Dear patient,

If you have been taking corticosteroid (prednisolone) tablets for over a month, then it is possible that you have developed adrenal insufficiency.

Your adrenal glands sit next to your kidneys. Taking steroid tablets can make the adrenal glands “lazy” so they do not do their job properly.

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These instructions were developed as a collaboration between these institutions

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01. What is adrenal insufficiency?

Prednisolone is very similar to cortisol, which is a steroid hormone made naturally by your own adrenal glands. Your body needs a little bit of steroid every day to function properly. But if you get an illness that comes on suddenly, like a major injury or serious infection, the body makes an extra "boost" of steroid for a few days to help your body systems during this time.

Adrenal insufficiency means that your body cannot make the extra steroid boost that it needs during major illness. This leaflet explains how to adjust your steroid dose during this time ("sick day rules").

The body makes an extra "boost" of steroid

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02. Why is this relevant to me if I take steroid tablets?

If you have been taking 5mg or more of prednisolone, for 4 weeks or longer, then it is possible that you have developed adrenal insufficiency.

Adrenal insufficiency can last for some time. So if you are taking less than 5mg now, but you used to take a bigger dose, you could still have adrenal insufficiency now.

Many people taking long-term steroids who have adrenal insufficiency will never have a problem from it. However, if you happen to become ill from some other cause, you need to know how to adjust your steroid dose. This ensures that your body gets the steroid "boost" it needs to help you get over the new illness.

Major Injury

Or

Serious Infection

Major Injury Serious Infection

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03. How do I know if I have adrenal insufficiency?

Adrenal insufficiency can cause any of the symptoms shown in the green box. But lots of other medical conditions can also cause these symptoms. If you’re not sure, ask your doctor. It is important not to confuse these with a flare of the disease for which the steroids are prescribed.

- Fatigue
- Weakness
- Light-headedness
- Aching muscles
- Tummy ache
- Aching joints

If you have been told to gradually reduce (taper) your steroid dose, having **steroid withdrawal** symptoms for **up to a week** after reducing your steroid dose is OK: it can take a few days for your body to adjust to a lower dose.

04. What does this mean for steroid dosing?

**NEVER** keep reducing your steroid dose if doing so makes you feel worse the more you reduce it.

**NEVER** skip a steroid dose and **NEVER** stop taking steroids abruptly.

If you are not sure, ask your consultant or GP. Based on your own circumstances, they may give you further advice.

If you are ill, you should follow the "**sick day rules**". This means that you need to ask your GP surgery now for a short course of higher dose "rescue" steroids, to be kept just in case you should need them in future.

Make sure you know how many **tablets** you would need to take per day according to the rules. If you’re not sure you can ask your **doctor or pharmacist**. We enclose a letter you can show them to explain why you need this.
05. The Sick Day Rules rules:

**Rule 1.** If you are ill enough to need to stay in bed, OR if you have an infection that makes you unwell and you have been given antibiotics, increase your usual steroid dose for the time that you are unwell.

If you usually take less than 5mg prednisolone daily, **take 10mg daily** while unwell.

If you usually take 5-10mg daily, **double** your usual dose.

If you usually take between 10mg and 19mg prednisolone, increase to **20mg**.

If you usually take 20mg or more, **stay on your usual dose** (no need to increase).

If you are well again within a week, you can go straight back to your usual steroid dose. If it’s more than a week until you’re better, seek medical advice about stepping down your dose.

**Rule 2.** If you might not absorb your steroid tablets, or you are very ill in hospital, you will need an injection of steroid that same day AND seek medical advice about when to return to your normal dose.

If you have severe diarrhea or vomiting that lasts more than a day.

If you have a major injury or major surgery.

During childbirth

Your GP may be able to prescribe a hydrocortisone injection for you to keep at home if they think you are at high risk of adrenal insufficiency and you are confident in injecting yourself. Otherwise, for severe diarrhoea or vomiting, you may need to call 999 or 111 and show them the new NHS emergency steroid card in this leaflet.

Rule 2 may also apply if you are in hospital for a major injury or surgery – please ask your doctors.

If you need a steroid injection and cannot give this yourself at home, seek medical advice urgently.
For patients who take long-term steroids, there is also a special rule just for coronavirus infection. Symptoms of COVID-19 include:

Fever (>37.8°C)  
Dry Cough  
Sore Throat  
Loss of sense of smell/taste  
Muscle aches and pains  
Runny Nose  

Some of these symptoms are commonly reported by many rheumatology patients because of their condition. If your symptoms are part of your usual experience of your condition, try not to worry, but if you do develop new symptoms, do seek medical advice.

Remember you are just as important as any other patient, and we in the NHS are all here to look after you. Please do not hesitate to call 111 or 999 if you feel you need to.

For patients who take long-term steroids, there is a special rule just for coronavirus. This is because with coronavirus infection, the body needs more steroids than with other infections, and it needs these in the evening as well as in the morning.

If you think you might have coronavirus and aren’t sure whether to follow Sick Day Rule 1 or the special coronavirus rule, it is safer to follow the coronavirus rule.

Special rule for patients with coronavirus infection who take long term steroids:
Increase your usual steroid dose AND split it over the day, as long as you are unwell.

If you usually take less than 20mg prednisolone daily, then increase to 10mg in the morning and 10mg in the evening.

If you usually take 20mg prednisolone or more, then take your usual number of tablets over 24 hours, but split the dose between morning and evening.
For patients taking long-term steroids: what to do if you have COVID-19

Rule for adjusting steroid dose in coronavirus infection:
- If on less than 20mg: take 10mg in the morning and 10mg in the evening.
- If on 20mg or more: take usual dose, but split into morning and evening.

Coronavirus infection?

Some people improve then get worse again after 7-10 days.

If in doubt always seek medical advice.

You can take two 500mg tablets of paracetamol, four times per day. Taking more than this is dangerous—check whether your other medicines contain paracetamol too.

Drink enough that you need to pass urine several times per day. You might need to wake in the night to drink extra water. Drink more if:
- You feel dizzy when you sit up or stand up.
- Your hands and feet feel cold.

Call 111, use https://111.nhs.uk/covid-19/ or call 999 if you have:
- Dizziness
- Intense thirst
- Uncontrollable shaking
- Drowsiness
- Confusion
- Worsening shortness of breath
- Shortness of breath on walking upstairs
- Shortness of breath on talking
- Vomiting
- Severe diarrhoea

Information for your doctor: show this to your GP and to your carers, and put a copy in your hospital bag if you get admitted to hospital.

PDF of New NHS emergency steroid card: https://www.endocrinology.org/adrenal-crisis
FOR DOCTORS: Long-term prednisolone and adrenal insufficiency

33-50% of patients taking long-term prednisolone of 5mg or more have adrenal insufficiency when tested using a synacthen test(1,2). This includes a recent study of patients taking 5mg of prednisolone for 6 months or more for rheumatoid arthritis(3). There is little data on the prevalence of adrenal insufficiency in patients on long-term prednisolone tapers who have reduced below 5mg.

The Society for Endocrinology has recently issued new guidance about management of adrenal insufficiency. This also applies to patients who are taking long-term prednisolone, as it is difficult to exclude adrenal insufficiency without doing a synacthen test.

https://www.endocrinology.org/adrenal-crisis

For doctors: During the coronavirus outbreak

Coronavirus (COVID-19) infection is a special case: Patients who usually require 2-20mg prednisolone need to take 10mg twice daily to provide 24-hour cover for the fever and systemic illness(4).

During the coronavirus outbreak, the risks of attending for a blood test must be weighed against the value of the information gained. It may be safer to assume that patients who have been on 5mg prednisolone or above, including those who have now tapered to a lower dose, have adrenal insufficiency.


For ANY patient with adrenal insufficiency who is extremely unwell, on ITU or needing respiratory support for any disease, including COVID-19:

For GPs: please prescribe a course of stand-by “rescue steroids” (14 days of 10mg prednisolone twice daily) for patients who take less than 20mg prednisolone daily. For patients with a 9am cortisol <50 nmol/L, if clinically appropriate, consider prescribing two hydrocortisone injections they can keep at home, until they can be reviewed by endocrinology.

For hospital doctors: please be aware of the need for parenteral corticosteroids for patients taking long-term steroids who are admitted with acute, severe illness, outlined in the links below.

https://www.endocrinology.org/adrenal-crisis

For doctors: quick guide to steroids for possible adrenal crisis

A 24 hour infusion of 200mg hydrocortisone.

Hydrocortisone 50mg iv/im every 6 hours