

## **Information on oxycodone (OxyNorm) for subcutaneous administration**

Oxycodone is a semi-synthetic strong opioid with similar properties to morphine. It may be a suitable alternative to morphine/diamorphine in patients with intolerable side-effects or who have had a previous hypersensitivity reaction.

Oxycodone injection has been accepted for restricted use by NHS Scotland for patients intolerant to morphine/diamorphine by the Scottish Medicines Consortium. This has recently been endorsed by Greater Glasgow Area Drugs and Therapeutics Committee.

### ***Dose equivalents (rough guide only, careful titration is required):***

30mg PO oxycodone = 60mg PO morphine = 20mg SC diamorphine

20mg PO oxycodone = 10mg SC oxycodone

*For example:* 1) patient is on 120mg/24hours of PO oxycodone = 60mg/24hours of SC oxycodone

Or 2) 120mg/24hours of oxycodone = 240mg/24hrs of PO morphine = 80mg/24hrs of SC diamorphine

**It is also generally recommended to reduce the strong opioid dose by 25-30% when converting from one to another to take into account incomplete cross tolerance. This recommendation may not be appropriate if the patient is in pain at the time of conversion and in fact requires an increase in the dose of strong opioid. If any doubt, please seek advice from a specialist in palliative medicine.**

For patients on PO oxycodone, consideration should be given as to whether SC diamorphine would be appropriate when a syringe driver is required instead of oxycodone if the reason for using PO oxycodone has been a weak one.

### ***Preparations:***

Currently only available as 10mg/ml solution in a 1ml or 2ml ampoule. This makes it an impractical choice at higher doses for continuous infusion and for boluses for breakthrough pain when the volume should be restricted to a maximum of 2mls **in one site** for the latter. Seek advice from a specialist in palliative medicine in this situation.

### ***Diluent:***

Water for injection or sodium chloride 0.9% for single drug mixtures.

Water for injection should be utilised for mixtures with 2 or more drugs.

### ***Compatibility:***

Chemical (laboratory) stability data only exists so far for 2 drug combinations with oxycodone (see table 1).

Oxycodone appears to be **compatible** with the following single drugs:

Hyoscine butylbromide (Buscopan), dexamethasone sodium phosphate, haloperidol, midazolam, hyoscine hydrobromide, metoclopramide and levomepromazine.

Oxycodone is **incompatible** with cyclizine when the latter's concentration exceeds 3mg/ml.

Some 4 and 5 drug **physical** stability data can be found in the September 2004 newsletter at [www.palliatiivedrugs.com](http://www.palliatiivedrugs.com).

### ***References:***

- 1) Personal communication from NAPP
- 2) Gardiner P.R. Compatibility of an injectable oxycodone formulation with typical diluents, syringes, tubings, infusion bags and drugs for potential co-administration. Hospital Pharmacist 2003;10;354-361.
- 3) Twycross et al. Palliative Care Formulary (2<sup>nd</sup> Edition) 2002. Radcliffe Medical Press.

**Table 1: Compatibility of oxycodone injection with a second drug**

Maximum dose in milligrams (mg) known to be stable in:						
Drugs	8mls in a 10ml syringe		14mls in a 20ml syringe		17mls in a 30ml syringe	Diluent and type of data
Oxycodone	53		93		110	WFI
Dexamethasone	10		18		22	Laboratory data
sodium phosphate						
5mg/ml						
Oxycodone	69		120		147	WFI
Haloperidol	5		9		10	Laboratory data
Oxycodone	69		120		148	WFI
Hyoscine	20		35		40	Laboratory data
butylbromide (Buscopan)						
Oxycodone	61		107		130	WFI
Hyoscine hydrobromide	700micrograms		1200micrograms		1500micrograms	Laboratory data
Oxycodone	57		100		120	WFI
Levomepromazine	57		100		120	Laboratory data
Oxycodone	40		70		85	WFI
Metoclopramide	20		35		42	Laboratory data
Oxycodone	40		70		85	WFI
Midazolam	20		35		42	Laboratory data

**Table 2: Compatibility of oxycodone injection with 2 other drugs**

Maximum dose in milligrams (mg) known to be stable in:							
Drugs	8mls in a 10ml syringe		14mls in a 20ml syringe		17mls in a 30ml syringe		Diluent and type of data
Oxycodone	44		78		95		WFI
Haloperidol	1.8		3.1		3.8		Clinical observation
Metoclopramide	15		27		33		
Oxycodone	1.9	22	3.3	40	4	48	WFI
Haloperidol	1.9	1.7	3.3	3	4	3.6	Clinical observation
Midazolam	19	5	33	10	40	12	observation
Oxycodone	2.3	4.5	4	8	4.8	9.7	WFI
Hyoscine butylbromide (Buscopan)	45	27	80	48	97	58	Clinical observation
Midazolam	4.5	4.5	8	8	9.7	9.7	
Oxycodone	16		28		34		NaCl 0.9%
Levomepromazine	6.6		11		14		Clinical observation
Metoclopramide	32		56		68		observation
Oxycodone	7.5		13		15		WFI
Levomepromazine	6.25		10		13		Clinical observation
Hyoscine butylbromide(Buscopan)	60		105		127		observation