

Hydrocortisone advice for parents



The Pituitary Foundation Information Booklets



Working to support pituitary patients, their carers & families

What is hydrocortisone?

Hydrocortisone is a steroid hormone produced by the adrenal gland. It plays a complex role in regulating body functions and is essential for survival. Cortisol has three main functions:

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

Hydrocortisone is taken as a replacement for the natural hormone where this is deficient, either because of **Multiple Pituitary Hormone Deficiencies (MPHD)**, **Congenital Adrenal Hyperplasia (CAH)** or **Adrenal Insufficiency (AI)**.

Hydrocortisone is available in tablet form under the trade name HYDROCORTISONE© 2008 containing 10mg or 20mg. Emergency injections for children contain:

- 25mg for babies/infants
- 50mg for children aged 1 to 5 years
- 100mg for children aged more than 5 years

How does my child take it?

Your child's specialist will have instructed you about the appropriate doses he/she is required to take daily. It is important that your child receives his/her hydrocortisone. Any adjustments should be discussed with, and supervised by, your child's specialist.

When would my child need to take more hydrocortisone?

If a child becomes ill then the body would naturally increase the output of steroid from his/her adrenals. Therefore if your child is taking replacement steroid (hydrocortisone) it is essential to mimic the natural response by increasing his/her dose appropriately. Please see the recommendations for changes in dose on page 3.

Hypoglycaemia (low blood sugar)

Two hormones are important in the maintenance of normal blood sugar levels - these are cortisol and growth hormone. When sudden illness or severe stress occurs, the body will need extra supplies of these hormones to keep up the level of blood sugar.

It is therefore extremely important for the child's family to be vigilant when the child is unwell and to recognise early signs of hypoglycaemia. These signs can include your child:

- Feeling dizzy, faint and hot
- Looking pale
- Feeling confused and unusually sleepy

As part of the emergency kit that your clinic will supply is oral glucogel which should be given immediately if any of the above symptoms appear. Please see the recommendations about hypoglycaemia on page 6.

Recommendations for changes in dose

Please be aware of dose increases of your child's HC, which might well have been discussed with you from their Endocrine Nurse Specialist and paediatric Endocrinologist.

Illness or stress situation	Increase of usual Hydrocortisone dose	For how long?	Is this an emergency, or when do I seek help?
Mild cold, runny nose and cough but otherwise well	No increase necessary.		
Moderate to severe illness and/or with temperature above 37.5 °C	Double or triple the daily dose.	2 to 3 days until the child has recovered and temperature is back to normal (36 to 37 °C).	See GP or your child's Endocrine Nurse Specialist if child still unwell after 48 hours.
If child is prescribed antibiotics	Double or triple the daily oral dose.	Until course of antibiotics is completed.	
Vomiting	If child vomits within an hour of taking usual oral dose - repeat the dose.	If child is only sick once, an hour or longer after taking their dose, you won't need to repeat the dose.	This may be a one off but be watchful for any underlying illness.
	If the child is sick again give them double or triple the oral dose.	Resume on usual dose once stable and you've sought medical advice.	Contact your GP or your local paediatric department for advice.
	If they are becoming more unwell and/or can't keep the increased dose down, you will need to give him/her an intramuscular injection of hydrocortisone.	Resume on usual oral dose once stable after medical intervention/ advice.	Emergency Call an ambulance to take the child to hospital.

Recommendations for changes in dose

Illness or stress situation	Increase of usual hydrocortisone dose	For how long?	Is this an emergency, or when do I seek help?
Diarrhoea	Double or triple the usual oral dose until the diarrhoea stops.	Resume on usual dose once diarrhoea stops	Contact your GP or Endocrine Nurse Specialist to see if your child has a stomach bug which may need antibiotics.
	If this is combined with vomiting, you will need to give him/her the intramuscular injection without delay.	Resume on usual oral dose after medical intervention/advice.	Emergency Call an ambulance to take the child to hospital.
Dentist	For a check up or cleaning. No extra hydrocortisone should be needed.		Ensure your dentist is aware that your child takes hydrocortisone before any procedure. It is recommended you contact the dentist with this information well before the appointment.
	For a planned appointment for a filling or other treatment needing a dental injection - give the child double or triple of their usual oral dose for the 24 hour period around the appointment.	Resume on usual oral dose.	
	For unexpected dental injection for fillings etc. - double or triple the dose as soon as possible.	Continue on double or triple dose for the next 24 hours.	

Recommendations for changes in dose

Illness or stress situation	Increase of usual hydrocortisone dose	For how long?	Is this an emergency, or when do I seek help?
Planned surgery (or dental extraction within a hospital)	<p>Normal oral dose on day of procedure, unless fasted when it should be given i.v. Steroid cover to be prescribed by the child's endocrine team at least 24 hours in advance of admission.</p> <p>Children under 5 years: 50mgs HC i.v. with induction 50mgs HC i.v. 4 hours post op Double oral HC dose for next 48 hours</p> <p>Children over 5 years: 100mgs HC i.v. with induction 100mgs HC i.v. 4 hours post op Double oral HC dose for next 48 hours</p>		
Immunisations	Double or triple their oral dose for the 24 hour period around the injection.	Resume on usual dose.	If you have any concerns regarding any immunisations, ask your child's specialist centre for advice.
		Children may develop a high temperature (above 37.5°C) and/or a rash several days after some immunisations - especially the MMR vaccine. Follow advice for raised temperature.	Contact your GP.
Accident or injury severe shock	Bump, fall or bruise with immediate recovery - possibly no increase required.	See GP for further advice.	Sudden and severe shock will be classed as an Emergency - seek urgent medical attention if in any doubt. <i>If child is unconscious, or injured call an ambulance.</i>
	Serious injuries e.g., burns, breaking limb, bump to the head and becomes unconscious: Give emergency injection.	Resume on usual dose when stable and following medical intervention.	

Recommendations for changes in dose

IMPORTANT: 1. If you are unsure and you think your child is getting worse, give the HC emergency injection - you will do no harm and you may prevent a crisis. 2. If for any reason your child has symptoms of hypoglycaemia (low blood sugar) e.g., they are pale, clammy, drowsy, glazed and confused and not responding as they would normally, you should give them the intramuscular injection of hydrocortisone and call an ambulance immediately.

Whilst you are waiting for the ambulance, you should give your child their oral gel (Glucogel/Hypostop©) from their emergency kit provided. You squirt the gel in the child's mouth between the gums and inside of the cheek and rub the cheek gently to help the gel become absorbed. If the child is unconscious do not put the Glucogel into their mouth. simply apply to the lips only. Do not give an unresponsive child any food or drink.

EMERGENCY KITS

Your child's specialist treatment centre will issue you with emergency medication for your kit, which should be carried with your child at all times. A further kit should be kept at the child's school, nursery or college.

Each kit should contain:

- ✓ 2 vials of Efcortisol®
- ✓ 1 2ml syringe
- ✓ 2 blue needles
- ✓ 1 tube of Oralgel with instructions for use
- ✓ 1 leaflet 'How to give an emergency injection of Efcortisol®'
- ✓ Child's steroid / care card

If your child is of school age, please see our '*Care Guide for School*' fact sheet, for pupils taking hydrocortisone.

Medical Identity Emblems

It is recommended that all children taking steroid replacement therapy wear a medical identity bracelet or necklace at all times. For further information about medical emblems please see our website www.pituitary.org.uk.

It is also important that they carry a *Patient Care Card* which details their condition, medication and essential contact numbers together with hydrocortisone replacement

information. You can request the above card via helpline@pituitary.org.uk or by calling our Helpline on **0117 370 1320**

Holidays

Parents must ensure that they take extra medication and their emergency injection kit for any travel. You should ask your specialist for a letter that explains your child's condition with instructions as to what to do in an emergency. This letter will also be helpful at the airport when

Emergency injections

you go through the security checks and are carrying needles/medication. The Pituitary Foundation suggests that you make enquiries/arrangements with airport, airplane and hotel staff prior to travel regarding carrying sharps, refrigeration available and local resort medical facilities, etc. It is important to note that airport security rules

and regulations take precedence over airline policy - security guidelines are not the same in all countries and may even vary day-to-day. Therefore it is recommended that you check in advance of your departure. For more in-depth advice about travelling with a child who is a pituitary patient, please see our website.

How to give an emergency injection of hydrocortisone (Efcortisol)

There is an app available for iPhones, called 'my cortisol' which shows how to prepare and give your child an injection. This app is free to download from Apple store and was produced by Sally Tollerfield, Paediatric Endocrine Nurse Specialist at GOSH.

Liquid version: EFCORTESOL



1. Wash and dry your hands. Break open the ampoule at the dot, using a small piece of tissue to protect your fingers. Push firmly to attach the needle to the syringe and remove the cover. Hold the ampoule with your non-dominant hand and draw up the solution into the syringe with your other hand.



2. Expel any air by pressing the plunger until a drop of liquid forms at the end of the needle. Use an alcohol wipe to clean the bare skin at injection site - right or left upper thigh. Remove the needle cover and hold the syringe between your thumb and index finger.



The child can be lying on his/her back or sitting in a chair for injecting purposes.

3. Stretch the skin slightly and push the needle in at selected site with a steady motion. Push plunger down so that all the liquid is injected.



4. Grasp syringe and pull needle out of the thigh. Apply pressure to the injection site with a clean tissue for 2 minutes.

Dispose of all materials safely • Seek medical help if not improved within 24 hours

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This booklet provides general information only. All patients are different and if you have any questions, please contact your child's consultant or GP or Paediatric Endocrine Nurse Specialist.



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