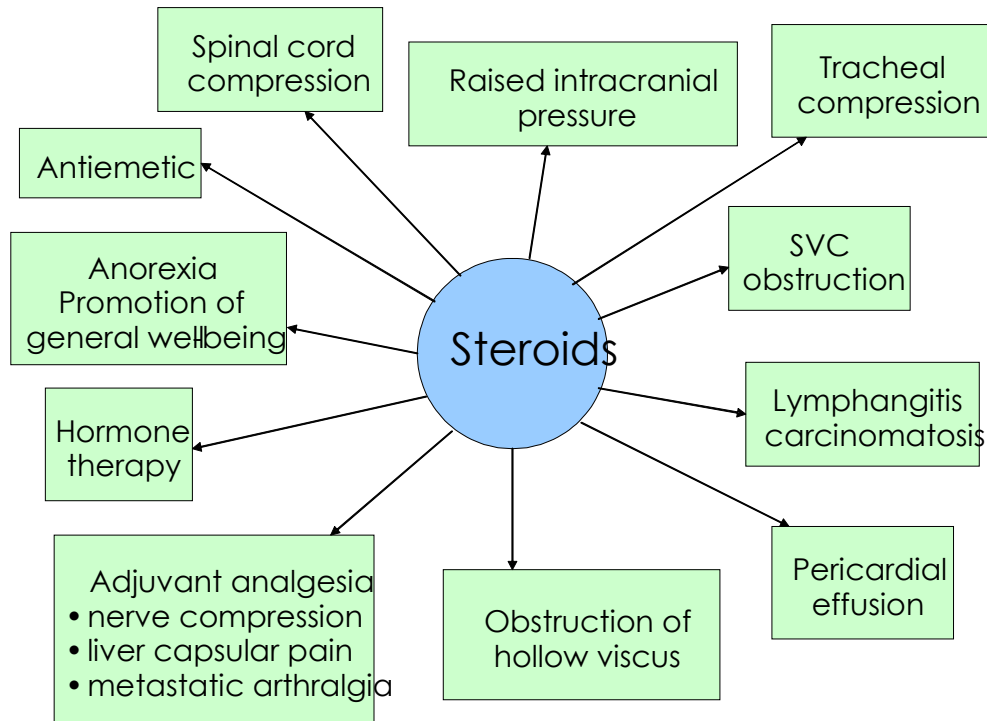


Guideline: Use of Steroids

Corticosteroids are extensively used in Palliative Medicine.

(Figure 1)



Which corticosteroid?

Dexamethasone provides a relative high corticosteroid dose for few tablets and has less mineralocorticoid effects than prednisolone, methylprednisolone and hydrocortisone, and so causes less fluid retention and biochemical disturbance. Dexamethasone is therefore the most commonly used corticosteroid in Palliative Medicine

Table 1: Approximate relative anti-inflammatory potencies

Steroid	Equivalent dose
Dexamethasone	2mg
Prednisolone	15mg
Methylprednisolone	12mg
Hydrocortisone	60mg

Dexamethasone preparations

Oral:

Dexamethasone Tablets available in 0.5mg and 2mg doses.

Liquid dexamethasone (2mg/5ml) and *soluble prednisolone tablets (5mg)* are available for people who have difficulty swallowing.

Parenteral:

Dexamethasone can be given intravenously or subcutaneously.

What dose?

Standard doses for the different indications of steroid usage are not established. It has been suggested that steroids should be prescribed for a trial period of one week before review, except where the intention of treatment is tumour control. It is unlikely that a greater response to treatment will occur after one week. It is safe to stop steroids abruptly after one week (dose equivalent to 40mg/day of prednisolone or 6mg/day of dexamethasone), if there has been no benefit. If larger doses are used or smaller doses are used for a longer period of time, doses must be reduced cautiously e.g. decrease by a third of the total daily dose every 5 days.

General well-being appetite: A typical starting dose of dexamethasone daily in anorexia and weakness is 4mg usually reducing to 2mg. An improvement in appetite and strength may be seen after two weeks. Unfortunately this effect often disappears by four weeks. It is important to monitor patients and to reduce and stop the steroids if they are no longer effective. Patients with anorexia may benefit from alternative medications such as megestrol acetate 160 mg tds.

Adjuvant analgesia: Dexamethasone 4-16mg is a typical starting dose range in cancer-related pain. It is important not to miss possible treatment benefit by prescribing too low a dose. A general approach is to start with a high dose and reduce as allowed by pain control over the following weeks. (see figure 1.)

Antiemetic: Doses between 4-16mg orally or subcutaneously. If not effective after a week it can be stopped. If effective, they are reduced to an arbitrary maintenance dose when control has been achieved. Regular monitoring must continue and the dose reduced further and stopped if the steroids are no longer being effective.

Spinal cord compression and raised intracranial pressure: Dexamethasone 16mg is the dose commonly started daily in the treatment of spinal cord compression and ↑ICP. In spinal cord compression after radiotherapy the dose is then gradually reduced over about a month and usually stopped. Radiotherapy is only useful in ↑ICP if there is symptomatic improvement with steroid treatment. Radiotherapy usually reduces the steroid requirement. The dose is reduced as allowed by symptoms. Many patients with ↑ICP will need to remain on a maintenance dose, and doses may have to be increased if symptoms occur.

Tracheal compression / SVCO / Lymphangitis carcinomatosa / Pericardial effusion / Obstruction of hollow viscus: Dexamethasone is generally started at a high dose of 8-16mg and then gradually reduced as symptoms allow.

Hormone therapy: Patients with metastatic prostate cancer who have escaped hormone control may be commenced on prednisolone 10-20mg in an attempt to achieve a tumour control.

Withdrawing and stopping steroids

Steroids must be reduced **gradually** especially in patients:

- Whose symptoms may recur.
- Who have recently received repeated courses (particularly if >3 weeks).
- Who have other potential causes of adrenal suppression.
- Who have received >40mg prednisolone or equivalent.
- Who have received >3 weeks of treatment.

Drug interactions

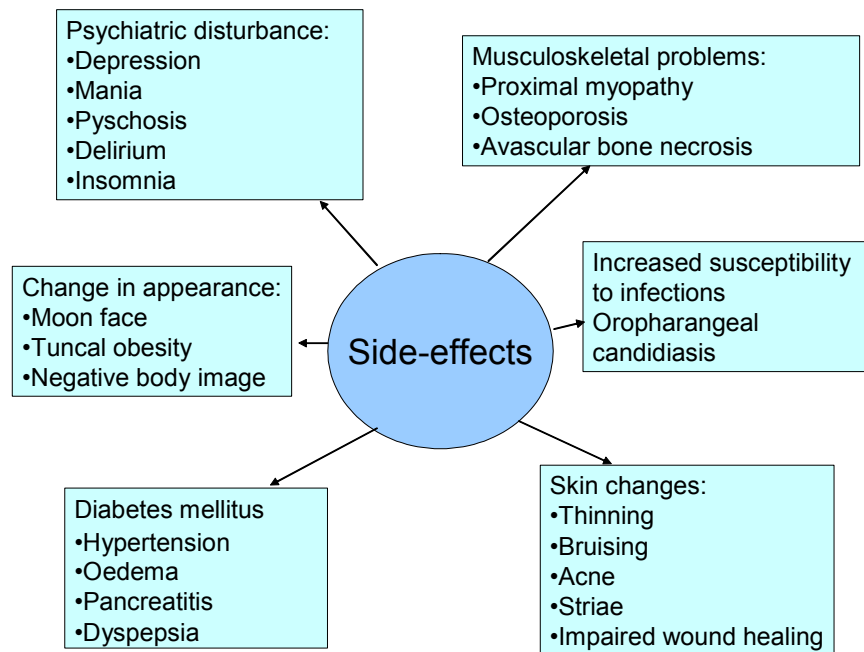
Carbamazepine, Phenytoin, Phenobarbitone: Antiepileptics accelerate the metabolism of steroids, which means that the steroids have less effect. Patients on anti-epileptics may require higher doses of steroids.

Warfarin: Steroids can alter the metabolism of warfarin. On commencing steroids the INR must be monitored regularly.

For other interactions see the BNF.

Side effects

Although steroids have many potential benefits, they can also cause many unpleasant side effects. The risk of side effects depends on the dose and length of treatment.



(Figure 2)

Insomnia: Prescribe steroids in the morning after food to prevent insomnia.

Diabetes mellitus: Steroids can increase blood sugars levels and cause diabetes. They must be used with considerable caution a diabetic patient. The doses of oral hypoglycaemics and insulin may need increasing.

Dyspepsia: Caution must be taken in patients with a history of peptic ulcer disease. Patients commenced on steroids who are already on NSAIDs, Aspirin or Warfarin must be prescribed a proton pump inhibitor such as Lansoprazole. The use of steroids in combination with these drugs should be avoided where possible.

It is essential that steroid doses are monitored regularly. Careful monitoring helps to achieve maximum symptom benefit from the smallest possible dose of steroids. It is often a question of finding the balance between the problems and the benefits.

The most common cause of steroid-related problems is failure to review the patient

KEY POINTS:

1. Patients treated with systemic steroids for more than 3 weeks should be given steroid treatment card at the onset of treatment and encouraged to carry with them.
2. Steroids must be prescribed before midday to prevent insomnia, can be given as a single dose.
3. A proton pump inhibitor must be prescribed when steroids used alongside NSAIDS, aspirin or warfarin.
4. The patient and carers must be informed of the reason for steroid use.
5. When commenced on steroids the patient must be assessed within the first one to two weeks to identify whether or not the treatment has helped. If there is no improvement in symptoms the steroids must be stopped. If the patient has been on steroids for a week or less the steroids can be stopped abruptly.
6. If an improvement in symptoms is reported, the dose should be reduced by approximately one third every 4-7 days until a dose is reached below which symptoms recur. If the patient has been on a high dose of steroids for several weeks/ months the dose should be reduced cautiously at lower dose intervals and over a longer period of time, by the use of 0.5 mg tablets and if necessary switching the patient to prednisolone.
7. All patients being discharged from an in-patient unit must be given clear instructions on the reducing dose of the steroids and informed of a review date if they are to continue on a maintenance dose.
8. All discharge letters for patients on steroids must clearly state the reason for steroid use, the regime for dose reduction and plan for future review.