

What are the signs that my child is not getting enough cortisol?

Signs include:

- stomach or back pain
- fever
- paleness
- nausea and/or vomiting
- tiredness
- weight loss
- fainting
- symptoms come back

What are the signs that my child is getting too much cortisol?

Signs include:

- weight gain
- change in how weight is distributed (fullness in the face, extra weight in the upper back and belly)
- mood swings
- stretch marks on the skin
- not getting taller

If your child has signs of too much or too little cortisol, call your doctor or the endocrine clinic nurse.

What is acute adrenal insufficiency?

When the body does not have enough cortisol, the blood pressure and blood sugar can become quite low, causing acute adrenal insufficiency. **Acute adrenal insufficiency is a medical emergency.**

Some signs of acute adrenal insufficiency are:

- nausea or vomiting
- weakness, very tired
- cold, clammy skin
- dizzy, confused
- fast heart rate and breathing rate
- pale face, dark circles under the eyes
- signs of dehydration (dry mouth, thirst)
- very bad pain in the stomach, legs, and back
- lower body temperature
- loss of consciousness
- coma

If your child has these signs and symptoms, call 911 right away. If you have been shown how to give a hydrocortisone injection, give it as soon as possible.

All children with cortisol deficiency should wear a **medical alert bracelet/necklace** at all times.

Children with cortisol deficiency need regular follow-up visits with their doctor to make sure that the dose of cortisol is correct. By following these guidelines, you will be doing your part to make sure that your child stays healthy.

health information

Cortisol Deficiency in Children

What is cortisol deficiency?

Cortisol deficiency is when the body does not make enough cortisol to meet its needs.

Cortisol is a hormone that helps keep the blood pressure and blood sugar normal.

It is especially important when the body must cope with:

- infection
- an injury or illness
- an operation

What causes cortisol deficiency?

Cortisol is released by the adrenal glands, which sit on top of the kidneys. The adrenal glands release cortisol into the blood when they are told to by the pituitary gland in the brain.

If the level of cortisol in the body is low, the pituitary gland releases a hormone called ACTH. This hormone tells the adrenal glands to release more cortisol. If the adrenal glands are not working well (as in Addison's disease or congenital adrenal hyperplasia), then they cannot produce enough cortisol to meet the body's needs.

Cortisol deficiency can also happen if the pituitary gland does not work at all, or if it works poorly. Because no or too little ACTH is made, the adrenal glands are not told to release cortisol. Either way, the body does not have enough cortisol to meet its needs.

How is cortisol deficiency diagnosed?

Your child will have a blood test done. The doctor will decide what testing is needed. It may be a single blood test or a test in which several blood samples are drawn.

How is cortisol deficiency treated?

If your child does not make enough cortisol then he or she will need to take cortisol by mouth two to three times a day, every day. Your child will need extra cortisol when he or she is sick. **Your** doctor will give you a prescription and instructions for taking cortisol that meets your child's needs.

How do I know when to give my child extra cortisol?

Illness and injury create stress in the body. During times of stress, the body needs extra cortisol. Stress includes:

- a fever of 38.5 °C or higher
- an illness that makes your child feel very tired
- any infection, sprain, or broken bone
- if your child has an accident and needs to see a doctor
- if your child needs an anesthetic for a medical or dental treatment, special x-rays, or surgery

Make sure you tell the doctor or dentist that your child needs cortisol replacement. Extra cortisol is not needed for routine immunizations, but is needed when a child has a fever.

This extra cortisol is called a "stress dose". It is 2 to 3 times higher than the regular cortisol dose. Your child should have stress doses of cortisol for as long as he or she is ill or injured.

Please contact your endocrine clinic nurse or doctor if:

- you need to give stress doses of cortisol for more than 5 days
- you aren't sure if you should give a stress doses

What should I do if my child is vomiting or has diarrhea?

If your child throws up less than 30 minutes after taking cortisol, give the **whole dose** again. If your child vomits within 30 minutes of the repeated dose, your child needs an injection of cortisol (hydrocortisone).

The dose of hydrocortisone is found on the illness management letter that you were given at your last clinic visit.

Cortisol that is taken by mouth is not absorbed in a child with severe diarrhea, so an injection of hydrocortisone may be needed. Anytime your child needs an injection of hydrocortisone it is a medical emergency. **Your child needs to be seen by a doctor in the nearest emergency room.**

Many parents learn how to give this injection to make sure their child receives hydrocortisone without delay. This is especially important if you are travelling or live far away from the nearest emergency room. Your nurse can show you how to give the injection.

Commented [d1]: Can you clarify the sentence "Sometimes, a child may need cortisol only for illness." I'm not sure I understand why it needs to be mentioned.