

## PART ONE

### GUIDANCE ON STEROID TREATMENT CARDS WITH INHALED STEROIDS

Steroid treatment cards give guidance on minimising associated risks of therapy with corticosteroids and provide details of the prescriber, drug, dosage and duration of treatment.<sup>1,2</sup> They also contain instructions to the patient and inform healthcare professionals that a patient is receiving steroid treatment if presented by the patient.<sup>1</sup>

Guidance from the Scottish Executive<sup>1</sup> highlighting the importance of steroid treatment cards, advised that pharmacists dispensing systemic corticosteroids OR high doses of inhaled steroids should check that the patient has been given a steroid treatment card and, if not, issue one if they consider it appropriate. Consideration should also be given to patients being treated with steroids by other routes e.g. oral, topical, and nasal. Please refer to Part Two of this Prescriber overleaf for information on systemic steroids and steroid cards.

The BNF<sup>2</sup> and BNF for children<sup>3</sup> state that a steroid card should be given with high doses of beclometasone, budesonide or fluticasone inhalers.

The Tayside Respiratory MCN has clarified this as follows:

Give **adults** a steroid card when:

- The dose of beclometasone or budesonide is **greater than** 800 micrograms daily. This also applies to QVAR.<sup>4,5,6</sup>
- The dose of fluticasone is **greater than** 400 micrograms daily.

There is little evidence that doses below 800 micrograms per day of beclometasone or equivalent cause any short-term detrimental effects other than local effects of hoarseness and oral candidiasis. **The dose of inhaled steroid should be titrated to the lowest dose at which effective control is maintained.**<sup>7</sup>

Give **children** a steroid card when:

- The dose of beclometasone or budesonide is 200 micrograms **or greater** twice a day.
- The dose of fluticasone is 100 micrograms **or greater** twice a day.

Administration of inhaled steroids at or above 400 micrograms per day of beclometasone or equivalent may be associated with systemic side effects including growth failure and adrenal suppression. **The lowest dose of inhaled steroids compatible with maintaining disease control should be used and therapy should be reviewed regularly.**<sup>7,8,9</sup>

Children's height should be monitored on a regular basis. In Tayside the short Synacthen test should be carried out in all children on beclometasone 500mcg daily or above and fluticasone 250micrograms daily or above. This should be repeated at annual intervals if the child remains on high doses.

**Prescribers have been strongly advised by the CSM that paediatric licensed doses of all inhaled corticosteroids should not be exceeded without specialist referral.**<sup>9</sup>

## PART TWO ORAL CORTICOSTEROIDS, ADRENAL INSUFFICIENCY AND STEROID CARDS

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### Physiological corticosteroid secretion

Normal cortisol secretion is lower than previously thought, comparable to around 15mg to 20mg of hydrocortisone daily. Secretion of cortisol is at its greatest in the morning and falls off during the day. As a result, physiological replacement is usually given as 10mg oral hydrocortisone at breakfast and 5mg at teatime. Maximum adrenal cortisol production is around 300mg/day, although it is rare that this exceeds 150mg/day even in patients undergoing major surgery.

### Adrenal insufficiency

Adrenal insufficiency can be:

- **Primary**, due to adrenal disease such as Addison's disease or congenital adrenal hyperplasia
- **Secondary** due to hypothalamo-pituitary disease such as a pituitary adenoma, head injury or post cranial irradiation
- **Secondary** to exogenous corticosteroid use.

### KEY POINT

**It is important to exclude secondary causes in people found to be hypoadrenal following a Synacthen test. For more information on this test [click here](#)**

### Adrenal suppression secondary to corticosteroid use

Exogenous corticosteroids rapidly suppress the hypothalamo-pituitary axis. Prolonged use results in adrenal cortical atrophy. Long-term treatment with doses of corticosteroids greater than 5 mg prednisolone daily (*or equivalent* \*) can result in adrenal suppression for more than one year.

### KEY POINT

**People treated with supraphysiological doses of corticosteroid (*equivalent to more than 5 mg prednisolone daily*) for longer than 3 weeks, should be assumed to have adrenal insufficiency. They should all be given a steroid card.**

Studies suggest that even a short course of corticosteroids (5 days of treatment equal to or greater than 25mg daily of prednisolone) can result in adrenal suppression for up to 2 weeks after cessation<sup>10</sup>. The clinical significance of this is uncertain but adrenal insufficiency is something you should consider in people who have taken less than a 3 week course of corticosteroids.

### \*Equivalent physiological doses of corticosteroids

**Prednisolone 5mg is equivalent to:**

- **Hydrocortisone 20mg**
- **Dexamethasone 750 micrograms**
- **Cortisone acetate 25mg**

### Factors that increase the risk of adrenal suppression include:

- The use of long acting corticosteroids (for example dexamethasone)
- Evening dosing of corticosteroid
- Recent or repeated use of corticosteroids
- Co-prescribing with enzyme inhibitors such as HIV protease inhibitors or itraconazole.

It should be noted that high dose inhaled steroids can also cause adrenal suppression. Further information can be found in Part One (above) of this Tayside Prescriber.

## Management of adrenal insufficiency

### When to give a Steroid Card

- All patients with adrenal insufficiency.
  - This includes all patients on physiological doses of hydrocortisone for replacement therapy
  - Patients with irreversible insufficiency should also consider a medic-alert bracelet.
- Patients prescribed corticosteroids
  - For longer than 3 weeks at a dose equivalent to more than 5mg prednisolone daily
  - If risk of adrenal suppression is high.

### Reducing corticosteroid doses

In patients taking more than 5 mg prednisolone (*or equivalent*) daily, dose reduction should be determined by the underlying disease activity for which the steroids are being used. Once a physiological dose is achieved (e.g. 5mg prednisolone daily), then the dose should be gradually tapered over 2 to 3 months (e.g. reduce by 1mg prednisolone every 2 weeks), unless the underlying disease dictates otherwise. If symptoms of adrenal insufficiency develop the steroid dose should be increased again and the dose tapered more slowly. Referral to endocrinology at this point may be considered.

### Management of intercurrent illness or surgery

All patients with known or suspected adrenal insufficiency should increase their corticosteroid dose if they develop any fever or moderate to severe illness (generally an illness that would stop them going to work or school).

Advice for management of patients taking physiological hydrocortisone replacement for intercurrent illness or surgery can be found at <http://www.addisons.org.uk>.

As a general rule:

- Corticosteroid doses should be doubled for moderate infection (including a pyrexial illness).
- In severe illness a dose of 40mg oral prednisolone should be sufficient. Where the oral route is not suitable then 50mg of intravenous or intramuscular hydrocortisone 6 hourly should be used<sup>11</sup>.
- Doses may be reduced by 50% per day on resolution of the illness until previous dose is reached.

*The recommendations in Parts One and Two of this guidance should be used to aid management decisions but do not replace the need for clinical judgement in the care of individual patients in clinical practice.*

### References

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