



Opioid conversion guide

How to use the conversion guide

OPIOID CONVERSION GUIDE

These conversions are a guide only.
 Patients may vary in their response to different opioids. After changing opioid, close assessment should follow and the dose altered as necessary.

Equianalgesic doses of oral opioids

Oral opioid	Conversion factor (opioid dose x or ÷ by factor = morphine dose)	Practical equianalgesic dose
morphine		10 mg
hydromorphone	x 5	2 mg
oxycodone	x 1.5	5-7.5 mg*
codeine	÷ 8	75-90 mg*
tapentadol	÷ 3	50 mg*
tramadol	÷ 5	50 mg

* dose guided by strength of medication available

Methadone conversions are complicated and prescribing should be restricted to medical specialists with experience of methadone prescribing for pain management.

Subcutaneous route conversions

Opioid	Oral dose	Equianalgesic subcutaneous dose	Conversion factor (oral dose ÷ by factor = subcut dose)
morphine	30 mg	10 mg	÷ 3
hydromorphone	6 mg	2 mg	÷ 3


Transdermal preparation conversions

Opioid	Patch strength	Equianalgesic oral morphine dose
buprenorphine	5 microgram/hr	12 mg/24 hrs
fentanyl	12 microgram/hr	30-45 mg/24 hrs


Sublingual preparation conversions

Opioid	Dose	Equianalgesic oral morphine dose for pain
buprenorphine tablet	200 microgram	8-16 mg
fentanyl lozenge	200 microgram	no direct conversion initiate 200 microgram lozenge and titrate to effect

Why do we need an Opioid Conversion Guide?

- There are many opioids and many formulations available (e.g. tablets, patches, injections)
 - Each opioid medication binds to opioid receptors differently
 - Therefore, a different amount of each opioid is needed to have the same analgesic effect
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Important considerations

- All opioid conversions are a guide only
 - Patients may vary in their response to the effects of different opioids
 - Therefore, ongoing patient assessment is required after conversion for:
 - effectiveness of pain relief; and
 - toxicity; and
 - adverse effects
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Equianalgesic dose

Equianalgesic dose refers to:

- the dose of each opioid needed to provide the same pain relief


The dose is calculated by using a conversion factor



opioid dose **multiplied** or **divided** by factor
= morphine dose

Equianalgesic doses of oral opioids

The guide is colour coded as a visual prompt:

- **GREEN** shaded opioids are those **STRONGER** than morphine mg for mg
 - **PURPLE** shaded opioids are those **WEAKER** than morphine mg for mg
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Calculating equianalgesic doses

Oral opioid	Conversion factor (opioid dose X or ÷ by factor = morphine dose)
morphine	
oxycodone	x 1.5

If a patient is taking Oxycontin[®]

(that is, 15 mg oxycodone x 2 doses/day or 30 mg oxycodone/day)

Then,

$$\begin{array}{rclcl} 30 \text{ mg oxycodone/day} & \times & \text{conversion factor} & = & \text{morphine/day} \\ \mathbf{30 \text{ mg}} & \mathbf{x} & \mathbf{1.5} & & \mathbf{= 45 \text{ mg morphine/day}} \end{array}$$

Calculating equianalgesic doses

Oral opioid	Conversion factor (opioid dose X or ÷ by factor = morphine dose)
morphine	
oxycodone	x 1.5

If a patient is taking morphine and is to be changed to oxycodone then it is necessary to do the **reverse** calculation and **divide the morphine** dose by the conversion factor.

That is,

$$\begin{array}{l} 30 \text{ mg morphine/day} \div \text{conversion factor} = \text{oxycodone/day} \\ \mathbf{30 \text{ mg}} \qquad \qquad \qquad \mathbf{\div} \qquad \mathbf{1.5} \qquad \qquad \qquad \mathbf{= 20 \text{ mg oxycodone/day}} \end{array}$$

Equianalgesic doses of oral opioids

Oral opioid	Conversion factor (opioid dose X or ÷ by factor = morphine dose)
morphine	
codeine	÷ 8

If a patient is taking Panadeine Forte[®] 2 tablets qid
that is, (2 x 30 mg codeine) x 4 doses or 240 mg codeine/day

Then,

240 mg codeine/day ÷ conversion factor = morphine/day

240 mg ÷ **8** = **30 mg morphine/day**

Practical equianalgesic doses

Oral opioid	Conversion factor (opioid dose \times or \div by factor = morphine dose)	Practical equianalgesic dose
morphine		10 mg
oxycodone	x 1.5	5-7.5 mg*

*Dose guided by strength of medication available

- **Practical** equianalgesic doses are listed
- Dose **ranges** are listed for medications where the equianalgesic dose is not practical in the formulations available
e.g. 6.6 mg oxycodone x 1.5 = 10 mg morphine
- The dose prescribed will be guided by clinical decision making


Practical equianalgesic doses

Oral opioid	Conversion factor (opioid dose X or ÷ by factor = morphine dose)	Practical equianalgesic dose
morphine		10 mg
tapentadol	÷ 3	50 mg*
tramadol	÷ 5	50 mg

*Dose guided by strength of medication available

- The dose listed for tapentadol is determined by lowest strength of medication available (50 mg)
- Tapentadol is **NOT** the same strength as tramadol

Methadone

- Conversion factors have not been provided for methadone
 - Methadone conversions are complicated
 - Prescribing should be **restricted** to medical specialists with experience of methadone prescribing for pain management
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Subcutaneous route conversions

Opioid	Oral dose	Equianalgesic subcutaneous dose	Conversion factor (oral dose ÷ by factor = subcut dose)
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hydromorphone	6 mg	2 mg	÷ 3

- The conversion factor for oral to subcutaneous doses is used for calculating equivalent daily doses OR intermittent (or 'when required') doses
- Equianalgesic doses are listed (as above) on the Guide

Calculating subcutaneous doses

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morphine	30 mg	10 mg	÷ 3
hydromorphone	6 mg	2 mg	÷ 3

If a patient is taking MS Contin® 30 mg bd
that is, 30 mg oral morphine x 2 doses/day or 60 mg oral morphine/day

Then,

$$60 \text{ mg oral morphine/day} \div \text{conversion factor} = \text{subcut morphine/day}$$

$$60 \text{ mg} \quad \div \quad 3 \quad = \quad 20 \text{ mg subcut/morphine/day}$$

Transdermal preparation conversions

Opioid	Patch strength	Equianalgesic oral morphine dose
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fentanyl	12 microgram/hr	30-45 mg/24 hrs

- For transdermal preparations (patches) the equianalgesic oral morphine dose is listed for the lowest strength of each patch


Sublingual preparation conversions

Opioid	Dose	Equianalgesic oral morphine dose for pain
buprenorphine tablet	200 microgram	8-16 mg

- For buprenorphine the equianalgesic dose of oral morphine is listed

Sublingual preparation conversions

Opioid	Dose	Equianalgesic oral morphine dose for pain
fentanyl lozenge	200 microgram	no direct conversion

- There is no direct conversion for fentanyl lozenge to other opioids including morphine
 - The recommended initial dose of lozenge is 200 micrograms
 - If pain is not relieved then the dose can be increased until effective
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