

Use of dexamethasone formulations in palliative care

Dexamethasone formulations in the UK

Oral (PO) tablets are formulated as dexamethasone base and injectable formulations as dexamethasone sodium phosphate. However, all dosing advice and labelling must now be expressed as dexamethasone base. There is additional potential for confusion because different injection strengths and brands are available which vary, e.g. in presentation, preservative/solvent content and storage requirement. This guide provides an overview of the use of dexamethasone in palliative care in adult patients. For use in other settings, seek appropriate specialist advice.

Prescribing

In palliative care, dexamethasone is generally the systemic corticosteroid of choice for anorexia, anti-emesis, obstruction of a hollow viscus, raised intracranial pressure and spinal cord compression. The initial dose varies according to indication.

When parenteral use is necessary, dexamethasone is traditionally given subcutaneously (SC) rather than intramuscularly/intravenously (IM/IV). Previously, for ease of prescribing, conversion of PO to SC/IV dexamethasone was made on a 1:1 basis (e.g. 4mg PO = 4mg SC/IV). Following recent labelling and formulation changes, the injectable formulations contain either 3.3mg/mL or 3.8mg/mL dexamethasone base (Tables 1). Thus, continuing with an exact 1:1 conversion will lead to an unnecessarily complex and wasteful use of the ampoules and vials.

Because the conversion between PO and SC/IV dexamethasone only requires the selection of a reasonable starting dose, the recommendation is that:

- for pragmatic purposes, when converting between PO and SC/IV routes, both 3.3mg and 3.8mg dexamethasone base of the injectable formulations can be considered approximately equivalent to dexamethasone base 4mg PO
- the SC/IV dose prescribed should take into account which injectable formulation is being used so as to avoid wasteful use of the vials/ampoules (Tables 1 and 2)
- the dose should be subsequently titrated according to response

Dexamethasone has a long duration of action; therapeutic doses can generally be given as a bolus SC injection once daily.

Because it is an alkaline drug, therapeutic doses of dexamethasone often cause compatibility problems if added to other drugs in a continuous subcutaneous infusion (CSCI) via syringe driver. If it is necessary to consider adding dexamethasone to a CSCI please seek specialist palliative care advice.

Local dexamethasone formulations

Across Barnsley district both 3.3mg and 3.8mg dexamethasone base of the injectable formulations are available. Dosing information is given below for both strengths.

DEXAMETHASONE DOSES - SWITCHING FROM ORAL PREPARATION TO INJECTABLE

Table 1: Dose adjustments

<u>Oral Dose</u>	<u>Injection Dose</u>		<u>Initial injection dose</u>	
	<u>Using 3.8mg/ml</u>	(volume)	<u>Using 3.3mg/ml</u>	(volume)
2mg	1.9mg	(0.5ml)	1.65mg	(0.5ml)
4mg	3.8mg	(1ml)	3.3mg	(1ml)
6mg	5.7mg	(1.5ml)	4.95mg	(1.5ml)
8mg	7.6mg	(2ml)	6.6mg	(2ml)
10mg	9.5mg	(2.5ml)	8.25mg	(2.5ml)
12mg	11.4mg	(3ml)	9.9mg	(3ml)
16mg	15.2mg	(4ml)	13.2mg	(4ml)

Table 2: UK Formulation details

	<i>Aspen</i>	<i>Hameln/Panpharma/ Workhardt</i>	<i>Hospira</i>
Dexamethasone base	3.8mg/mL	3.3mg/ml	3.3mg/ml
Presentation (all glass)	1ml vial	1ml, 2ml ampoule	1ml ampoule, 2ml vial
Storage	Refrigerate at 2-8°C	<25°C	<25°C
Cost (Drug Tariff November 2019)	£2	1ml £2.34, 2ml £2.20	1ml ampoule £2.34, 2ml vial £4.80

For further advice on prescribing in palliative care from local resources:

- Barnsley Palliative Care Formulary 2020-2023
 - Access on-line via Barnsley Hospital intranet
- Palcall advice line 01226 244 244 (24/7 Barnsley Hospice)
- Community Specialist Palliative Care Team:
 - Mon-Fri 8.45am-4.45pm 01226 645280, Weekends and Bank Holidays 01226 644575
- Hospital Specialist Palliative Care Team
 - Mon-Fri 8:30am-4:30pm 01226 434921 or via hospital switchboard