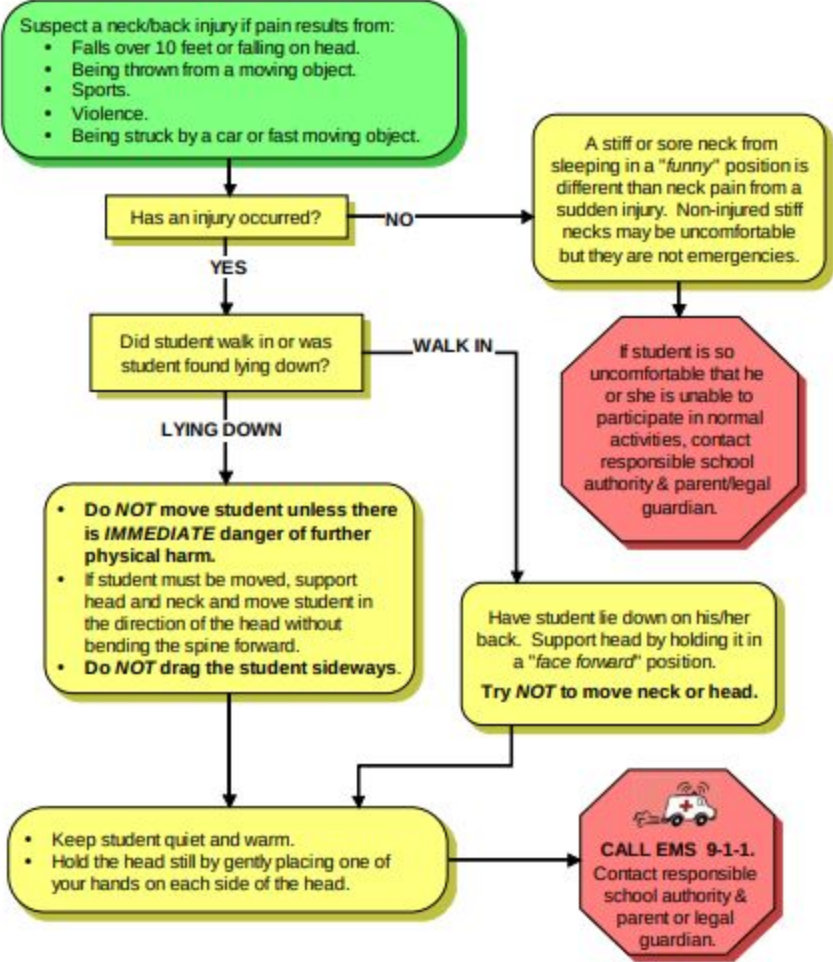


HEADACHE

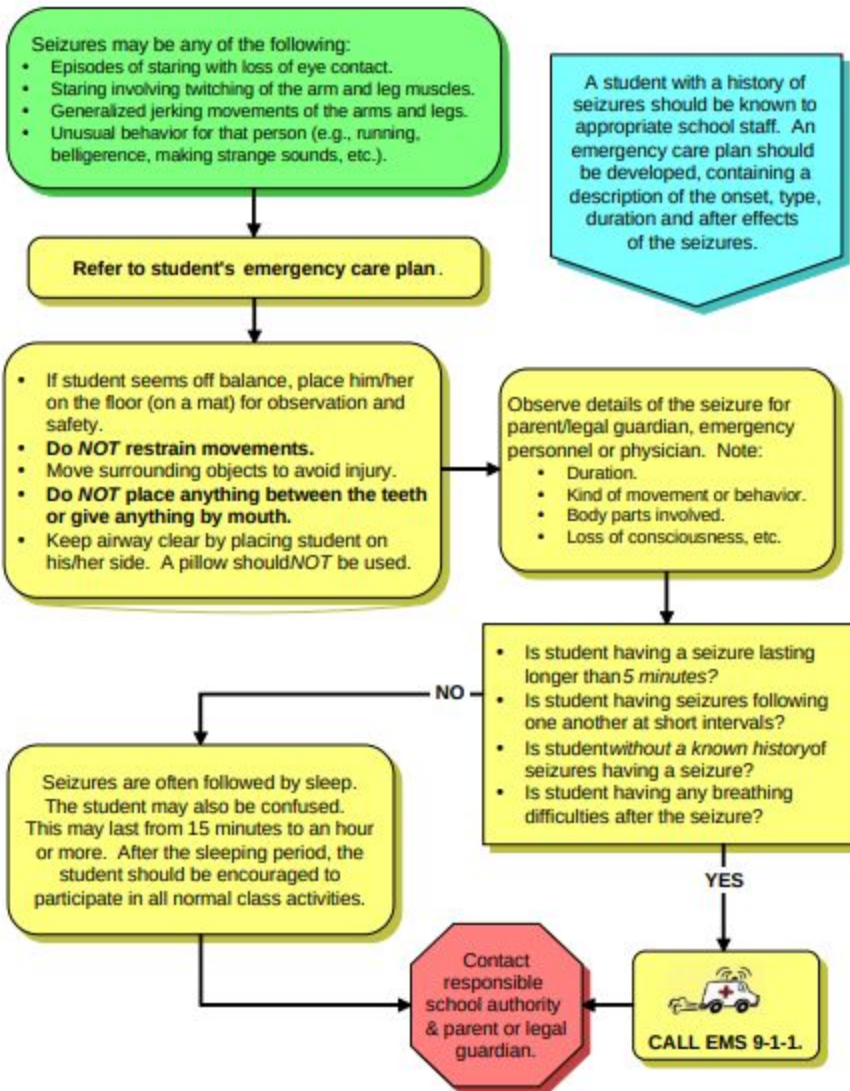
Give no medication unless previously authorized.



NECK & BACK PAIN



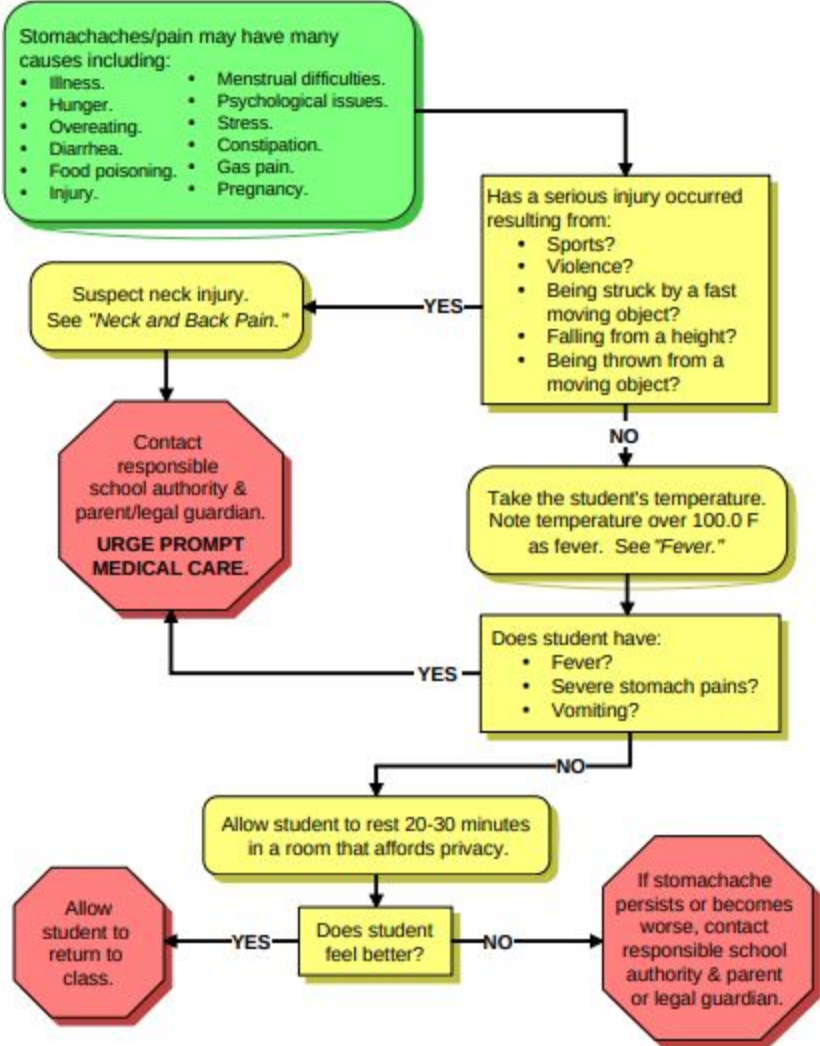
SEIZURES



A student with a history of seizures should be known to appropriate school staff. An emergency care plan should be developed, containing a description of the onset, type, duration and after effects of the seizures.



STOMACHACHES/PAIN



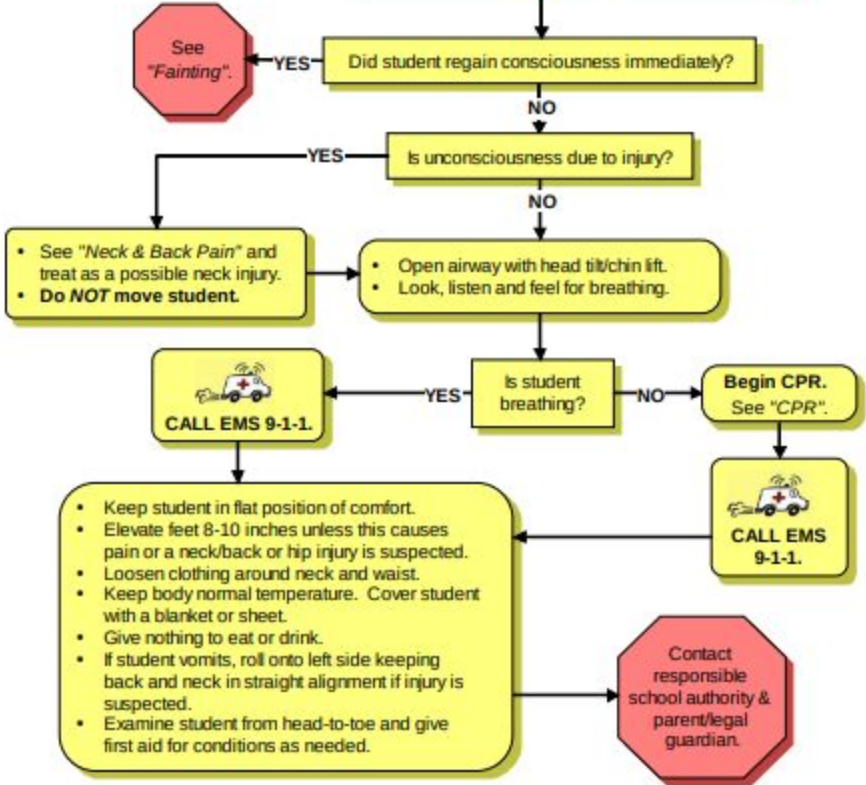
UNCONSCIOUSNESS

If student stops breathing, and no one else is available to call EMS, administer CPR for 2 minutes and then call EMS yourself.

Unconsciousness may have many causes including:

- Injuries.
- Blood loss/shock.
- Poisoning.
- Severe allergic reaction.
- Diabetic reaction.
- Heat exhaustion.
- Illness.
- Fatigue.
- Stress.
- Not eating.

If you know the cause of the unconsciousness, see the appropriate guideline.



References

Emergency Guidelines for Schools, 3rd ed. (2007, February). Retrieved from https://odh.ohio.gov/wps/wcm/connect/gov/5331f9a2-08b6-40dc-9717-f3ccc0ae5d72/Emergency+Guidelines+for+Schools.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_M1HGGIK0N0JO00QO9DDDDM3000-5331f9a2-08b6-40dc-9717-f3ccc0ae5d72-mmbJ4-G

Selekman, J., Shannon, R. A., & Yonkaitis, C. F. (2019). *School nursing: a comprehensive text*. Philadelphia, PA: F. A. Davis Company.

What is Sickle Cell Disease? (2019, October 21). Retrieved November 7, 2019, from <https://www.cdc.gov/ncbddd/sicklecell/facts.html>.

Gavin, M. L. (Ed.). (2018, August). Sickle Cell Disease Special Needs Factsheet (for Parents). Retrieved from <https://kidshealth.org/en/parents/sickle-cell-factsheet.html>.

Maryland State School Health Services Guideline. (June, 2019). Management Of Sickle Cell Disease In Schools. Retrieved from <https://www.sicklecelldisease.org/files/sites/181/2019/06/SickleCellDiseaseGuidelines-1.pdf>

Sickle Cell Disease. (n.d.). Retrieved from <https://www.nhlbi.nih.gov/health-topics/sickle-cell-disease>.

Sickle cell anemia. (2018, March 8). Retrieved from <https://www.mayoclinic.org/diseases-conditions/sickle-cell-anemia/symptoms-causes/syc-20355876>.