

## Patient information

# Steroid Replacement Therapy Sick Day Rules

### Diabetes and Endocrinology Department

If you have reduced cortisol levels due to Addison's disease, Pituitary Disease or because of other health problems, then this leaflet aims to explain how to adjust your steroid medication such as hydrocortisone or prednisolone if you become unwell or experience severe stress.

#### **When to adjust your steroids**

Cortisol is vital to life and wellbeing; without cortisol the body cannot function properly. If deficient for an extended time, serious illness and death can follow. When you take steroid medication, your body adjusts to having this level of cortisol provided for it and you need this replacement to stay well. Without it you become very weak and feel dizzy, especially when getting out of bed or standing up.

You can lose your appetite and feel nauseous, vomiting can also occur. You may also experience headaches, extreme tiredness, drowsiness, confusion, fever, shivering or feeling very cold. These are all symptoms of low cortisol levels. You would find it difficult to fight infections and can become seriously ill if an infection develops. This is called an adrenal crisis.

Any illness that brings on a stress response in your body such as vomiting, diarrhoea or a high temperature/infection means you will need to increase your daily doses of steroid medication, to prevent an adrenal crisis. Also, procedures such as surgical operations or dental treatment, and major life events, such as bereavement may also result in a stress response in your body, which may also require you to increase your daily doses of steroid medication.

#### **What do I do if I am unwell?**

We recommend that you should try to copy the normal reaction of the adrenal glands, which would be to produce more cortisol. During a mild illness, such as a cold without a high temperature, you should continue to take your steroid tablets as usual.

If you have diarrhoea, take an extra 20mg dose of hydrocortisone and double all of your normal daily doses of hydrocortisone or take an extra 5mg of prednisolone. If the diarrhoea does not settle within 48 hours, you need to administer your emergency hydrocortisone injection and seek medical advice immediately, such as your family doctor (GP) or your nearest Emergency Department.

This is because it is unlikely you will be absorbing your steroid tablets. Take your NHS Steroid Emergency Treatment card with you and ensure that the team looking after you know you are on steroid medication and that you are at risk of adrenal crisis and may need a steroid injection.

In the case of vomiting, if you vomit once, take an extra 20mg dose of hydrocortisone and double all of your normal daily doses of hydrocortisone or take an extra 5mg of prednisolone. If there is further vomiting you need to administer your emergency hydrocortisone injection and seek urgent medical advice immediately, preferably by attending your nearest Emergency Department (A&E).

Again, this is it because it is unlikely you will be absorbing your steroid medication. Take your NHS Steroid Emergency Treatment card with you and ensure that the team looking after you know you are on steroid medication and that you are at risk of adrenal crisis and may need a steroid injection.

If you have a temperature, along with an infection, for example a chest infection or throat infection, you should double all your normal daily doses of hydrocortisone/prednisolone and you will need to see your family doctor within 48 hours. If you are issued with antibiotics, you should double all your daily doses of hydrocortisone/prednisolone for the duration of your antibiotic treatment. This should then be gradually tapered down to original doses as per your endocrine team's advice. If you are already prescribed Prednisolone 15mg or higher there is no need to take additional steroid medication.

If you are unable to make an appointment with your family doctor, then you will need to attend an NHS walk-in centre or Emergency Department (A&E) within 48 hours. Continue to take double of all your usual daily doses until you have seen a doctor.

If you are having dental treatment (e.g., root canal work, replacement filling, scale and polish, with local anaesthetic), you will need to inform your doctor or dentist, before your treatment, that you take steroid medication. You will need to take an extra 20mg hydrocortisone or prednisolone 5mg dose 60 minutes before procedure. You will also need to take an extra hydrocortisone or prednisolone 5mg dose 60 minutes after the procedure. Then return to normal dose.

For serious injury/severe shock or extremely unwell take 50mg of hydrocortisone or 20mg Prednisolone immediately and seek medical advice. You may also require your emergency hydrocortisone injection depending on severity of shock.

If you experience severe emotional stresses, due to life events such as bereavement or sitting examinations then you may need to double all your daily doses of steroid medications. Liaise with your endocrine team for advice.

**The chart on the next page highlights the Sick day rules and actions.**

Rule	Illness/Situation	Action to take with hydrocortisone/prednisolone	Level of care needed:
1.	<b>Adrenal crisis weak, dizzy, nausea, faint, loss of consciousness</b>	Administer emergency hydrocortisone injection if possible; dial 999 and state 'adrenal crisis'	<b>Urgent – need hospital admission to stabilise</b>
2.	<b>Temperature higher than 38c, signs of infection or proven to have infection (urine tract, chest, tonsillitis etc.)</b>	Double all normal doses of hydrocortisone/prednisolone for duration of infection	GP/Self-care, if symptoms not resolved at 48 hours, see GP as may need antibiotic treatment
3.	<b>Antibiotic treatment for infections</b>	Double all normal steroid doses for duration of antibiotics (usually three to seven days). Then taper down until back on original dose.	Self-Care
4	<b>Vomiting with/without diarrhoea</b>	Take extra 20mg dose hydrocortisone/5mg Prednisolone immediately at onset of vomiting. Emergency 100mg injection if vomiting recurs within 30mins of taking extra dose	Self-care  <b>Urgent if unable to tolerate fluids and emergency injection used - need admission to stabilise.</b>  GP if able to tolerate fluids and retain oral steroid medications. Check sodium within range. May need anti-sickness treatment.
5.	<b>Diarrhoea (frequent watery stools)</b>	If no vomiting, take 20mg dose hydrocortisone/5mg Prednisolone and double all doses of steroid medications until diarrhoea settles.  If signs of adrenal crisis, follow advice as <b>per Rule 1. If diarrhoea lasts &gt; 48 hrs. - administer emergency hydrocortisone injection if possible; dial 999 and state 'adrenal crisis'</b>	Self-care  <b>Urgent if significant injury as need hydrocortisone cover and injury treated</b>

	<b>Illness/Situation</b>	<b>Action to take with hydrocortisone/prednisolone</b>	<b>Level of care needed:</b>
6.	<b>Significant accident/falls/injury/Extremely unwell</b>	If able, take 50mg hydrocortisone/prednisolone 20mg dose as soon as incident happens. If significant injury e.g., broken bone, administer emergency injection.	Self-care  <b>Urgent if significant injury as need hydrocortisone cover and injury treated</b>
7.	<b>Severe shock i.e., bereavement, road traffic accident, witness to trauma</b>	Take 20mg hydrocortisone/prednisolone 5mg tablets if able. May need to use emergency injection if shock severe. Monitor symptoms	Self-Care - See GP or hospital for further advice.  <b>Sudden and severe shock may be classed as emergency - seek medical attention if in doubt</b>
8.	<b>Long haul flight over 12 hours</b>	Double usual steroid medication dose on day of flight. One double dose should be suffice.	Self-care
9.	<b>General stress, exams, etc.</b>	Not usually required, ask ESNs if concerned.	
10.	<b>Dental treatments</b>  • e.g., Extraction with anaesthetic  • e.g., Root canal – local anaesthetic  • e.g., Filling, dental hygiene	• Double steroid dose one hour prior to surgery  • Double steroid dose one hour prior to procedure  • Double steroid dose one hour prior to procedure	Double dose 24 hours then return to normal  • Double dose 24 hours then return to normal  • Double dose 24 hours then return to normal
11.	<b>Surgery with long recovery - e. g., heart, bowel</b>	100mg IV with anaesthetic, then 200mg continuous IV infusion over 24hrs or hydrocortisone 50mg IM Six hourly for more sustained duration. Until able to eat/drink then double normal dose of steroid medication for 48hrs, and taper back to normal dose	Tell the anaesthetist and surgeon that you take steroid treatment before the operation. Replacement at time of surgery and immediately post operatively

			should be managed by surgical teams
12.	<b>Surgery with quick recovery - e.g., joint replacement</b>	100mg IV with anaesthetic, then 200mg continuous IV infusion over 24hrs or hydrocortisone 50mg IM six hourly for more sustained duration. Until able to eat/drink then double normal dose of steroid medication	Tell the anaesthetist and surgeon that you take steroid treatment before the operation.  Replacement at time of surgery and immediately post operatively should be managed by surgical teams
13.	<b>Minor surgery – e.g., cataract, hernia</b>	100mg IM pre-anaesthetic double normal steroid medication dose for 24 hrs post-surgery then normal doses	
14.	<b>Minor surgery with local anaesthetic – e.g., mole removal</b>	Take extra Hydrocortisone/Prednisolone dose one -hour pre procedure, extra dose one -hour post procedure, then return to normal doses.	
15.	<b>Colonoscopy/Barium enema</b>	Double/Triple your usual steroid medication dose as soon as the preparatory laxatives take effect and for duration of the preparation.  <b>For colonoscopy only:</b> a 100mg injection IM/IV 30 minutes before procedure to be given by doctor. Take usual dose of steroid medication on morning of procedure. Then double dose of steroid medication for 48 hours and return to normal dose.  <b>NB:</b> Some centres may want to admit you to hospital the night before to give the bowel prep and provide hydrocortisone cover/I.V Fluids.	Tell the doctor before procedure that you take hydrocortisone. Drink lots of water to prevent dehydration

16.	<b>Gastroscopy</b>	100mg IV with anaesthetic, then 200mg continuous IV infusion over 24hrs or hydrocortisone 50mg IM 6 hourly for more sustained duration. Until able to eat/drink then double normal dose of steroid medication	Tell the doctor before procedure that you take steroid medication.
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### **How long do I need to increase the dose for?**

The exact length of time will be determined by the severity of your illness. This can vary. If your symptoms worsen or you do not feel any improvement, you can increase your hydrocortisone/prednisolone medication to three times your normal daily dose. You should also seek medical advice as soon as possible. If you have any concerns or doubts, contact the endocrine specialist nurses on the direct dial number at the end of this leaflet.

### **Reducing your hydrocortisone dose back to normal**

You should start reducing your doubled doses of hydrocortisone when your symptoms have improved, which is generally two to three days after increasing the dose.

If you have taken an increased dose for more than two days then it is important that you do not suddenly return to your normal dose of hydrocortisone, as you may experience symptoms of low cortisol, such as dizziness, nausea, headaches, and fatigue. Therefore, you will need to gradually reduce the dosage to help your body readjust to normal.

This should be a slow process, taking a couple of days for each step down of the doses.

For example, if you were normally taking 15mg and 5mg, and had doubled this to 30mg and 10mg:

- For two days take 25mg and 10mg, then
- For two days take 20mg and 10mg, then
- For two days take 20mg and 5 mg, then return to your normal dose of 15mg and 5mg

If at any stage during this reduction you experience low cortisol symptoms, then you should return to your previous dose.

For example, using the above instance, you were taking 20mg and 5mg but felt unwell then simply return to taking 20mg and 10mg for a couple of days before trying to reduce the dose again.

If you have only needed to increase your dose for one or two days, then you do not need to reduce your doses as described above and can simply return immediately to your normal doses.

### **Steroid Emergency Card/Steroid Treatment Card/Medic Alert I.D**

There has been a National Patient Safety Alert issued to ensure all steroid dependent patients are provided with a 'Steroid Emergency Card'. This is shown below.

This card also advises health care professionals on the management of adrenal crisis. It is important that you carry this steroid card with you at all times.

You should have already received this card from your Endocrine Specialist Nurses via post, or other health care professional. If you do not have this card, then please contact the Endocrine Specialist Nurses on 0151 706 2417 and we will ensure you are issued with one.

The QR code on the reverse of the card directs the enquirer to the adrenal crisis page on the Society for Endocrinology website ([www.endocrinology.org/adrenal-crisis](http://www.endocrinology.org/adrenal-crisis)). This card does not replace your Blue steroid treatment card below. You should continue to carry this with you at all times also.

**STEROID TREATMENT CARD**

**I am a patient on STEROID treatment which must not be stopped suddenly**

- Always carry this card with you and show it to anyone who treats you (for example a doctor, nurse, pharmacist or dentist). For one year after you stop the treatment, you must mention that you have taken steroids.
- If you become ill, or if you come into contact with anyone who has an infectious disease consult your doctor promptly. If you have never had chickenpox, you should avoid close contact with people who have chickenpox or shingles. If you do come into contact with chickenpox, see your doctor urgently.
- Make sure that the information on the card is kept up to date.

09/08 2007-50249-EN-NHSBSA

- If you have been taking this medicine for more than three weeks, the dose should be reduced gradually when you stop taking steroids unless your doctor says otherwise.
- Read the patient information leaflet given with the medicine.

It is also recommended that you wear medical alert jewellery (which you will need to purchase yourself), which is a bracelet, necklace or watch that lists your illness and / or medications in case of medical emergency.

This will let anyone know you take steroid medication should you lose consciousness. It is also helpful to let family members know what to do in an emergency. There are various online websites that you can access. If you have difficulty finding the medic alert jewellery websites, please contact your Endocrine Specialist Nurses. Some example websites are

**Steroid Emergency Card (Adult)** **NHS**

**IMPORTANT MEDICAL INFORMATION FOR HEALTHCARE STAFF**  
 THIS PATIENT IS PHYSICALLY DEPENDENT ON DAILY STEROID THERAPY as a critical medicine. It must be given/taken as prescribed and never omitted or discontinued. Missed doses, illness or surgery can cause adrenal crisis requiring emergency treatment.

Patients not on daily steroid therapy or with a history of steroid usage may also require emergency treatment.

Name.....  
 Date of Birth ..... NHS Number .....

Why steroid prescribed .....

Emergency Contact .....

When calling 999 or 111, emphasise this is a likely adrenal insufficiency/Addison's/Addisonian crisis or emergency AND describe symptoms (vomiting, diarrhoea, dehydration, injury/shock).

**Emergency treatment of adrenal crisis**

- 1) Immediate 100mg Hydrocortisone i.v. or i.m. injection. Followed by 24 hr continuous i.v. infusion of 200mg Hydrocortisone in Glucose 5% OR 50mg Hydrocortisone i.v. or i.m. qds (100mg if severely obese).
- 2) Rapid rehydration with Sodium Chloride 0.9%.
- 3) Liaise with endocrinology team.

Scan here for further information or search <https://www.endocrinology.org/adrenal-crisis>

listed below:

- [www.medicalert.org.uk](http://www.medicalert.org.uk)
- [www.medicaltags.co.uk](http://www.medicaltags.co.uk) (SOS talisman)
- [www.theidbandco.com](http://www.theidbandco.com)

## **Endocrine Specialist Nurse Education Video Websites**

The Endocrine Specialist Nurses have created a short video to educate all patients with adrenal insufficiency around the management of steroid replacement during illness/stress. We also demonstrate how to make up and administer the emergency hydrocortisone injection.

Here are the links to access the Sick day rules/Emergency Injection Steroid Replacement Video.

<https://www.rlbuht.nhs.uk/departments/medical-specialisms/endocrinology/>

or

<https://www.youtube.com/watch?v=NXXB3w1ADcl>

### **Feedback**

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your Outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

### **Further Information**

#### **If you are a patient under The Royal Liverpool University Hospital**

Please feel free to contact the Endocrine Specialist Nurses with any questions you may have. There is an answer machine where you can leave your name and contact details. We will return all calls.

#### **The Endocrinology Specialist Nurses**

**Tel: 0151 706 2417 (Based at the Royal Liverpool University Hospital)**

**Textphone number: 18001 0151 706 2417**

**Kerrie Grounds**

**Amanda Hamilton**

**Karen Jones**

**Michelle Lewin**

#### **If you are a patient under Aintree Hospital**

Please feel free to contact the Endocrine Specialist Nurses with any questions you may have. There is an answer machine where you can leave your name and contact details.

#### **Please contact the Endocrine Specialist Nurses:**

**Tel: 0151 529 2422 (Based at Aintree Hospital)**

**Sharon Birch**

**Chloe Clayton**



## **Related Patient information leaflets**

Hydrocortisone replacement therapy (PIF 019)

Hydrocortisone replacement therapy-instructions on reducing or discontinuing therapy (PIF 1020)

There are also two particularly good patient support groups, which offer excellent advice through letters and telephone contact. They also hold local area group meetings. They are:

### **The Pituitary Foundation**

PO Box 1944

Bristol, BS99 2UB

Tel: - 0845 450 0375

[www.pituitary.org.uk](http://www.pituitary.org.uk)

### **Addison's Disease Self Help Group**

Tel: - 01483 830673

[www.adshg.org.uk](http://www.adshg.org.uk)

(The advice on this website is suitable for anybody on hydrocortisone replacement, not just those with Addison's disease)

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**Review Date: May 2026**

All Trust approved information is available on request in alternative formats, including other languages, easy read, large print, audio, Braille, moon and electronically.

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所有經信托基金批准的患者資訊均可以其它格式提供，包括其它語言、易讀閱讀軟件、大字

體、音頻、盲文、穆恩體 ( Moon ) 盲文和電子格式，敬請索取。

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