

Supporting Students with Adrenal Insufficiency

A Tier 3 training for teachers and staff for supporting students with adrenal insufficiency

ADAPTED FROM OREGON HEALTH AUTHORITY

SCHOOL NURSE ADVISORY GROUP

Objectives

As a result of this training, participants will be able to:

- Learn what Adrenal Insufficiency is and its causes
- Identify the dangers associated with adrenal insufficiency.
- Recognize the symptoms of adrenal crisis and common factors that lead to adrenal crisis.
- Provide examples of the types of medications that are available for treating adrenal crisis.
- Demonstrate proper administration of injectable medications that treats adrenal crisis.
- Explain the importance of follow-up treatment.

Standard of Care

- Legal Considerations
 - Federal Law
 - FERPA
 - Michigan School Code
 - Michigan Public Health Code
- Student Health Care Plans
 - Adrenal Crisis Action Plan
 - Medication Administration Authorization
- Coordination of Care
 - Student specific needs
 - Communication plan
- Training School Personnel
 - Tier 1
 - General Awareness for all staff
 - Tier 2
 - Emergency Care for MERT Team and Daily Support Staff
 - Tier 3
 - Daily Support for staff designated by administrator
- Ongoing Management and Support
 - Social/emotional considerations
 - Culturally appropriate
 - Building on Student strengths

Adrenal Crisis Plan

HEALTH CARE PROVIDER: Please Complete and Sign Medical Orders Below

Risk factors for acute adrenal crisis include physical stress such as infection, illness, dehydration, or trauma.

MILD SIGNS AND SYMPTOMS:

If student displays one or more of the following **mild** signs and symptoms (provider, please list): _____

Follow these steps:

1. Contact parent/guardian. If parent cannot be reached, contact emergency contact(s).
2. Administer hydrocortisone: _____ mg, by mouth.
3. If, after receiving oral hydrocortisone, the student begins to display one or more of the **severe** signs and symptoms below, follow steps below.

SEVERE SIGNS AND SYMPTOMS:

If student displays one or more of the following **severe** signs and symptoms (provider, please list): _____

Follow these steps:

1. Administer Solu-Cortef: _____ mg, intramuscularly into thigh muscle.
2. Activate EMS.
3. Contact parent/guardian. If parent cannot be reached, contact emergency contact(s).
4. Contact Healthcare Provider.

Healthcare Provider Name/Title

Healthcare Provider Signature

Date

Phone Number

Fax Number

Email

I give my permission to the school, school nurse, licensed/unlicensed assistive personnel, and other designated staff member(s) to perform and carry out the care tasks as outlined by this Acute Adrenal Crisis Action Plan for my child, and I acknowledge that I have received a copy of the signed plan. I also consent to the release of the information contained in this plan to all staff and other adults who have custodial care of my child and who may need to know this information to maintain my child's health and safety. I will notify extra-curricular staff about health plan and care to be given during after school activities. I give my permission for the school nurse to contact my child's healthcare provider(s) regarding the above condition.

Parent/Guardian Signature

Printed Name

Date

Adrenal Insufficiency Emergency Protocol

Suspect an Adrenal Crisis and Initiate the Emergency Protocol below if Student is:

- ☒ Unconscious
- ☒ Lethargic
- ☒ Suspected of having a Broken Bone
- ☒ Bleeding Severely
- ☒ Vomiting, more than once
- ☒ Feverish, greater than 101 degrees Fahrenheit

- ☒ Call 9-1-1 immediately:
 - ☒ Make call from location of incident, if possible.
 - ☒ Use speaker mode on phone, if possible.
 - ☒ Be prepared to provide EMS Dispatcher with location name and address and the entrance door number nearest to the emergency situation.
 - ☒ Don't hang up the phone until instructed to do so by the EMS Dispatcher.

- ☒ **Notify** front office of Emergency situation.

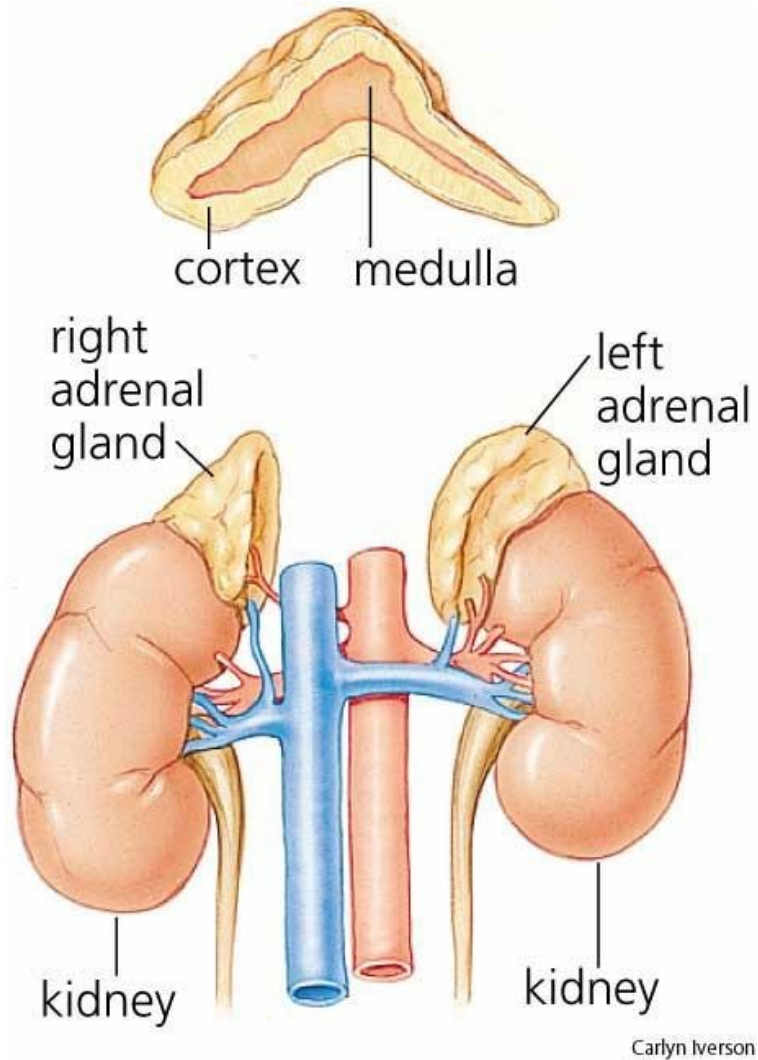
- ☒ **Announcement** (OVER-HEAD; WALKIE-TALKIE) to alert trained Medical Emergency Response Team (MERT) members:
"Attention Staff and Students We are now going into Lockin (Verbiage for all to stay in place) for a medical emergency in Room _____ . MERT team please respond."

- ☒ Available MERT members immediately carry out assigned tasks.
 - ☒ Take AED and any emergency medical supplies and Solu-Cortef ACT-O-VIAL to location.
 - ☒ Inform Central Administration of Emergency.
 - ☒ Contact parents. Meet them in the parking lot.
 - ☒ Meet the ambulance.
 - ☒ Unlock the gate/door/ direct traffic
 - ☒ Copy the medical records of the student. Provide to EMS.
 - ☒ Control the scene. Clear the area by directing uninvolved students to alternate location
 - ☒ Document emergency situation and response on Emergency Response/Incident Report form
 - ☒ Conduct debriefing session of incident and response following the event.

- ☒ MERT members immediately initiate the Student Medical Management Plan:
 - ☒ Provide necessary First Aid based on student's need;
 - ☒ If the student is conscious, keep him/her calm by reassuring him/her that you are trained to help;
 - ☒ Get the injection ready by following the MMP and Solu-Cortef ACT-O-VIAL instructions;
 - ☒ Administer the injection and continue supporting the student until help arrives:

- ☒ **Never leave student unattended;**
- ☒ **Turn the student on his or her side, monitor breathing and level of consciousness;**
- ☒ **If the student's condition worsens, advise the 911 dispatcher of the change in status;**
- ☒ **If no breathing or ineffective breathing, start CPR and use AED;**
- ☒ Give the empty vial to EMS Responders when they arrive.

PLEASE NOTE: WHEN IN DOUBT, INJECT!



Adrenal Glands

Adrenal Insufficiency

Definition: Adrenal glands do not produce enough of the necessary hormones (cortisol and aldosterone) to respond to stressors.

Cortisol and Aldosterone:
help to maintain and regulate key functions in the body:

- blood pressure
- metabolism (how the body uses food for energy)
- immune system
- response to stress

Adrenal Insufficiency

CAUSES:

- Congenital conditions
- Cancers
- Tumors
- Other conditions that affect:
 - pituitary gland
 - adrenal gland
 - endocrine organs

ADDISON'S DISEASE

- Common term for primary adrenal insufficiency
- Occurs when the adrenal glands are damaged/cannot produce enough cortisol

Missing a hormone vital to life and must take replacement medications on a daily basis!

Adrenal Insufficiency vs. Adrenal Crisis

Adrenal Insufficiency:

- Chronic condition
- Adrenal glands fail to produce specific stress hormones
- Take daily medications

Adrenal Crisis:

- Acute!
- Exacerbation of adrenal insufficiency which can be caused by:
 - Illness
 - Injury
 - Stress
 - Missing daily medications

Adrenal Crisis Triggers

Illnesses such as a cold or the flu

An injury, such as a twisted ankle or a broken bone

Exposure to stressful situations; i.e. a fire-drill

Missing or stopping daily steroid medications

Adrenal Crisis

SUDDEN, SEVERE WORSENING OF SYMPTOMS WHICH MAY INCLUDE:

Severe pain (lower back/abdomen/legs)

Muscle weakness or cramping

Trouble focusing

Lethargy

Stomachache

Nausea and/or vomiting

Diarrhea

Dehydration

Low blood pressure

Headache

Red cheeks (not attributed with recess/PE)

Dizziness

Loss of appetite

Dark rings under the eyes

Changes in emotional behaviors- student may seem upset, angry or more tearful than normal

Fainting or passing out

Fever (over 100°F)

Medications

Routine Daily Medications

Stress Dose

Significant physical or emotional stress

NO ADRENAL INSUFFICIENCY

Produce up to **10X** the normal amount of hormones needed in response to the event.

ADRENAL INSUFFICIENCY

Cannot produce these hormones

Must be given extra dose of medication (on top of their daily prescribed dose)

This is called a **“STRESS DOSE”**

Stress Dose

Depending on the severity of the event, a stress dose may be given:

- orally
- via injection

Stress Dose

Adrenal Crisis Plan **will have:**

- **instructions for oral stress dosing for minor illness or injury**
- **instructions for emergency injection for serious illness or injury**

Adrenal Crisis

Student Specific response related to:

- Age
- physical condition
- specific stress event

One third of adrenal crises occur outside of the home.

Vomiting and **diarrhea** are most common

Adrenal Crisis Risks

Unconscious

Very lethargic

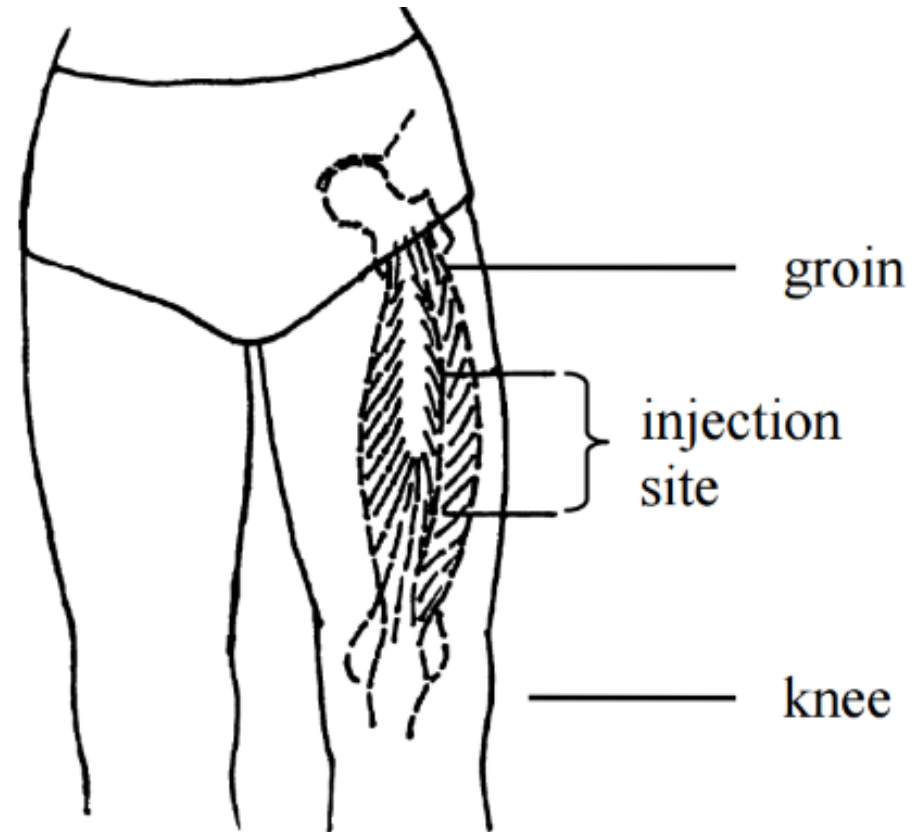
Hard to keep awake

Suffered a traumatic injury

- broken bone

Injectable Medications

Solu-Cortef
Solu-Medrol



Treatment

WHEN IN DOUBT, INJECT!

- Lack of Cortisol (stress hormone) during adrenal crisis puts the student at risk of **disability and death**.
- Administering the medication if the student is not in crisis, will **not** have any adverse effects.

Medication Access

Emergency Planning Must Include:

- Medication is readily available and in close proximity of the student
- Field trips or other off-campus functions
- Ability for students to carry their own medication during these special activities
- Trained personnel must accompany the child on field trips and activities

Medication Storage

Oral medication

Hydrocortisone tablets - room temperature (68°-77°F)

Fludrocortisone acetate (Florinef) -room temperature (between 59 and 86 degrees) and away from excess heat and moisture.

Injectable medications

Act-o-Vials of Solu-Cortef or Solu-Medrol should be stored

- at room temperature (68°-77°F)
- in a dry place protected from light

The solution should only be used if it is clear.

Call 911 and the student's parents.

MERT members immediately initiate the Student Adrenal Insufficiency Emergency Protocol:

- Provide necessary First Aid based on student's need;
- If the student is conscious, keep him/her calm by reassuring him/her that you are trained to help;
- Get the injection ready by following the MAA and Solu-Cortef ACT-O-VIAL instructions;
- Administer the injection and continue supporting the student until help arrives

The injection will not produce an immediate effect.

Give the empty vial to the Emergency Medical Responders when they arrive.

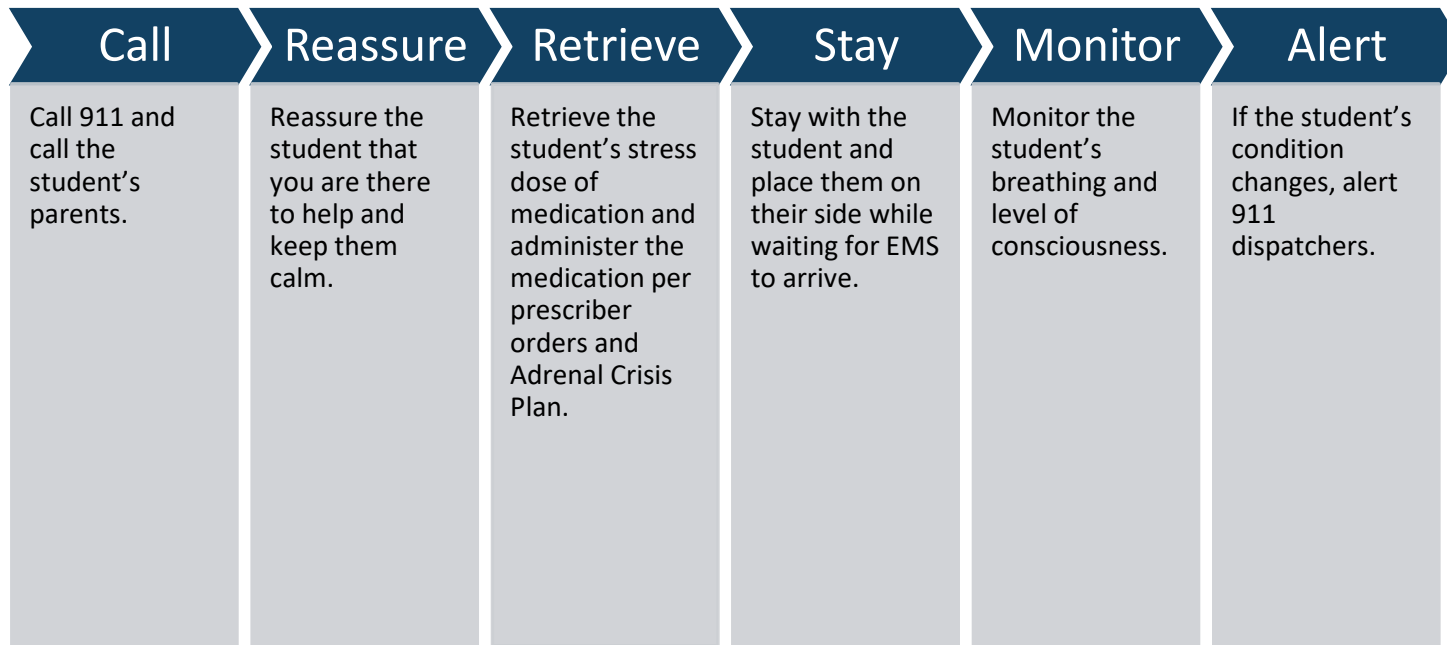
Treatment for Adrenal Crisis

Scenario #1

A student with diagnosed adrenal insufficiency suffers a broken wrist after falling from a jungle gym on a sunny day.

She is crying in pain and states her stomach hurts.

What would you do?



Scenario #1

Answer

Scenario #2

A student with known adrenal insufficiency suffers a skinned knee while running from a bee.

The child complains of pain to the knee but is happy that the bee “went away.”

The child is alert and has no other complaints.

What would you do?



Scenario #2

Answer

The child is not suffering from an adrenal crisis at this time.

Treat the student for the skinned knee and monitor them.

If no other symptoms arise, the student is not at risk for adrenal crisis.

Notify the student's parents of what happened so that they can continue to monitor their child later.

Attempt to keep the student relaxed throughout the rest of the day, by not adding any additional stress and by avoiding emotional triggers.

Review

Students who are diagnosed with adrenal insufficiency are unable to produce the hormones needed when responding to specific emotional or physical stressors such as:

- A broken limb
- A fire drill
- The flu

Students will need a “**STRESS DOSE**” of medication when they are suffering from an adrenal crisis.

Summary

Review and be familiar with the student's Adrenal Crisis Plan for:

- the student's baseline activity level, attitude and behavior.
- the specific emotional or physical stressors that might trigger an adrenal crisis.
- the student's past history with adrenal crisis.
- the medication and administration route that is prescribed to the student from their provider to use during an adrenal crisis.

Summary

ADRENAL CRISIS IS SUDDEN, SEVERE WORSENING OF SYMPTOMS WHICH MAY INCLUDE:

Severe pain (lower back/abdomen/legs)

Muscle weakness or cramping

Trouble focusing

Lethargy

Stomachache

Nausea and/or vomiting

Diarrhea

Dehydration

Low blood pressure

Headache

Red cheeks (not attributed with recess/PE)

Dizziness

Loss of appetite

Dark rings under the eyes

Changes in emotional behaviors- student may seem upset, angry or more tearful than normal

Fainting or passing out

Fever (over 100°F)

Summary

When in doubt,

INJECT the student with their STRESS DOSE , Call 9-1-1 and activate MERT!

- The lack of Cortisol (stress hormone) during adrenal crisis puts the student at risk of **disability and death.**
- Even if the student is not in crisis, administering the medication will **not** have any adverse effects.

Thank you!