

Hydrocortisone

advice for the pituitary patient



The Pituitary Foundation Information Booklets

The
Pituitary
FOUNDATION

Working to support pituitary patients, their carers & families

HYDROCORTISONE is a steroid hormone produced by the adrenal gland. It plays a complex role in regulating body functions and is essential for survival.

Hydrocortisone is taken as a **replacement** for the natural hormone where this is deficient, either because there is a failure of hydrocortisone production by the adrenal gland (Addison's disease/primary adrenal insufficiency), or pituitary deficiency - secondary adrenal insufficiency- of ACTH (the hormone that stimulates the production of hydrocortisone by the adrenal gland).

Hydrocortisone is available as tablets under the trade name hydrocortisone, containing 10mg or 20mg.

Prednisolone may be prescribed to individual patients instead of hydrocortisone and works in the same way as hydrocortisone. Prednisolone is available as tablets under the trade name Deltacortril containing 2.5mg or 5mg or prednisolone 1mg or 5mg.

Plenadren® is a hydrocortisone modified-release tablet, designed to be taken once daily. The Plenadren tablet is available in 5mg and 20mg strengths. It is more expensive than traditional hydrocortisone and its advantages and/or disadvantages have not yet been clearly established in routine clinical practice.

An injection containing 100mg hydrocortisone is available for emergency situations for those on hydrocortisone or prednisolone.

How do I take it?

The usual dose for hydrocortisone is up to 20mg by mouth, split over two or three times daily, and depending on your individual endocrinologist's recommendations. For example: 10mg before getting out of bed in the morning, 5mg at midday and 5mg no later than 6pm. Hydrocortisone should ideally be taken with water and is better absorbed if taken before food. The usual dose for prednisolone is 5mg by mouth, split over two times daily. Plenadren is taken once daily, at least 30 minutes before your breakfast, preferably between 6.00am and 8.00am in the morning.

When would I need to take more hydrocortisone?

If you become ill then the body would naturally increase the output of steroid from your adrenals. Therefore if you are taking replacement steroid (hydrocortisone) it is essential, to mimic the natural response by increasing your dose appropriately: as shown in the following table on page 3.

Recommendations for changes in dose

Illness or stress situation	Increase of usual dose	For how long?	Is this an emergency, or when do I seek help?
Cold with no fever	None necessary.		
Fever, flu, infection	Double.	For duration of fever.	See GP if still unwell after 48 hours.
Vomiting - more than once Also diarrhoea and severe illness	Take extra dose immediately at onset of vomiting. Emergency 100mg injection if extra dose of 10mg-20mg tablets or double prednisolone can't be kept down.	Resume on usual dose once stable after medical intervention.	Phone GP, or go to A&E. If you have injection at home, you, a relative (if able) or GP can administer this. Also an anti-sickness injection or tablet may be needed.
Surgical procedures	<ul style="list-style-type: none"> • Minor (eg: tooth extraction) 20mg hydrocortisone or double usual main dose of prednisolone before procedure. • Small operation (eg: hernia) 100mg injection every 6 hours for 24 hours. • Major operation (e.g: abdomen/chest) 100mg injection or intra venous every 6 hours for 72 hours. 	<p>Resume on usual dose immediately after.</p> <p>Reduce rapidly to usual dose.</p>	Tell the anaesthetist and surgeon that you take hydrocortisone before the operation.

Recommendations for changes in dose

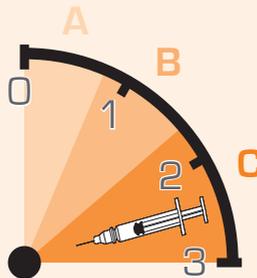
Illness or stress situation	Increase of usual dose	For how long?	Is this an emergency, or when do I seek help?
Colonoscopy and Barium Enema	Double your usual dose as soon as the preparatory laxatives take effect and for duration of the preparation. For colonoscopy only: a 100mg injection 30 minutes before procedure to be given by doctor.	Take usual dose on morning of procedure.	Drink lots of water to prevent dehydration. Tell the doctor before procedure that you take hydrocortisone.
Gastroscopy	100mg intra muscular or intra venous at start of procedure.	Double dose for 24 hours.	Tell the doctor before procedure that you take hydrocortisone.
Cystoscopy	Double your usual dose on day of procedure.	Resume as normal.	Tell the doctor before procedure that you take hydrocortisone.
Severe shock e.g: bereavement or road traffic accident	100 mg injection, or take 20mg as tablets if able or double usual dose of prednisolone if able.	See GP or hospital for further advice.	Sudden and severe shock may be classed as emergency - seek medical attention if in doubt.
Long haul flight over 12 hours	Double usual dose on day of flight.	One double dose should suffice.	
General stress, exams, etc.	Not usually required.		Ask GP if concerned.

Emergency injections

When do I know that I would need an emergency injection?

If you cannot absorb your tablets, or your usual replacement wasn't sufficient for an acute shock or illness. This may happen gradually or perhaps quite quickly. You would feel weak, sickly and light headed. The cortisol clock below gives approximate times of need for emergency medical help and replacement.

Pituitary Cortisol Insufficiency



Emergency cortisol replacement peak timings for clinical use

A = period of first feeling unwell (within, or up to, one hour)

B = period of increasing illness (failure to retain oral cortisol) (during 2nd hour)

C = **DANGER ZONE** - emergency cortisol injection needed (by the 3rd hour)

How can I let others know I take steroid replacement?

When you are prescribed your medication you will be given a 'blue steroid card' from the hospital to carry. The Pituitary Foundation suggests that you purchase and wear a medical necklace or bracelet, such as MedicAlert[®] to show your cortisol replacement therapy. Further, we can provide you with a Pituitary Foundation '*Patient Care Card*' which is small enough to fit in your bag, or pocket and displays your hydrocortisone needs and information on emergency replacement should you need this.

EMERGENCY INJECTIONS - Should I have these at home?

The Foundation does recommend all patients taking steroid replacements to have a 100mg injection kit in their home for emergency use only. If you don't have one of these already, you can ask your GP or endocrinologist if they will prescribe this for you. Please check regularly that these preparations are not expired.

On page 6 are clear instructions on how to inject yourself, or for a relative to do this. Some endocrine clinics will help to show you how to inject in an emergency.

How do I cope if I'm travelling away from home?

If you are going on holiday abroad you should ask your GP or endocrinologist for a

Emergency injections

letter about your condition, your medication and your doses prescribed. This letter will be helpful should you become unwell and have to see a doctor. It is also useful for you to have this letter whilst going through airport security, in the event that they question your medication. If you have a repeat copy prescription this can also be shown.

It is suggested that you have a 100mg injection kit whilst you are travelling abroad, in case of emergency. If you are to travel to an area where your emergency injection kit may be subject to sustained temperatures exceeding

25°C, then it should be placed in a small cool bag. All of your medication should be labelled with your name and kept with you at all times during your journey, as part of your hand luggage.

At check-in they will ask if you are carrying anything sharp i.e., needles; please mention if you are carrying injection needles for your medical condition.

It is wise to take an extra two weeks supply of hydrocortisone tablets with you in case you need to increase your usual dose whilst away.

How to give an emergency injection of hydrocortisone

Powder version: SOLU-CORTEF



1. Wash and dry your hands. Snap open the sterile water - use a small piece of tissue to protect your fingers. Attach the green needle to the syringe and remove the cover. Withdraw 2ml of sterile water into the syringe

2. Remove the cap off the vial of hydrocortisone powder. Inject the water into the vial of powder.



3. Swirl the vial until all the powder is mixed with the water. Withdraw the contents of the vial into the syringe.



Emergency injections

4. Pull the needle and syringe out of the vial. Exchange the green needle for the blue needle. Use an alcohol wipe to clean the bare skin at injection site - right or left upper thigh.



5. Remove the needle cover and hold the syringe between your thumb and index finger.



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

Liquid version: Hydrocortisone sodium phosphate (ex 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.



If you are giving yourself the injection, you need to inject yourself on the same side. eg: right handed - right thigh.

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

Instructions for AMBULANCE and A&E CLINICIANS

If I am in severe shock, trauma, have vomited, or I have been in an accident, I will urgently need to have either a 100mg intramuscular injection of hydrocortisone or 100mg IV hydrocortisone. Please check my blood pressure, U&E's, glucose and other relevant tests.

If I am not treated urgently, my life could be in danger

- Arrange hospital admission
- Insert IV cannula and commence infusion with N-Saline + dextrose

- Check U&E, glucose & other relevant tests
- Give Hydrocortisone 100mg IM or IV stat
- Continue Hydrocortisone 100mg, 6 hourly by IM injection or IV bolus
- Exclude underlying precipitating causes.

Ensure that the patient is stable on oral steroids prior to discharge.

If you (the treating clinician) have any queries about emergency hydrocortisone and/or pituitary-related illness,

PLEASE CONTACT THE ENDOCRINOLOGIST ON CALL WITHOUT DELAY

The Pituitary Foundation

86 Colston Street,
Bristol, BS1 5BB

www.pituitary.org.uk

Helpline: 0117 370 1320

Endocrine Nurse Helpline: 0117 370 1317
available scheduled hours.

The Foundation provides a *Patient Care Card* with emergency medical information included for those taking hydrocortisone. If you don't have this, please order one through our website shop or contact us. If this leaflet has helped you, please consider becoming a member of The Pituitary Foundation. Membership details can be found on our website www.pituitary.org.uk or by calling **0117 370 1316**. This leaflet was produced by The Pituitary Foundation with input from our

Medical Committee members.

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