

## ***GENERAL RECOMMENDATIONS for PATIENTS with ADRENAL INSUFFICIENCY:***

- Know and follow the usual steroid sick day rules (Endocrine Society, 2016):

**Sick day rule 1:** need to double the routine oral glucocorticoid dose when the patient experiences fever or illness requiring bed rest; when requiring antibiotics for an infection; or before a small outpatient procedure (e.g., dental work)

**Sick day rule 2:** need to inject a glucocorticoid preparation im or iv in case of severe illness, trauma, persistent vomiting, when fasting for a procedure (colonoscopy!), or during surgical intervention. 100 mg of intravenous, subcutaneous, or intramuscular hydrocortisone followed by continuous infusion or alternatively repeated bolus doses every 6 hours

- Please, find the detailed description of the adrenal insufficiency, sick day rules, and guide for hydrocortisone injection in English and Spanish prepared by National Institutes of Health. Link: <https://science.nichd.nih.gov/confluence/display/pe/Patient+Handouts+and+Support+Groups>)
- Know when to self-inject glucocorticoid preparation. Clarify with your provider the situations requiring steroid dose adjustment.
- Know how to self-inject glucocorticoid preparation if needed (Please, see the guide for hydrocortisone injections below (source: <https://science.nichd.nih.gov/confluence/display/pe/Patient+Handouts+and+Support+Groups>)).
- Educate your family members when and how to use injectable glucocorticoid preparation
- You should GO TO THE HOSPITAL after emergency injection and communicate with medical staff that you have adrenal insufficiency ASAP.
- **SYMPTOMS AND SIGNS** of emergent adrenal crisis (**Acute glucocorticoid deficiency**):
  - o Nausea, vomiting
  - o Abdominal pain or flank pain
  - o Loss of appetite
  - o Low blood sugar
  - o Fatigue, severe weakness
  - o Confusion, loss of consciousness, or coma
  - o Dizziness or lightheadedness
  - o Headache
  - o Dehydration
  - o High fever
  - o Low blood pressure
  - o Rapid heart rate
  - o Rapid respiratory rate
- **Notify your primary doctor ASAP if you believe you are experiencing symptoms as above.**
- **Have an emergency contact on speed dial:**
  - o Have a friend, family member, or trusted neighbor on a proverbial speed-dial so that they can call your doctor or 911 in case you are unwell. They should be someone who understands your history of adrenal insufficiency and can help you if you need it.
  - o Emergency phone number of USF endocrine specialist team.

- **You can contact your USF Diabetes and Endocrinology Center endocrinology provider by calling: 813-396-2580**
  - **You can find the list all USF Diabetes and Endocrinology Center providers on <https://health.usf.edu/care/diabetes-endocrinology/providers>**
- **Make sure you have:**
- Your medical alert bracelet or necklace indicating Adrenal Insufficiency ALL THE TIME with you
  - Hydrocortisone emergency injection kit prescription (vials of 100 mg hydrocortisone sodium, syringes, needles);
  - **Sufficient supply of hydrocortisone** (accounting for possible sick days)
  - **Sufficient supply of fludrocortisone** if you have primary Adrenal Insufficiency.
  - If you have Adrenal Insufficiency and other pituitary hormone deficiencies, make sure you have sufficient supply for all your medications.
  - If you are on desmopressin it requires careful monitoring and judicious water and electrolyte replacement to prevent changes (too high or too low) in your sodium.

Please, find the detailed description of the adrenal insufficiency and sick day rules in English and Spanish (by National Institutes of Health);

<https://science.nichd.nih.gov/confluence/display/pe/Patient+Handouts+and+Support+Groups>)

#### **References:**

Bornstein SR, Allolio B, Arlt W, Barthel A, Don-Wauchope A, Hammer GD, Husebye ES, Merke DP, Murad MH, Stratakis CA, Torpy DJ. Diagnosis and Treatment of Primary Adrenal Insufficiency: An Endocrine Society Clinical Practice Guideline.

J Clin Endocrinol Metab. 2016 Feb;101(2):364-89. doi: 10.1210/jc.2015-1710.

<https://www.ncbi.nlm.nih.gov/pubmed/26760044>

Wiebke Arlt and the Society for Endocrinology Clinical Committee·  
 SOCIETY FOR ENDOCRINOLOGY ENDOCRINE EMERGENCY GUIDANCE. Emergency management of acute adrenal insufficiency (adrenal crisis) in adult patients  
<https://doi.org/10.1530/EC-16-0054>

Ursula B. Kaiser, Raghavendra G. Mirmira, and Paul M. Stewart. Our Response to COVID-19 as Endocrinologists and Diabetologists. J Clin Endocrinol Metab, May 2020, 105(5):1–3

## THE GUIDE FOR THE HYDROCORTISONE INJECTIONS:

Source: <https://science.nichd.nih.gov/confluence/display/pe/Patient+Handouts+and+Support+Groups>

### How to give an injection of hydrocortisone



1. Wash your hands.
2. Assemble your equipment.



3. Mix the medication vial by pushing down on top of the vial to release the cork.



4. Shake the vial to mix the medication solution well.
5. Use alcohol to clean the rubber stopper on the vial.



6. Take the cap off the syringe needle. Insert the needle into the vial.



7. Draw up the medication. Adults should use all the medication in the vial.

For a child, use the dose prescribed by the doctor.

8. Replace the needle cap.



9. Select your injection site.

To inject yourself safely, become familiar with your body. Uncover your thigh and look at it. Now, draw an imaginary line in the middle of your thigh to divide it in half lengthwise. The outer portion is where you will be injecting. Now, imagine your thigh divided into three equal portions, from the knee to the hip. The outer portion of the inner third of your thigh is where you will do the injection.



10. Use alcohol to cleanse the injection site on your skin.



11. Remove the cap from the needle. Hold the syringe like a dart.



- Using your thumb and first two fingers, spread your skin while pushing down lightly.



- Dart the needle into the thigh injection site, going straight in at a 90-degree angle.



- Hold the syringe in place. Pull back the plunger to make sure you are not injecting into a large blood vessel. If blood appears in the syringe, withdraw the syringe and discard it.

**If this is the only dose of medication you have, inject the medication anyway.**



If you have another vial of medication, prepare another syringe with medication, and inject yourself in a slightly different place.



- After injecting the medication, put tissue or gauze near the needle, and pull the needle out quickly.
- Massage the injection site gently.
- Place the syringe and needle in a hard, unbreakable container (such as an empty coffee can with a lid) before disposing of it.
- Call your local doctor.