ALABAMA HEALTH SERVICES
SAFE SCHOOLS ADRENAL INSUFFICIENCY CURRICULUM

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Contents

Background and Rational

Alabama Act No. 2023-75, which amended the Alabama Safe at Schools Act, requires the State Board of Education, in consultation with the Alabama Board of Nursing, to develop guidelines for the training of school employees in the necessary care for students with medical needs related to an adrenal insufficiency according to the student's Individual Health Plan, to include permitting the administration of injectable medications specific to the adrenal insufficiency of the student. The training guidelines must be approved by the State Board of Education and the Board of Nursing, and each local board of education is required to ensure that adrenal insufficiency training programs are provided for all nurses and unlicensed medication assistants at schools under its jurisdiction. The Board adopted a new rule, §610-x-7-.14, to facilitate this delegation by a licensed nurse.

The Alabama State Department of Education (ALSDE), in collaboration with the Alabama Board of Nursing (ABN), has developed a standardized training program for registered nurses to educate and validate the competency of those unlicensed medication assistants to whom medication administration may be delegated. The decision to give medication to a student diagnosed with adrenal insufficiency is based on the student's health management plan. The management of an adrenal crisis requires a complex emergency response. The student may experience adverse physical, emotional, and behavioral signs and symptoms, such as decreased cognitive awareness and impaired ability to recognize the advancing signs and symptoms of an adrenal insufficiency crisis. The event may also impact the student's physical dexterity. Thus, self-administration of hydrocortisone sodium succinate (Solu-Cortef) before and during an adrenal insufficiency crisis can be extremely challenging for the student.

Currently, no self-administration or inclusive drug administration kit is available on the pharmaceutical market for the injection of hydrocortisone sodium succinate. Thus, the school nurse is responsible for training a volunteer unlicensed medication assistant to prepare and administer an intramuscular (IM) injection when the student cannot self-administer the medication. In addition, unlicensed medication assistants must be trained to support the students until licensed medical personnel arrive. A trained unlicensed medication assistant is not permitted to conduct assessments or make judgments about the need for emergency care but must follow what is outlined explicitly in the student's individualized emergency action plan (IEAP) developed from the Individual Healthcare Plan (IHP). The IHP is based on orders written by the student's personal physician or authorized prescriber.

Note: Orders from a legally authorized prescriber include instructions for oral stress dosing for minor illness or injury and instructions for injectable stress dosing for serious illness or injury.

This education is for the trained unlicensed medication assistant training to recognize signs and symptoms of adrenal insufficiency and adrenal crisis that require immediate care. The training session must allow enough time for the trained unlicensed medication assistant to read through the protocol and observe the procedure for administering Solu-Cortef Act-O-Vial (hydrocortisone) for the adrenal crisis. The trained unlicensed medication assistant must provide a return demonstration of administering the Solu-Cortef Act-O-Vial and complete the evaluation tool. The trainee's experience with giving injections and/or their comfort level should be assessed to determine how to demonstrate the procedure best and provide a viable practice opportunity.

KEY OUTCOMES:

1. The trainee will be trained to recognize signs and symptoms of adrenal insufficiency and adrenal crisis based on the student's IEAP.
2. The trainee will understand medication dosage based on the individual student's IHP.
3. The trainee will successfully administer the Solu-Cortef Act-O-Vial demonstration.

Each local board of education must provide adrenal insufficiency and adrenal crisis training programs for all school nurses and unlicensed personnel under its jurisdiction. No unlicensed personnel may be coerced or made to carry out this duty.

Definitions

Adrenal Insufficiency: Adrenal insufficiency is a hormonal disorder that occurs when the adrenal glands do not produce enough hormones. Adrenal insufficiency is a chronic condition requiring the student to take daily medications.

Adrenal Crisis: Adrenal crisis is an acute condition that is an exacerbation of the student's adrenal insufficiency caused by illness, injury, stress, or missing daily medications.

Individual Emergency (Adrenal Insufficiency and Crisis) Action Plan (IEAP): The essential information school staff may need to know to help a student with adrenal insufficiency and adrenal crisis. It includes information on first aid, parents, health care provider contacts, and medications specific to the individual student.

Individualized Health Plan (Adrenal Insufficiency): The Individualized Health Plan (IHP) shall be developed by the school nurse, in consultation with the parent or guardian, and contain the adrenal insufficiency crisis emergency action plan and valid health care orders by an authorized prescriber.

The IHP identifies the following elements:

- specific actions for school personnel to perform
- a plan for communicating with parents and the child's medical providers
- school policies and procedures for administering medications, including parental authorization
- procedures for handling bodily fluids as encountered with vomiting, diarrhea, and injections
- an action plan for each child with adrenal insufficiency which includes information about medications, dosage, method of administration and frequency, procedures to follow during field trips or outings, and how to handle emergencies, including specific signs and symptoms

> **The decision to give medication to a student diagnosed with adrenal insufficiency is based on the student's individual health plan and individual emergency action plan. THE RECOGNITION OF THE SIGNS OF ADRENAL CRISIS AND MEDICATION SHOULD NOT BE POSTPONED.**

School Setting: Preschool through 12th grade in a public or private school or school bus or any school activity sponsored by such a school in which the student is a direct participant, including but not limited to before-school and after-school programs, field trips, extended off-site excursions, and extracurricular activities.

Stress Dose: A stress dose is an extra medication given in addition to the student's daily prescribed dose when the student's body experiences physical or emotional stress. Depending on the severity or nature of the event, the stress dose may be given orally or via an injection.

Trained, Unlicensed Medication Assistant: A school employee who volunteers to receive delegation to assist with medication administration and rescue medication administration in the school setting and gets the approved training.

Recommended Training and Resources

1. School Personnel- Video Overview of Adrenal Insufficiency **https://kidshealth.org/en/parents/adrenal-insufficiency.html?ref=search**

2. Trained, Unlicensed Medication Assistant- Delegated to administer adrenal insufficiency orally and assist with stress dose, including the hydrocortisone injection.

Must complete training education, test, and return demonstration of Solu-Cortef Injection at the time of delegation.

- Video **https://kidshealth.org/en/parents/adrenal-insufficiency.html?ref=search**
- Appendix 1 Demonstrative Solu-Cortef- Act-O-Vial Competency Form.
- Appendix 2 Alabama State Department of Education Documentation of Training
- Appendix 3 Adrenal Insufficiency Test
- Appendix 4 Adrenal Insufficiency IHP and IEAP (draft)

Note: The Alabama Department of Education School Nurse Administrator and Lead Nurse should always ensure that information is current evidence-based practice.

Overview of Adrenal Insufficiency

Adrenal insufficiency is a rare condition in which the adrenal glands (glands on top of the kidneys) do not make enough cortisol or aldosterone. These hormones help the body respond to stressors such as illness or injury.

These hormones help maintain and regulate the body's critical functions, such as blood pressure, metabolism (how the body uses food for energy), the immune system, and how the body responds to stress.

Adrenal insufficiency can be caused by hormonal imbalances that originate in the adrenal glands (one sits atop each kidney), pituitary gland, or hypothalamus.

1. Primary adrenal insufficiency, also called Addison’s disease, refers to conditions in which the adrenal glands are damaged and do not produce sufficient cortisol levels. Autoimmune disorders cause most cases of Addison’s disease.

2. Secondary adrenal insufficiency refers, most commonly, to conditions in which hormone imbalances of the pituitary gland impact cortisol production in the adrenal glands. Secondary adrenal insufficiency is much more common than Addison’s disease.

Regardless of the type of adrenal insufficiency or its cause, a life-threatening adrenal crisis may result if the adrenal insufficient patient is not given a stress dose orally or by injection during times of physiological stress, such as illness or a severe injury.

An **adrenal crisis** is a sudden, severe worsening of symptoms associated with a student diagnosed with adrenal insufficiency. Symptoms of adrenal crisis may include severe pain in the lower back, abdomen, or legs, vomiting, diarrhea, dehydration, low blood pressure, or loss of consciousness.

The trained unlicensed medication assistant must understand how to administer the student's medication appropriately based on the student's IHP and IEAP.

Medications to Treat Adrenal Insufficiency and Adrenal Crisis

Cortisol secretion naturally varies with the time of day and in response to changes in the body, such as illness or physical stress. Hydrocortisone is the generic name of a medication often prescribed for children who are making less cortisol than they need. To mimic this natural pattern, different doses of hydrocortisone may be given at different times throughout the day. For this reason, the student must receive their medication as prescribed**.** To keep their condition under control, a student must take a daily oral dose of hydrocortisone. Patients with aldosterone deficiency usually take a pill called fludrocortisone to maintain salt balance.

Note: Notify the school nurse if the medication is delayed or a stress dose is needed.

When there is a suspected adrenal crisis, additional doses of oral medication may be necessary, or an injectable medication, such as Solu-Cortef, may be required. An injectable medication is injected intra-muscularly into a large muscle, such as the thigh.

Symptoms of Adrenal Crisis Requiring Stress Dose:

The school personnel should be aware of the triggers of crisis**.** An adrenal crisis may be triggered by a sudden or lengthy illness, such as a cold or flu; an injury that might occur on the playground or in the gym; or exposure to stressful situations, such as a fire drill. The school nurse should be notified if a trigger has occurred with the student. Students with adrenal insufficiency may experience an adrenal crisis in many ways.

When a student experiences physical or emotional stress, a "**stress dose"** of medication is often given. A hydrocortisone dose will need to be increased during significant stress because the student's body cannot make more hydrocortisone. The student's IHP and IEAP will have instructions for **oral** stress dosing for minor illnesses or injuries. Depending on the severity of an event, a Solu-Cortef (hydrocortisone sodium succinate) **injection** may be necessary. **Fludrocortisone acetate** (Florinef) **is not given as a stress dose.**

Note: Do not delay or second guess whether the student is in crisis – when in doubt, provide the medication as directed in the student's IHP and IEAP. This may include giving additional oral doses or an injection.

Each person's symptoms with adrenal insufficiency will vary. Symptoms may include:

- Weakness
- Tiredness and lack of energy (fatigue)
- Dizziness
- Confusion
- Fluid loss (dehydration)
- Lack/loss of appetite

- Muscle aches
- Upset stomach (nausea)
- Vomiting (student unable to take the oral medication)
- Diarrhea
- Low blood pressure
- Low sugar levels
- Fever

If not treated, adrenal insufficiency may lead to a worsening of symptoms (Adrenal Crisis):

- Severe vomiting/diarrhea
- Severe belly (abdominal), lower back, and/or leg pain
- Extreme weakness
- Low blood pressure
- Loss of consciousness
- Seizure

Symptoms of Adrenal Crisis Requiring an Injected Stress Dose

The speed at which a student's health status may worsen is related to age, physical condition, and underlying circumstances. If the **student cannot** take oral medication associated with the following symptoms, an injection of a prescribed medication may be needed according to the healthcare provider's orders:

- Severe vomiting
- Seizure
- Severe trauma (more than one broken bone or other traumatic injury)
- Unconsciousness

If any severe symptoms occur, an emergency injection of hydrocortisone (e.g., Solu-Cortef (hydrocortisone sodium succinate) should be given according to the healthcare provider's order.

Note: Although these are more classical symptoms of an adrenal crisis, the physician will provide specific symptoms requiring a stress dose orally and per injection.

Medications to Treat Renal Insufficiency and Adrenal Crisis

Storage

Plans should be in place to ensure that medication is readily available to the student and always secure.

Oral medications – hydrocortisone tablets should be stored at room temperature (68°-77°F), and fludrocortisone acetate (Florinef) should be stored at 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 powder must be reconstituted with 2 ml of sterile water and should not be mixed until just before it is injected during an adrenal crisis emergency. **The solution should only be used if it is clear.**

Medication Access Off-Campus

Plans should be in place to ensure that medication is readily available and near the student. Transportation activities such as field trips or other off-facility functions must be considered when planning emergency measures for possible treatment of the adrenal crisis. Depending on the age of the student and school policies, it may be advisable for students to carry their medication during these special activities, and a trained unlicensed medication assistant or licensed nurse must accompany the student.

Note: The school nurse must verify the stress dose and that the emergency kit is available and contains the student's needed medication. The emergency kit should include a copy of the IEAP (the student's specific symptoms and medication dosage).

Hydrocortisone sodium succinate

Students with adrenal insufficiency will have an emergency kit with the appropriate medication verified by the school nurse. The emergency kit will include instructions specific to the student's stress dose administration.

Solu-Cortef® is the product name for hydrocortisone sodium succinate of the corticosteroids drug class that comes in an Act-O-Vial®. The medication is a powder and must be mixed with liquid to be administered via the IM.

Note: If the student's injectable medication is not prepared in an Act-O-Vial, the school nurse must review whether the medication can be delegated and provide additional education on the student's injection medication.

The preparation and reconstitution of hydrocortisone sodium succinate involves reconstituting the medication powder by pressing down on a plastic activator and agitating the solution to dissolve the medication. Once dissolved, the top of the stopper must be wiped with a suitable antiseptic, and a needle/syringe must be inserted into the stopper. The vial is then inverted, and the medication is withdrawn into the syringe. The medication must be injected into the thigh muscle, known as an intramuscular route of medication administration.

Note: The Act-O-Vial can expire; please review the expiration date. Notify the guardian/parent before the expiration date.

How to Administer Hydrocortisone Solu-Cortef Injection

How to Give an Emergency Shot Using Solu-Cortef® Act-O-Vial® (youtube.com)

Materials needed (Emergency Injection Kit):

Medication Solu-Cortef
Syringe and injection needle
Alcohol swabs (antiseptic)
Cotton ball or gauze
Sharps container
Latex or nonsterile gloves

Preparation of medication:

1. Call for help and direct 911 to be called. Identify the student. Do not leave the student alone.

2. Get the emergency injection kit. Set on a clean, open surface.

3. Read the label to ensure Solu-Cortef. Check the expiration date on the Solu-Cortef Act-O-Vial. If the medication has expired, do not use it. Check if you have another vial that isn't expired. If you don't have another vial, call 911.

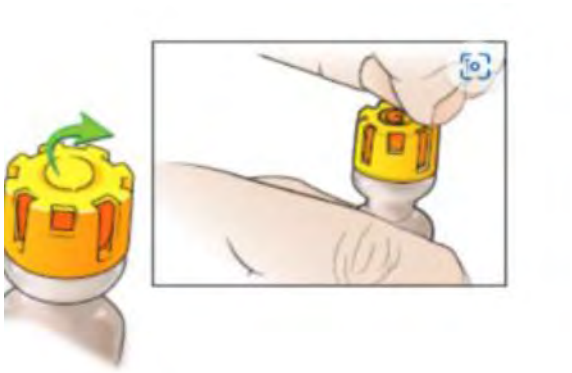
4. Clean your hands with soap and water or an alcohol-based hand sanitizer.

5. Put on gloves.

6. Place the vial on a firm surface. Push down hard on the plastic activator of the medication Act-O-Vial to force the diluent into the lower chamber.

7. Mix the solution by turning the vial upside down several times. **Do not shake.** (The solution is initially cloudy but then clears**. If the solution is unclear, do not administer and wait for rescue personnel to arrive).**

8. Remove the yellow plastic tab covering the center of the stopper. You will see an orange rubber stopper underneath.



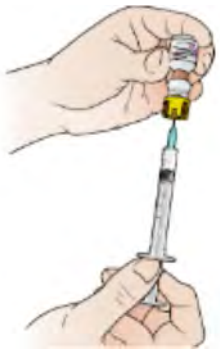
Drawing up the medication from a vial:

9. Wipe the top of the vial with an alcohol swab.

10. Pick up the 2ml syringe and take the cap off the needle. Ensure the needle and syringe are connected.

11. Insert the sterile needle squarely through the center of the orange rubber stopper until the needle is visible in the liquid.

12. Invert the vial and withdraw the required dose, keeping the needle below the liquid (helps to prevent air bubbles in the syringe). Gently pull the plunger back to fill the syringe with the **correct amount of liquid (Solu-Cortef) for the dose**. Then, pull the needle out of the vial.



13. If air bubbles are noted, tap the syringe gently with your fingers until they rise to the top, near the needle. Slowly push the plunger up to force the air bubbles out of the syringe. Be careful not to push out any medication**. Replace the cap.**

Note: Talk with students and reassure them; let them know what you are going to do.

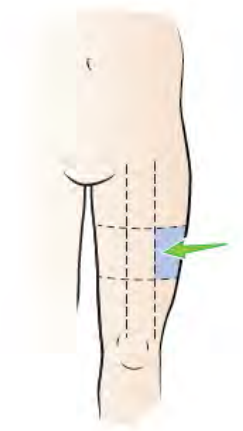
Consider the location where the medication is to be injected. If the injection needs to be in the upper thigh, it will be necessary to pull down pants or raise a skirt.

The upper thigh is recommended in a school setting.

This should occur privately, and steps should be taken to make the student comfortable. Consider having a blanket or curtain. It is recommended that two personnel be present if possible.

Note: Ensure student privacy is maintained. The plan needs to address how to maintain student privacy.

14. Uncover the area to be injected (upper thigh). It is typically the outer portion in the middle of the thigh.



The injection site

15. Use an alcohol wipe to cleanse the injection site on the skin.

16. Remove the cap from the needle. Hold the syringe like a dart (hold the syringe firmly).

17. Dart the needle into the **outside** mid-thigh at a 90-degree angle. Press the plunger until all medication is administered. (this should only take 10 seconds)

18. Withdraw the syringe quickly and discard it into a sharp container. Press the cotton swab firmly over the site for a few seconds.

Note: Do not recap the needle.

19. Talk with the student and give additional reassurance, if necessary.

20. Clean up and dispose of waste safely.

21. Remove gloves and **wash hands.**

If medical assistance was not summoned, call 911 or have someone do this for you.

DO NOT LEAVE THE STUDENT UNATTENDED.

Advise the emergency personnel of the type of medication that was given (saving the vial will help with identification).

Note: Once an emergency injection of Solu-Cortef has been given to a student for symptoms of adrenal crisis, the school nurse and parent /guardian should be contacted.

The parent /guardian is responsible for contacting the student's physician and obtaining additional medication to replace what was used in the emergency.

Side Effects of Hydrocortisone Injections

Hydrocortisone (the active ingredient in Solu-Cortef) may cause some unwanted effects. This is why it is essential not to leave the student unattended until emergency personnel arrive. Although not all these side effects may occur, if they do occur, they may need medical attention.

Hydrocortisone injection side effects may include:

- Allergic reaction
- Bloody or black stool (poop).
- Fever
- Sore throat
- Cough
- Mood swings
- Pain at the injection site
- Pain in the hips, back, ribs, arms, shoulders or legs

What if I give a shot that isn't necessary?

It is always better to "over" treat the student if the student is suspected to be in an adrenal crisis than to "under" treat the student when they are sick or appear stressed. The student cannot be harmed by receiving a shot of Solu-Cortef that may appear unneeded later. On the other hand, not giving a shot when needed could cause the student to go into shock, which is potentially life-threatening.

References:

Alabama Board of Nursing Laws – Alabama Board of Nursing

https://www.childrensal.org/services/endocrinology-and-diabetes/general-endocrinology-resources

https://kidshealth.org/en/parents/adrenal-insufficiency.html?ref=search

https://downloads.aap.org/dosp/adrenal_insufficiency.pdf

https://newsnetwork.mayoclinic.org/discussion/mayo-clinic-q-and-a-understanding-adrenal- insufficiency/

https://www.hopkinsmedicine.org/health/conditions-and-diseases/adrenal-glands

www.nadf.us

https://www.nadf.us/uploads/1/3/0/1/130191972/emergency_injection_kit_instructions_9-30- 21.pdf

https://www.pfizermedicalinformation.com/en-us/solu-cortef/dosage-admin

https://www.cureus.com/articles/142477-long-term-usage-of-oral-glucocorticoids-leading-to- adrenal-insufficiency-a-comprehensive-review-of-the-literature#!/
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https://www.oregon.gov/oha/PH/PROVIDERPARTNERRESOURCES/EMSTRAUMASYSTEMS/Documents/Training%20Material/Adrenal%20Crisis%20Training%20Protocol.pdf

https://www.accessdata.fda.gov/drugsatfda_docs/label/2014/009866s104lbl.pdf

https://www.pfizermedicalinformation.com/en-us/solu-cortef/warnings

https://healthy.kaiserpermanente.org/health-wellness/drug-encyclopedia/drug.solu-cortef-act-o-vial- pf-100-mg-2-ml-solution-for-injection.561070

How To Give an Emergency Shot Using Solu-Cortef® Act-O-Vial® | Memorial Sloan Kettering Cancer Center (mskcc.org)
https://www.oregon.gov/oha/ph/ProviderPartnerResources/EMSTraumaSystems/Pages/epi-protocol-training.aspx

Student Name: **School Year:**

Appendix 1

Demonstrative Sol-Cortef- Act-O-Vial Competency Form

Individualized Health Care Plan

Student Name: **School Year:**

Alabama State Department of Education

Demonstrated Competency Checklist-Emergency Hydrocortisone Injection Training

Preparation of the Solu-Cortef Act-O-Vial Medication Injection	**Performed Yes (Y) or No (N)**	**COMMENTS** (Repeat competency date, if applicable)
1. Confirmed the correct student and the student's specific symptoms requiring stress or oral or hydrocortisone injection. **Identify the student's specific symptoms that require injection.**		
2. **Confirmed call for help and direct 911 to be called.** Do leave the student alone.		
3. Reviewed the location of the student emergency kit and dose. Set on a clean surface and open surface. **Stated the correct dose to be administered**_____		
4. **Washed hands** (may apply alcohol-based hand sanitizer.) and applied gloves.		
5. Prepared the medication. Push down hard on the plastic activator of the medication Act-O-Vial to force the diluent into the lower chamber. Mixed the solution by turning the vial upside down several times. Did not shake. Verified the solution is clear (the solution is initially cloudy but then clears). Removed the yellow plastic tab covering the center of the stopper. Wiped the top of the vial with an alcohol(antiseptic) swab.		
6. Drew up the correct dose _____ of medication. Pick up the syringe and remove the cap from the needle. Inserted the sterile needle squarely through the center of the orange rubber stopper until the needle is visible in liquid. Gently pulled the plunger back to fill the syringe with the correct amount of liquid (Sol-Cortef). Then, pulled the needle out of the vial—replaced cap.		
7. Injected the medication in the outside mid-thigh. Used an alcohol wipe to cleanse the injection site on the		

Individualized Health Care Plan

Student Name: **School Year:**

skin. Used the thumb and first two fingers to spread the skin while pushing down lightly. Darted the needle into the outside mid-thigh at a 90-degree angle. Pressed the plunger until all medication was administered. Withdrew the syringe quickly and discarded it into a sharp container. **Did not recap.**		
Held light pressure on the injection site. A bandaid may be applied. Talked with the student and gave additional reassurance, if necessary.		
8. Removed gloves and washed hands.		
9. Verbalized - Remain with the student until EMS arrives.		
10. Notifies nurse and parent/guardian		
11. Demonstrated documentation of the event per school guidelines.		
12. Assisted the school nurse with the Unusual Occurrence Report and forwarded it to LEA's Lead Nurse.		

Printed Name Trained Unlicensed Medication Assistant	Signature of Medication Assistant	Date
Printed Name of Registered Nurse	Signature of Registered Nurse	Date

Note: A trained medication assistant must complete all steps to be deemed competent.

Individualized Health Care Plan

Student Name: **School Year:**

Appendix 2

Alabama State Department of Education Documentation of Training

Individualized Health Care Plan

Student Name: **School Year:**

Checklist-Emergency Adrenal Insufficiency Training

KNOWLEDGE SETS	CHECK ALL THAT APPLY	COMMENTS (Repeat competency date, if applicable)
Describes the importance of cortisol: medicating the stress response, regulating metabolism, the inflammatory response, and immune function		
States common reasons for hydrocortisone injection: If the child is unable to take oral medication because of vomiting, seizure, trauma, unconsciousness, or other indications provided by the child's healthcare provider		
Verbalizes Solu-Cortef side effects: stomach upset, headache, dizziness, rapid heartbeat, menstrual changes, acne, pain/redness at the injection site, transient hypertension		
Identifies treatment supplies: Solu-Cortef vial, needle, syringe, alcohol preps		
SKILLS SETS		
Confirms the student's specific symptoms requiring hydrocortisone injection		
Calls 911, and the school nurse		
Demonstrates proper preparation of the Solu-Cortef injection		
Demonstrates proper injection technique. (clean site, inject at a 90-degree angle, apply pressure)		
Remain with a student until EMS arrives.		
Notifies parent/guardian		
Documentation of event		
Completes Unusual Occurrence Report and forwards to LEA's Lead Nurse		

KNOWLEDGE SETS AND SKILL SETS COMPLETED Initials of Training RN for Above ( )

_____ has completed an approved training program covering recognition of symptoms of adrenal crisis and proper medication administration to treat adrenal insufficiency, including injection of Solu-Cortef.

Printed Name of Registered Nurse	Signature of Registered Nurse	Date
Printed Name of Unlicensed Medication Assistant	Signature of Unlicensed Medication Assistant	Date

Student Name: **School Year:**

Appendix 3

Adrenal Insufficiency Test

Individualized Health Care Plan

Student Name: **School Year:**

Adrenal Insufficiency Quiz

Name: _____ Date: _____

(Must Score 10/10)

1. Which worsening adrenal insufficiency symptoms (adrenal crisis) would require a stress dose? Circle all that apply.
   a. Severe vomiting/diarrhea
   b. Severe belly (abdominal), lower back, and/or leg pain
   c. Extreme weakness
   d. Low blood pressure
   c. Loss of consciousness
   e. Seizure

2. When a child with adrenal insufficiency suffers a physical or emotional event, they are unable to produce the stress hormone _____ and need a 'stress dose' of their prescribed medication to avoid a life-threatening event.

3. What is the prescribed dose of medication that a student needs during an adrenal crisis?
   a. Missed dose
   b. Delayed dose
   c. Stress dose
   d. Peak dose

4. What plan is on file with the school should you review to identify a student's adrenal crisis signs, symptoms, medication dosage, and administration?

5. List all items that should be included in a student's emergency kit.

Individualized Health Care Plan

Student Name: **School Year:**

6. What events could trigger an adrenal crisis in a student? Circle all that apply.
   a. Too much sugar
   b. Broken ankle
   c. Scraped knee
   d. Excessive vomiting

7. When in doubt about an adrenal crisis, do not give the student their stress dose of medication.
   a. True
   b. False

8. When reconstituting any injectable drug to be given to a child suffering from adrenal crisis, if the solution remains _____, you are instructed not to administer the drug and to wait for EMS providers.

9. How often must trained, unlicensed medication assistants train to administer Solu-Cortef insufficiency?
   a. Once a year
   b. Twice year
   c. As needed.
   d. a and c
   e. b and c

10. When administering the Solu-Cortef injection in the school setting it should be injected into the:
    a. Arm
    b. Stomach
    c. Thigh
    d. Buttocks

Individualized Health Care Plan

Student Name: **School Year:**

Appendix 4

Adrenal Insufficiency IHP and IEAP

Individualized Health Care Plan

Student Name: **School Year:**

Adrenal Insufficiency Individualized Healthcare Plan

SECTION I

Student:			WT: HT:
Grade:	D.O.B	Any Known Allergies	
School:			
District:		Bus (check one) ☐ YES ☐**NO** **Bus #AM**	**Bus #PM**
School Nurse:		Work#	Cell#
Medication taken at home: (please list)			

Contacts

Mother	Home#	Work#	Cell #
Father	Home#	Work#	Cell #
Guardian/Custodian	Home#	Work#	Cell #
Home Address		City#	Zip
Emergency Contact (Relationship)		Home#	Work#
Physician		Phone#	Fax#
Physician Address		City	Zip

Date	Special Notes

Individualized Health Care Plan

Student Name: **School Year:**

Adrenal Insufficiency Individualized Healthcare Plan

Disease Overview:

ADRENAL INSUFFICIENCY

Adrenal insufficiency is an endocrine, or hormonal, disorder that occurs when the adrenal glands do not produce enough certain hormones. The adrenal glands are located just above the kidneys. Adrenal insufficiency can be primary or secondary. Addison's disease, the common term for primary adrenal insufficiency, occurs when the adrenal glands are damaged and cannot produce enough of the adrenal hormone cortisol. The adrenal hormone aldosterone may also be lacking. **Secondary adrenal insufficiency** occurs when the pituitary gland-a pea-sized gland at the base of the brain-fails to produce enough adrenocorticotropin (ACTH), a hormone that stimulates the adrenal glands to produce the hormone cortisol. Suppose ACTH output is too low, and cortisol production drops. Eventually, the adrenal glands can shrink due to a lack of ACTH stimulation. Secondary adrenal insufficiency is much more common than Addison's disease. Adrenal hormones, such as cortisol and aldosterone, play critical roles in the functioning of the human body, such as regulating blood pressure, metabolism, the way the body uses digested food for energy, and the body's response to stress.

The most common symptoms of adrenal insufficiency are:

- chronic or prolonged lasting fatigue
- muscle weakness
- loss of appetite
- weight loss
- abdominal pain

Other symptoms of adrenal insufficiency can include:

- irritability and depression
- craving salty foods
- hypoglycemia, or low blood sugar
- nausea, vomiting and diarrhea
- low blood pressure that drops further when a person stands up, causing dizziness or fainting
- headache
- sweating
- irregular or absent menstrual periods in women
- hyperpigmentation (only in Addison's, not secondary AI)

ADRENAL CRISIS

Sudden, severe worsening of adrenal insufficiency symptoms is called adrenal crisis. In most cases, symptoms of adrenal insufficiency become severe enough that people seek medical treatment before an adrenal crisis occurs. However, sometimes, symptoms appear for the first time during an adrenal crisis.

Symptoms of adrenal crisis include.

- **sudden, severe pain in the lower back, abdomen, or legs**
- **severe vomiting and diarrhea**
- **dehydration**
- **low blood pressure**
- **confusion or loss of consciousness**

If not treated, an adrenal crisis can cause death.

STUDENTS EXPERIENCING ADRENAL CRISIS MUST BE TREATED AT SCHOOL IMMEDIATELY

Individualized Health Care Plan

Student Name: **School Year:**

Adrenal Insufficiency Individualized Healthcare

PROCEDURE FOR CORTISOL MAINTENANCE AND EMERGENCY ACTION

EDIT EACH SECTION ACCORDING TO STUDENT SPECIFICATIONS AND PROVIDER IDENTIFIED SYMPTOMS AND DOSING.

FOR	ADMINISTER
A. Routine Hydrocortisone Daily cortisol replacement therapy is critical to sustaining life for a child with adrenal insufficiency. **Daily Maintenance**	□ Family will administer all doses at home. □ Caregiver/Medication Trained Personnel will administer the following doses at school: □ Hydrocortisone mg every morning □ Hydrocortisone _____mg every afternoon □ Doses will be kept at school for unanticipated events (See Box B)
B. Stress Dose: Additional cortisol may be required when the child is sick or physically stressed. This is called "stress dosing," which mimics the body's natural increases in cortisol production under certain circumstances. Stress dosing includes giving 2-3 times the normal dose of cortisol (or hydrocortisone). It is not needed for mild issues such as runny noses or coughs. **For Minor Signs and symptoms** • Onset of fever • Minor injury • Onset of illness • Stomachache, Nausea, vomiting x 1 • Diarrhea • Ill appearance, flushed cheeks, dark circles under eyes	1. **For fever> 100°F,** Administer _____mg of oral hydrocortisone immediately, per MD order. **2. For vomiting or diarrhea,** Administer _____mg of oral hydrocortisone immediately, per MD order. **3. For injury minor injury,** Administer _____mg of oral hydrocortisone immediately, per MD order. 4. Dismiss student to parents. 5. Notify RN 6. If the student begins to exhibit signs and symptoms of adrenal crisis, prepare to administer Solu Cortef (*See box* C) 7. Complete required documentation (Medication Administration Record, Incident report if applicable)
C. Adrenal Crisis When the child experiences a significant stressor, an emergency dose will be required to mimic the body's response and prevent the adrenal crisis from occurring. • Is unable to take oral hydrocortisone or keep it down • Has chills//fever >100 ºF • Persistent vomiting, more than 2 episodes • Sustained broken bone or significant injury • Has a persistent headache • Exhibits confusion, change in level of consciousness, or loss of consciousness • Experiences a seizure (with no prior seizure history)	1. Administer Solu-Cortef: _____ mg, intramuscularly into thigh muscle. (trained staff only) 2. See Procedure for Emergency Solu-Cortef Injection 3. Activate EMS. 4. Contact parent/guardian. If a parent cannot be reached, contact emergency contact(s). 5. Contact RN

Individualized Health Care Plan

Student Name: **School Year:**

Adrenal Insufficiency Individualized Healthcare

***ALL MEDICATIONS GIVEN AT SCHOOL REQUIRE A SCHOOL MEDICATION PRESCRIBER/PARENT AUTHORIZATION SIGNED BY THE PRESCRIBER**

School Nurse Use Only

*Medication	Expiration Date	Self-Carry?	Location of Medication

Notes /Special Instructions: _____

_____

_____

_____

_____

_____

_____

_____

Individualized Health Care Plan

Student Name: **School Year:**

Written Notes/Addendum to Plan of Care

DATE		PARENT/ GUARDIAN INITIALS (if needed)

I understand and agree with this Individualized Healthcare Plan.

I give permission for my child to be transported to the hospital indicated on this form in the event of an emergency.

I give permission for the release of my child's medical information in the event of an emergency.

Signature of Parent or Guardian **Date**

Signature of School Nurse **Date**

Individualized Health Care Plan

Student Name: **School Year:**

Communication of the Individualized Health Care Plan

SECTION IV:

☐ Check this Box if Read Receipt is used to communicate Individualized Health Care Plan to staff.

* **Nurse will attach the Read Receipt document to this packet.**

☐ Check this box if staff receives and signs below for Individualized Health Care Plan.

I have read and understand this student's Individualized Healthcare Plan and have printed a copy to be maintained in my confidential folder/binder of instructions for substitute teachers. I have been given the opportunity to ask questions. I understand my role in addressing this student's medical needs. I am aware the school nurse is available to help clarify any future concerns.

Employee Name	Employee Signature	Position	Date