FACTSHEET 18 ON PALLIATIVE CARE
USE OF STEROIDS

Corticosteroids are useful drugs but they are not without side effects. Evidence for their efficacy is variable.

General Principles

- Clinician and patient need to be clear as to the reasons for commencement of corticosteroid therapy, and the symptoms that will be assessed as a gauge of response
- If symptoms do not respond, stop responding, or recur, steroids should be **withdrawn**
- Therapy should be guided by the clinical picture and discussion with the patient
- As corticosteroids can have considerable side-effects the lowest effective dose should be used. The clinician should try to reduce the medication until the minimum effective dose is found
- Side effects, or long-term sequelae, may be of less concern for patients who might benefit from them in the last weeks of life
- Monitoring of treatment is essential for all patients on steroids
- Patients remaining on corticosteroids (more than two weeks) should be given a steroid card

Side-effects

Often patients, as well as healthcare professionals, are aware of the side effects of corticosteroids. It is vital to take account of the possible benefits, the prognosis and risk factors, and to discuss them with the patient.

- Early effects may include (within days of commencement)
  - mental disturbance (insomnia, agitation, psychosis , depression)
  - diabetes mellitus (antagonism of oral hypoglycaemics and insulin)
  - fluid retention
- Later effects may include (within weeks of commencement)
  - mental disturbance
  - diabetes mellitus
  - Cushing's syndrome
  - increased susceptibility to infection
  - gastric ulceration

- Longer term effects may include (within months to years of commencement)
  - muscle wasting and weakness
  - osteoporosis
  - avascular bone necrosis
  - capillary fragility

Possible indications for use of steroids
In patients with malignant disease dexamethasone is usually preferred due to the reduced likelihood of fluid retention and the ability to administer a larger dose with a small number of tablets.

Loss of appetite / 'wellbeing'
Studies which have looked at steroids for appetite stimulation show:

- steroids can increase appetite, food intake, and sense of wellbeing – usually a transient effect (i.e. up to two to four weeks)
- if appetite is **not** improved steroids should be rapidly tailed off

Anorexia (refer to factsheet 19)
Is a universal symptom in the dying - often this concerns carers more than the patient.

- Careful discussion and explanation that the patient's deterioration in condition and lack of appetite is due to disease progression can relieve anxieties about limited food intake
- If the patient has no appetite undue pressure to eat will cause distress and/ or nausea
- If the patient is concerned about poor intake it may be appropriate to have a trial of steroid therapy.
- If swallowing is problematic increasing appetite with steroids is not justified.
- A dietary review (refer to dietician if appropriate) or advice on consistency of food/fluids via a SALT (speech and language therapy) referral should be considered.

Pain
Corticosteroids can have beneficial effects on pain in some patients, through:
- an anti-inflammatory effect
- a reduction in oedema and pressure e.g. in nerve compression or raised intracranial pressure

Addition of steroids in patients taking NSAIDs is unlikely to increase the anti-inflammatory effect. Anecdotally combined therapy may bring benefit **but** at increased risk of gastrointestinal haemorrhage.
There is a fourfold increase in the risk of peptic ulceration if steroids are administered concurrently with NSAIDs - gastric protection with PPI is required.

Gastrointestinal obstruction (refer to Factsheet 11)
Continuous subcutaneous infusion of dexamethasone is sometimes effective in resolving bowel obstruction in its earlier stages. The evidence suggests treatment is well tolerated and there is no increase or decrease in mortality when steroids are used in this situation. **Such a trial should be carried out under specialist advice.**

Occasional indications for use of corticosteroids
Anti-emetic
- During chemotherapy treatment, corticosteroids can be useful in conjunction with other anti-emetic agents
- Dexamethasone administered parenterally (e.g. continuous subcutaneous infusion) may be used to control intractable vomiting

Dyspnoea (breathlessness – factsheet 14)
Anecdotally, whether through an anti-inflammatory or anti-oedema action, corticosteroids can be beneficial in improving symptoms in:
- Lymphangitis carcinomatosis
- Radiotherapy pneumonitis
- Obstruction of airway

A therapeutic trial lasting 5 to 10 days is reasonable – discuss this first with an oncologist/palliative care specialist.

Superior Vena Cava Obstruction (SVCO)
Metastatic Spinal Cord Compression (MSCC)
} refer to Factsheet 16 and/or Anglia Cancer Network (ACN) Website

Raised Intracranial Pressure– refer to Factsheet 16 'Emergencies in Palliative Care'

Dose conversion table

Drug	Approximate equivalent dose (mg)	Sodium retaining potency	Duration of action (h)
Hydrocortisone	20	1	8-12
Prednisolone	5	0.25	12-36
Dexamethasone	0.5-1	<0.01	36-54

Routes and doses

	Dexamethasone	Prednisolone	Advice
Loss of appetite/ Anorexia	2 to 4mg orally	10 to 30mg orally	If ineffective stop after 5 days. If helpful continue up to a maximum of 2 to 4 weeks.
Pain	6 to 8mg orally		Reduce rapidly to minimum effective dose
Gastrointestinal Obstruction Anti-emetic	} Subcutaneous infusion under specialist advice		
Dyspnoea	Seek specialist advise		
SVCO MSCC Raised Intracranial Pressure	See Factsheet 16 and ACN Website – seek specialist advice		

Steroids cause ‘wakefulness’ – steroids (other than hydrocortisone) have a long half-life and should be administered as a single morning dose to avoid sleep disturbance.

Discontinuing steroids
Symptoms may occur on dose reduction:

- Symptoms that were steroid responsive may recur. Careful consideration should be given to the benefits and burdens of either increasing or decreasing steroids with a view to being able to reduce at a future date
- A corticosteroid ‘withdrawal syndrome’ may occur. This can present as lethargy, malaise, depression, anorexia, nausea, myalgia or arthralgia. It usually occurs when corticosteroid levels drop below normal physiological levels
- Acute adrenal insufficiency with hypotension and collapse

As the patient's hypothalamic/pituitary/adrenal axis is suppressed by prolonged corticosteroid courses, there are obvious concerns when reducing dosage. The most recent recommendation included in the British National Formulary is as follows:

'Withdrawal of corticosteroids'
The CSM has recommended that gradual withdrawal of systemic corticosteroids should be considered in those whose disease is unlikely to relapse and have:

- *Recently received repeated courses (particularly if taken for longer than 3 weeks)*
- *Taken a short courses within 1 year of stopping long term therapy*
- *Other possible causes of adrenal suppression*
- *Received more than 40mg daily prednisolone (or equivalent) for more than one week*
- *Been given repeat doses in the evening*
- *Received more than 3 weeks treatment*

Systemic corticosteroids may be stopped abruptly in those whose disease is unlikely to relapse and who have received treatment for 3 weeks or less and who are not included in the patient groups described above.

During corticosteroid withdrawal the dose may be reduced rapidly down to physiological doses (equivalent to prednisolone 7.5mg daily) and then reduced more slowly. Assessment of the disease may be needed during withdrawal to ensure that relapse does not occur.

Steroids in the last days of life
When patients become so unwell that they are unable to take their medication orally, a decision has to be made about continuing or discontinuing corticosteroids. Often steroids can be stopped abruptly at the terminal phase and any symptoms from withdrawal treated with other medication, but this may be particularly difficult with this group of drugs as they may have dramatically helped symptoms and patients may have been told not to reduce them suddenly. The medication could be given subcutaneously as either a bolus injection or by subcutaneous infusion. Dexamethasone is incompatible with most other drugs administered subcutaneously so requires a separate syringe pump. If a pump is to be used, it is best to **SEEK SPECIALIST PALLIATIVE CARE ADVICE**.

General palliative care references include:
'Palliative Care Formulary', Fourth Edition (PCF4)
Edits: Robert Twycross and Andrew Wilcock available via Palliativedrugs.com

Palliative Adult Network Guidelines Third Edition (also available as an App)
Edits: Max Watson, Caroline Lucas, Andrew Hoy, Ian Back, Peter Armstrong