

### **Guidelines for Corticosteroid Use in Palliative Care, 2008**

- Review all "less toxic" alternatives before considering starting Corticosteroids
- Document each stage of the corticosteroid plan e.g. indication(s), expected outcome(s), predicted timescale of response, prior corticosteroid use and date of corticosteroid review
- Clarify the individual risk : benefit ratios for each patient:
  - (a) Ensure specified indication(s) reflect current best practice
  - (b) Discuss spectrum/incidence of adverse effects with the patient to obtain "consent" – highlighting common side effects (e.g. proximal myopathy) and potentially serious side effects even if rare, with discussions tailored to the individual
  - (c) Highlight any need for additional caution
- Dexamethasone is the corticosteroid of choice in view of reduced fluid retention and higher potency / formulation offering a lessened tablet burden compared to Prednisolone. Empirical doses are only a guide. Start at a sufficiently high dose to ensure any effect is not missed.
  - Arguably 4mg, 8mg and 16mg offer statistically equivalent neurological benefit in brain metastases, but with increasing toxicity, (Vecht, Hovestadt & Verbiest, 1994) despite the seemingly different benefits observed in clinical practice
  - Recommended doses are based on established palliative practice but are not support by review data from oncological practice as even for steroids in brain secondaries there are no clear answers with inadequate reporting in trials (Millar et al, Clinical Oncology, 2004) while uncertain surrounds the role of steroids in SVCO (Rowell & Gleeson, 2002)

<b>Dexamethasone starting dose*</b>	<b>Indications</b>
<b>2-4mg</b>	<ul style="list-style-type: none"> <li>◆ Anorexia</li> <li>◆ To improve wellbeing / mood</li> <li>◆ Weakness</li> <li>◆ Non-specific pains</li> </ul>
<b>4-8mg</b>	<ul style="list-style-type: none"> <li>◆ Nerve compression pain</li> <li>◆ Liver capsule pain</li> <li>◆ As an anti-emetic</li> <li>◆ Bowel obstruction</li> <li>◆ To combat post radiation inflammation</li> </ul>
<b>12-16mg</b>	<ul style="list-style-type: none"> <li>◆ Raised ICP / brain metastases</li> <li>◆ SVCO</li> <li>◆ Carcinomatosis lymphangitis</li> <li>◆ Malignant spinal cord compression</li> </ul>

\*Consider increasing / doubling the dose for patients on Phenytoin, Carbamazepine or Phenobarbitone

- Prescribe Dexamethasone as a single morning dose, or split morning doses if numerous tablets are required (do not give after 16:00h)
- Consider prophylactic prescribing of gastric protectants (e.g. Lansoprazole) if on a concurrent NSAID, and possibly if a relevant previous history of PUD, or a high cumulative corticosteroid dose of >140mg Dexamethasone (or equivalent), though as primarily symptomatic PPI / Misoprostol could be delayed until needed
- Consider prophylactic topical oral antifungal (e.g. Nystatin), if any current or recent oral symptoms that are suggestive of oral thrush
- Use a 5 – 7 day corticosteroid trial; if no clear clinical benefit is seen, discontinue corticosteroids abruptly for doses of 6mg daily or less (where no prior steroid exposure of note)

- If a corticosteroid response is uncertain (usually maximal between 3 and 7 days), consider a trial of up to 3 weeks, where abrupt withdrawal is still possible for doses of 6mg daily or less.
- When beneficial, corticosteroids should only be continued at a set dose for a maximum of 2-4 weeks, with a planned review date to consider corticosteroid withdrawal.
- Taper corticosteroids to the lowest dose required clinically, aim for Dexamethasone 4mg or less. Even when benefits are noted “maintenance therapy” should be avoided. Patients should always be on a reducing scale of corticosteroids, though this may incorporate dose increases or fixed periods of a stable dose (2 – 4 weeks) while continuing the overall weaning process.
- Involve the patient and other healthcare professionals in the corticosteroid management plan. All patients requiring ongoing corticosteroids need to be aware of the necessary basic precautions:
  - Mechanisms, indications and formulations of corticosteroids
  - Side effects of corticosteroids, and the need for short courses
  - Advice against stopping corticosteroids abruptly and indications for additional doses
  - Symptoms to watch for and action to take while corticosteroids are being tapered down
  - The need to seek medical help if more unwell while taking corticosteroids, or come into contact with infectious diseases, particularly chickenpox if not previously infected as this requires urgent medical attention
  - The need to carry a corticosteroid card (and possibly a Medic Alert bracelet) and to inform anyone treating them that they are on corticosteroids (and for one year after stopping them)
- Discontinue corticosteroids as soon as benefit is lost. However for corticosteroid doses greater than 6 - 8mg of Dexamethasone (or equivalent), or following periods longer than 3 weeks continuous use, corticosteroids should be discontinued gradually, under supervision, (time allowing). Reduce doses by 25-50% every 4-8 days (Kaal & Vecht, 2004). If possible, reduce higher doses more rapidly than more slowly when nearing physiological doses i.e. Dexamethasone 1mg daily (or equivalent);

<b>Dexamethasone, daily doses</b>	<b>Empirical dose reductions</b>
above 4mg	reduce by 2 - 4mg every 4-8 days (and check for symptoms before the next dose drop), until reaching 4mg
4mg or less	reduce by 50% every 4-8 days, to 2mg, then 1mg, then 0.5mg, or on alternate days for a more conservative approach

- For Dexamethasone doses above 4mg daily, consider checking random blood glucose during first 2 – 4 weeks of treatment or whenever possible symptoms.
- If ongoing steroids appear likely consider osteoporosis prevention with Bisphosphonate therapy
- If corticosteroid induced myopathy occurs, reduce the dose and consider a switch to Prednisolone, and aim for <30 mg (or equivalent).
- As benefit is unlikely from withdrawal for patients in the terminal phase (<1-2 weeks prognosis), consider continuing corticosteroids; to prevent rebound symptoms, withdrawal symptoms or clouding of cause of ongoing decline
- If the oral route is not available, ongoing corticosteroids should be given by subcutaneous infusion at equivalent doses (50%-100% of oral dose), or for small volumes via a S/C stat line. Minimise the risks of precipitation by: adding last; and mixing slowly at body temperature (warmed in hand)
- For patients on corticosteroids or recently discontinued (1 week for a short course or 12 months for a course lasting months/years) consider additional doses for physiological stresses; pain; infection / fever; hypovolaemia; trauma e.g. fractured femur; and dying.