

STEROID REPLACEMENT THERAPY INFORMATION SHEET

What is Cortisol Deficiency?

Cortisol is the body's natural steroid. It is produced by the adrenal glands and has 3 main functions:

- helping to control the blood sugar level within the body
- helping the body deal with stress
- helping to control the circulation and blood pressure

If a person is unable to make enough cortisol themselves, they will need to take a tablet to replace it. Hydrocortisone is the most common of these.

What causes cortisol deficiency?

Cortisol deficiency occurs when the adrenal glands do not produce enough cortisol. In asthma, the adrenal glands can stop producing cortisol because there are enough steroids circulating in the body from the inhaled or oral preventer medication your child has been taking to control their asthma symptoms. This can sometimes lead the body to 'think' that it doesn't need to continue to produce any more.

Replacement therapy

Cortisol deficiency is easily controlled with replacement therapy. Usually in asthma, the individual may only require cortisol replacement when they are unwell. If a person with cortisol deficiency becomes very unwell or stressed, either emotionally or physically, they may be unable to increase the production of cortisol within their body and this can potentially be very serious.

Hydrocortisone can be given either:

- Orally (by mouth)
- or*
- By giving an injection into the thigh

If your child has an illness, operation or accident it is essential that Hydrocortisone is administered as prescribed:

1. Mild Illness with a Raised Temperature

If the child has a temperature, this shows that they have some sort of infection. You should ask your GP to check them and give them the Hydrocortisone dose by mouth for 24-48 hours or until their temperature returns to normal.

Normal Body Temperature: 36.0 – 37.5°C.

2. Illness with Diarrhoea and/or Vomiting

In an illness with diarrhoea and vomiting the Hydrocortisone dose given by mouth will not be absorbed and so the injection may need to be given. It may be necessary to bring your child into hospital for a short time until the illness has settled.

3. Operation, General Anaesthetic or Serious Illness

In this situation, your child will usually be in hospital and will need Hydrocortisone by injection at an increased dose. If your child is unconscious for any reason, they must be given their Hydrocortisone by injection and you should call an ambulance.

Further Information:

If you are worried or not sure what to do about your child's medication there is always someone available at the Bristol Children's Hospital to give advice. During office hours you can contact Deb Marriage, Respiratory Nurse Specialist (t: 0117 342 8248). Out of hours please ask for the Paediatric Registrar On-Call (t: 0117 942 0000) who will be able to consult with the relevant doctors and get back to you.

EMERGENCY KITS:

Your child should carry an Emergency Kit, and one should also be available in school.

Each kit should contain:

1x vial of hydrocortisone 1x 2 ml syringe

2x blue needles

1x steroid card

This leaflet.

(Please ensure that you regularly check the Expiry dates on your medications and order replacements from your GP in advance).

Your child should wear a MedAlert bracelet stating the words: 'Adrenal Insufficiency. Hydrocortisone Replacement Therapy' or similar. Forms are available from the Respiratory Clinic or your GP.

How to Prepare and Give an Intramuscular Injection of Hydrocortisone

Age:	Dose of Hydrocortisone:
0-1 year	25mg (0.25ml)
1-5 years	50mg (0.5ml)
5 years and above	100mg (1ml)

You will need:

- 1 vial of Hydrocortisone solution
- 1 x 2ml syringe
- 2 x orange or blue needles
- 1 x alcohol swab

Directions:

1. Wash your hands
2. Check the vial for the name of the drug (Hydrocortisone) , the dose contained within the vial (100mgs) and the expiry date.
3. Take the syringe and needle out of their packaging and assemble them.
4. Hold the vial vertically and rotate until the small dot on the thinner part of the vial is facing you. Break off the top of the vial by pulling backwards and downwards.
5. Insert the needle into the vial until it touches the bottom.
6. Draw up the Hydrocortisone gently by pulling the plunger of the syringe. Replace the needle cover. **You need to give a dose of 1 ml** in volume.
7. Turn the syringe upside down and tap on the side of the syringe so that the air rises to the surface. Push the plunger slowly to expel all the air.
8. Replace the needle with a new one.
9. Looking at your child's thigh, divide it mentally into 4 equal parts. Wipe the skin of the upper, outer section with the alcohol swab.
10. Push the needle into this area of the thigh. Pull the plunger back slightly to ensure there is no visible blood and then push the plunger swiftly all the way down.
11. Withdraw the needle and dispose of both needle and syringe in a sharps box.
12. Seek medical advice.
13. **REMEMBER** that you must get a repeat prescription from your GP to replace the dose that you have just used.