

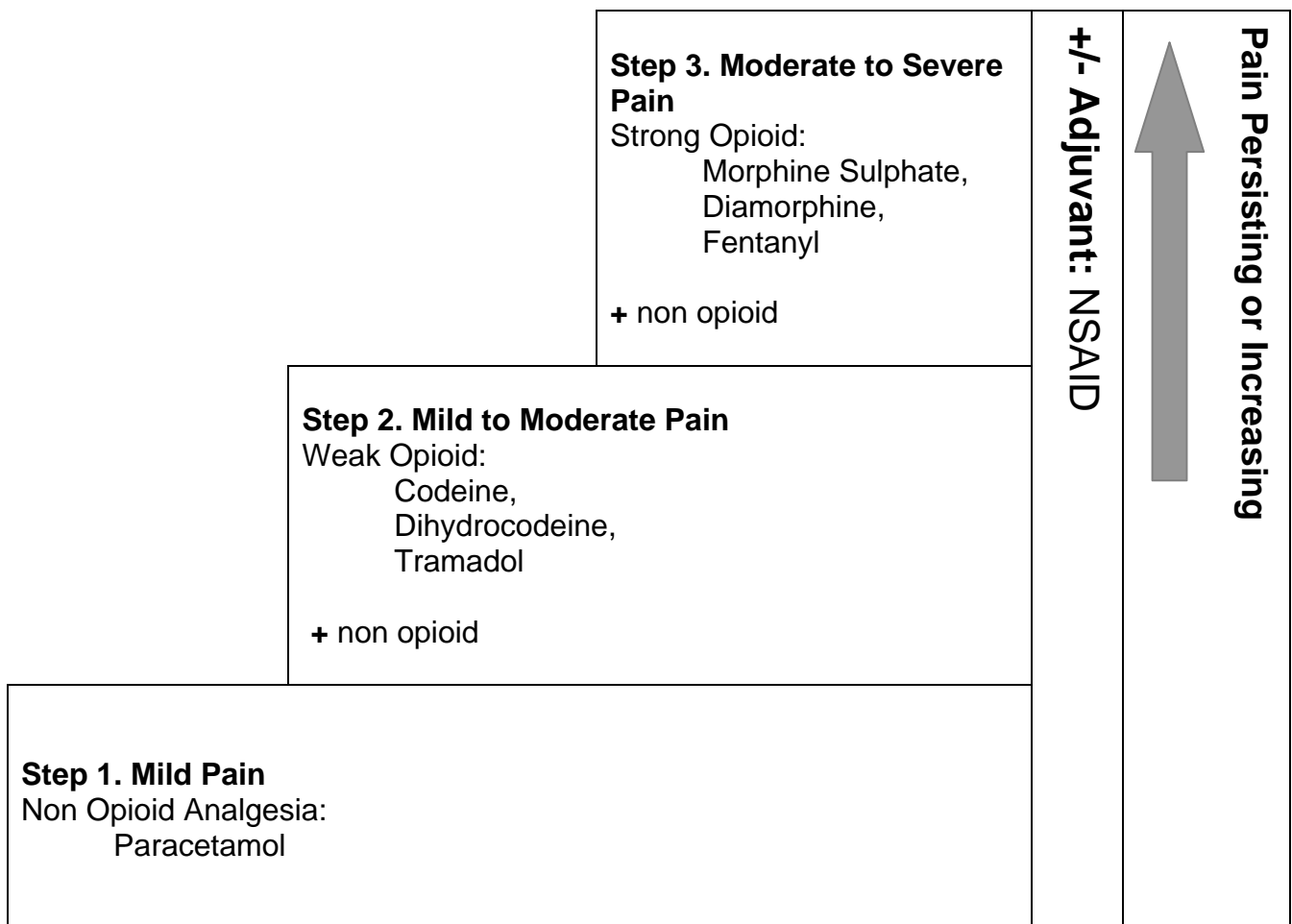
Pain Management

This guidance covers:

- WHO Analgesic Ladder
- Reducing dosing errors with opioids
- Opioid toxicity
- General Pain Management – Acute
- General Pain Management – Postoperative (excluding obstetrics)
- General Pain Management – Obstetrics (NOT for women in labour)
- General Pain Management – Chronic
- General Pain Management – Renal Patients
- Analgesic subcutaneous syringe drivers
- Co-prescribing with opioids
- Appendix 1: Dose conversion chart for strong opioids

WHO Analgesic Ladder

The WHO analgesic ladder is a validated system for treating pain.



Reducing Dosing Errors with Opioids

This guidance has been produced in response to a National Patient Safety Agency Rapid Response Report, which was issued due to the increase in number and severity of incidents concerning opioid medicines.

The following must be followed when prescribing, dispensing or administering opioid medicines:

- Confirm any recent opioid dose, formulation, frequency of administration and any other analgesic medicines prescribed for the patient.
- Ensure where a dose increase is intended, that the calculated dose is safe for the patient.
- Check the usual starting dose, frequency of administration, standard dosing increments, symptoms of overdose, and common side effects of that medicine and formulation.

Opioid Toxicity

If administering strong opiates then **naloxone** (the antidote) must be available.

Symptoms of opioid toxicity include: respiratory depression, hypotension, circulatory failure, coma, convulsions, rhabdomyolysis, renal failure, pinpoint pupils, agitation, vivid dreams, nightmares, hallucinations, confusion and myoclonic jerks.

The specific antidote **naloxone** is indicated if there is coma or bradypnoea. Since naloxone has a shorter duration of action than many opioids, close monitoring and repeated injections are necessary according to the respiratory rate and depth of coma. When repeated administration of naloxone is required, it can be given by continuous intravenous infusion instead and the rate of infusion adjusted according to vital signs.

Doses of naloxone for opioid overdose:

- By intravenous injection, 400micrograms – 2 mg; if no response repeat at intervals of 2–3 minutes to a maximum of 10 mg, then review diagnosis. Further doses may be required if respiratory function deteriorates
- By subcutaneous or intramuscular injection, dose as for intravenous injection but use only if intravenous route not feasible (onset of action slower)
- By continuous intravenous infusion using an infusion pump, 4 mg diluted in 20 mL intravenous infusion solution [unlicensed concentration] at a rate adjusted according to response (initial rate may be set at 60% of initial intravenous injection dose (see above) and infused over 1 hour)

In palliative care and chronic opioid use lower doses should be used to manage opioid-induced respiratory depression and sedation, while maintaining adequate analgesia:

- By intravenous injection, 100 – 200micrograms; given at 2 to 3 minute intervals
- Additional doses may be necessary at one to two hour intervals depending on the response of the patient and the dosage and duration of action of the opioid administered.

General Pain Management – Acute

Mild

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily.

Moderate

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily

+

Codeine 30 to 60mg orally every 4 to 6 hours

(Combination product available: **Co-codamol 30/500mg** One to two tablets, orally, every 4 to 6 hours. Maximum: 8 tablets daily)

or

Tramadol 50 to 100mg orally every 6 hours

(For patients taking regular tramadol: **Tramadol MR** 100 to 200mg, orally, twice a day)

+/-

NSAID - **Ibuprofen** 400mg, orally, every 6 to 8 hours

(**Diclofenac MR** 75mg, orally, twice daily may be considered in patients with cancer)

Severe

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily

+

Morphine sulphate oral solution 10mg/5mL

5 to 10mg every 4 hours when required

If oral route not possible: give 2.5 to 5mg of morphine sulphate injection intramuscularly (IM) every 4 hours or 2.5mg IV hourly when required.

(and **STOP** any weak opioids — eg, codeine or tramadol)

+/-

NSAID - **Ibuprofen** 400mg every 6 to 8 hours

General points:

- ◆ When mild analgesics fail, change to a stronger analgesic further up the pain ladder. Do not change to a drug of similar potency; this will not achieve better pain control.
- ◆ Combinations of analgesics with different mechanisms of action are more effective than single agents.
- ◆ **Continuous pain warrants continuous analgesia, avoid prescriptions for when required analgesia. Prescribe a regular dose.**
- ◆ Intermittent pain warrants intermittent analgesia.
- ◆ Patients should have their pain control regularly assessed. Consider new presentations of pain eg: neuropathic pain - see Neuropathic Pain Guidelines.

General Pain Management — postoperative (excluding obstetrics)

Mild

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily.

Intravenous paracetamol stat dose can be used in post-operative patients who are unable to swallow, or unable to use or refuse suppositories.

Under 50 kg: 15mg/kg by intravenous (IV) infusion over 15 minutes every 4 to 6 hours. Max. 3g daily.

Over 50 kg: 1g by IV infusion over 15 minutes every 4 to 6 hours. Max. 4g daily

Moderate

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily.

+

Codeine 30 to 60mg orally every 4 to 6 hours

(Combination product available: **Co-codamol** 30/500mg One to two tablets, orally, every 4 to 6 hours. Maximum: 8 tablets daily)

or

Tramadol 50 to 100mg orally every 6 hours

(For patients taking regular tramadol: **Tramadol MR** 100–200mg, orally, twice a day)

+/-

NSAID - **Ketoprofen** 100mg bd orally/rectally/intramuscularly (inpatients only for upto 3 days, then switch to either diclofenac or ibuprofen if NSAID still required.

Diclofenac 50mg tds orally, 75 to 150mg daily in divided doses rectally,

Ibuprofen 400mg orally three times a day

NSAIDs may enhance anticoagulant effect of anticoagulants but can be concurrently prescribed with prophylaxis doses of LMWH.

Diclofenac 75mg in 2ml (Dyloject®) IV injection is available for use in THEATRE ONLY for use in anaesthetised patients. Note: IV Diclofenac is contra-indicated in patients receiving concomitant NSAIDs including cyclooxygenase-2 selective inhibitors or anticoagulant use (including low dose heparin). For full prescribing information – [Diclofenac Injection BP 75mg/3ml - Summary of Product Characteristics \(SPC\) - electronic Medicines Compendium \(eMC\)](#)

Severe

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily. Or use IV paracetamol (for dosing see under mild pain)

+

Morphine sulphate oral solution 10mg/5mL 5 to 10mg every 4 hours when required

If oral route not possible: give 2.5 to 5mg of morphine sulphate injection intramuscularly (IM) every 4 hours or 2.5mg IV hourly when required.

(And **STOP** any weak opioids — eg, codeine or tramadol).

+/-

NSAID – **Diclofenac** 50mg tds orally, 75-150mg daily in divided doses rectally

Ibuprofen 400mg every 6 to 8 hours

Severe — for patients deemed suitable by the Acute Pain Team or an Anaesthetist

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily. Or use IV paracetamol (for dosing see under mild pain)

+

Epidural or Patient Controlled Analgesia (PCA) infusions. Patients on these infusions will be seen regularly and treatment optimised, and step down therapy advised upon by the Acute Pain Team or Anaesthetist

Any queries regarding pain control must be referred back to the Acute Pain Team or Anaesthetist. Always ensure that naloxone is available on the ward.

Standard PCA at WUTH: morphine sulphate 120mg and cyclizine 120mg in 60mL glucose 5%. These are supplied as a controlled drug from the Pharmacy Aseptic Unit and must be prescribed on PCIS. Do not prescribe additional cyclizine for patients receiving a PCA.

Standard epidurals at WUTH:

Diamorphine 30mg in bupivacaine 0.1% 500mL (used by surgical division)

Bupivacaine 0.1% and Fentanyl 0.0002% in sodium chloride 0.9% 250mL (used in obstetrics)

Epidurals are not prescribed on PCIS within the surgical division but should be prescribed on a pre-printed yellow chart. In Womens directorate they are prescribed on a pre-printed epidural prescription chart.

Concomitant Use Of Other Opioids

PCA

If a patient has been admitted on regular slow release morphine/ oxycodone tablets/ capsules or regular methadone these should be continued whilst the patient is on the PCA. IV morphine stat doses can also be administered whilst on the PCA. Any breakthrough morphine/ oxycodone liquid should not be continued, nor should IM morphine stat doses be prescribed. Stat doses can be restarted after PCA removal if appropriate. For advice on patient's with fentanyl or buprenorphine patches please contact the Acute Pain team or an Anaesthetist.

Epidurals

With epidurals, no regular opiates should be prescribed. However exceptions are sometimes made if there has been input from the Acute Pain team/ Anaesthetist.

If you have any queries regarding any of the above then contact the Acute Pain Team/ Anaesthetists

General points:

- ◆ When mild analgesics fail, change to a stronger analgesic further up the pain ladder. Do not change to a drug of similar potency; this will not achieve better pain control.
- ◆ Combinations of analgesics with different mechanisms of action are more effective than single agents.
- ◆ **Continuous pain warrants continuous analgesia, avoid prescriptions for when required analgesia. Prescribe a regular dose.**
- ◆ Intermittent pain warrants intermittent analgesia.
- ◆ Patients should have their pain control regularly assessed. Consider new presentations of pain eg: neuropathic pain - see Neuropathic Pain Guidelines.

General Pain Management — Obstetrics (NOT for women in labour)

Mild/ Moderate

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily.

Intravenous paracetamol can be used in post-operative patients who are unable to swallow, or unable to use or refuse suppositories.

Under 50 kg: 15mg/kg by intravenous (IV) infusion over 15 minutes every 4 to 6 hours. Max. 3g daily.

Over 50 kg: 1g by IV infusion over 15 minutes every 4 to 6 hours. Max. 4g daily.

+

Codeine 15 to 30mg orally every 4 to 6 hours

(Combination products available: **Co-codamol** 30/500mg One to two tablets, orally, every 4 to 6 hours. Maximum: 8 tablets daily)

+/-

NSAID (for post natal use only)- **Diclofenac** 50mg tds orally

NSAIDs are contra-indicated in patients receiving concomitant NSAIDs including cyclooxygenase-2 selective inhibitors. The SPC advises that concomitant use of diclofenac and other medication with anticoagulant properties (such as tinzaparin) should be done with caution. Clinical investigations do not appear to indicate that diclofenac sodium has an influence on the effect of anticoagulants and so this practice can be continued.

Severe

Paracetamol 1g orally or rectally every 4 to 6 hours. Max 4g daily

+

Morphine sulphate oral solution 10mg/5mL 5 to 10mg every 4 hours when required

If oral route not possible: give 2.5 to 5mg of morphine sulphate injection intramuscularly (IM) every 4 hours or 2.5mg IV hourly when required.

(And **STOP** any weak opioids — eg, codeine or tramadol).

+/-

NSAID (for post natal use only)– **Diclofenac** 50mg orally three times a day

General points:

- ◆ When mild analgesics fail, change to a stronger analgesic further up the pain ladder. Do not change to a drug of similar potency; this will not achieve better pain control.
- ◆ Combinations of analgesics with different mechanisms of action are more effective than single agents.
- ◆ **Continuous pain warrants continuous analgesia, avoid prescriptions for when required analgesia. Prescribe a regular dose.**
- ◆ Intermittent pain warrants intermittent analgesia.
- ◆ Patients should have their pain control regularly assessed. Consider new presentations of pain eg: neuropathic pain - see Neuropathic Pain Guidelines.

For information on the use of pethidine, refer to separate obstetric guidelines (“Management of labour pain relief”)

General Pain Management - Chronic

If pain assessment indicates opioid sensitive chronic pain, commence a regular strong opioid.

First choice

Morphine is the strong opioid of choice

Note in patients with impaired renal function there is an increased risk of toxic side-effects with the majority of opioids, due to drug and metabolite accumulation. In patients with chronic kidney disease (CKD) stages 3-5 or with creatinine clearance < 30ml/min opioids should be used with caution (see **General Pain Management – Renal Patients on page 10**) and specialist advice sought.

Treat as for acute pain then add

Morphine sulphate MR capsules (Zomorph®) Initial dose: determine total daily requirements of morphine sulphate oral solution. This dose should be given in two divided doses of Zomorph. Round doses to the nearest 10mg -see example below.

And (for breakthrough pain)

Continue **morphine sulphate oral solution** Give one sixth of the total daily morphine dose every 4 hours when required. Round doses to the nearest 5mg. See example below.

(For patients with problems swallowing solid dose formulations, morphine sulphate modified release capsules can be opened and the contents swallowed without chewing. The capsule contents may also be administered via a PEG tube.)

Dose requirements for oral morphine – example calculation

- Patient requires 5mg of morphine sulphate oral solution four times in a 24 hour period. Therefore:

$$4 \times 5\text{mg} = 20\text{mg (Total daily dose of morphine)}$$

$$20\text{mg} \div 2 = 10\text{mg}$$

Therefore commence morphine sulphate modified release capsules/tablets 10mg twelve hourly.

- For breakthrough analgesia use one sixth of total daily morphine dose:

$$20\text{mg} \div 6 = 3.33\text{mg}$$

Round to nearest convenient dose and give 4 hourly when required, therefore commence morphine sulphate oral solution 5mg every 4 hours when required.

Further dose adjustments in opioid sensitive pain

Adjust regular dose of morphine sulphate modified release capsules/tablets according to the frequency of use of breakthrough analgesia and the patient's general clinical condition. If a patient's pain is uncontrolled, and more frequent breakthrough doses are required then re-calculate the regular daily dose of oral morphine.

When increasing the regular morphine dose remember to include breakthrough doses in the new total daily dose calculation – example calculation

- A patient is having 10mg of morphine sulphate modified release capsules/tablets twelve hourly. In addition they are prescribed 5mg morphine sulphate oral solution every four hours when required for breakthrough pain, of which they have received four doses in the previous 24 hours. Therefore:

$$(2 \times 10\text{mg}) + (4 \times 5\text{mg}) = 40\text{mg (Total daily dose of morphine)}$$

$$40\text{mg} \div 2 = 20\text{mg}$$

Therefore the new regular dose of morphine sulphate modified release capsules/tablets to be commenced is 20mg twelve hourly

- For breakthrough analgesia use one sixth of total daily morphine dose

$$40\text{mg} \div 6 = 6.66\text{mg}$$

Round to nearest convenient dose and give 4 hourly when required, therefore commence morphine sulphate oral solution 5mg every 4 hours when required.

Second choice — for patients unable to tolerate morphine

Consider simple measures such as:

- Dose reduction of morphine,
- Appropriate rehydration
- Adjuvant medication – eg, **haloperidol** 1.5mg, orally, at night for 3 to 4 days for hallucinations and opioid-related nausea, or increased laxatives

Morphine is also available as a modified-release 24-hourly oral preparation (**MXL®**) which may aid compliance in some patients.

If these measures fail and the patient remains in pain and symptomatic of opioid side effects refer to the Pain Team or Palliative Care Team via PCIS.

Third choice — for patients in whom the above measures have not worked

Oxycodone MR tablets (OxyContin®) In patients transferring from morphine, halve the total daily dose of morphine to calculate the equivalent total daily dose of oxycodone. This dose should be given in two divided doses of **OxyContin®**. Round doses to the nearest 10mg. See example below overleaf

And (for breakthrough pain)

Oxycodone 5mg/5mL liquid (OxyNorm®) Give one sixth of the total daily dose every 4 hours when required. Round doses to the nearest 5mg. See example overleaf.

Dose conversion of oral morphine to oral oxycodone – example calculation

- Patient requires Zomorph® 20mg twelve hourly but unable to tolerate morphine.
Therefore:

(Total daily dose of morphine) $40\text{mg} \div 2 = 20\text{mg}$ (Total daily dose of oxycodone)

$$20\text{mg} \div 2 = 10\text{mg}$$

Therefore commence Oxycontin® 10mg twelve hourly.

- For breakthrough analgesia (one sixth of total daily dose):

$$20\text{mg} \div 6 = 3.33\text{mg}$$

Round dose to the nearest convenient dosage volume and give 4 hourly when required, therefore commence oxycodone 5mg/5ml liquid (**OxyNorm®**) oral solution 5mg every 4 hours when required.

Adjust dose of Oxycontin® according to use of breakthrough analgesia.

Fentanyl Patches

Transdermal fentanyl is an alternative strong opioid. Fentanyl patches should only be used in patients who have **chronic** pain with **stable** opioid requirements superimposed on additional problems such as malabsorption, dysphagia and/or poor medication compliance.

It is **NOT** suitable for first line use.

A 25microgram/hr fentanyl patch is equivalent to oral morphine sulphate 60mg to 120mg daily. As the patch is changed every 72 hours, dosing is less flexible than with oral opiates.

Note: A dose conversion table is available in appendix 1

General Pain Management – Renal Patients

Dihydrocodeine and codeine should be used with caution, and morphine with extreme caution in all patients with CKD5 (CrCl < 10ml/min) or acute renal failure due to the increased risk of side – effects and accumulation of active metabolites. Alternatives are:

Mild – Moderate

Tramadol 50mg orally three times daily when required and titrate.

Severe (CKD 4/5 only)

Oxycodone 1.25mg – 2.5mg orally, six hourly when required and titrate.

The lowest possible dose of opioid should be used, with a gradual increase in dose according to requirements.

In chronic severe pain **fentanyl patches** may also be used. Start with lowest dose or calculate conversion from other opioids.

In patients with CKD 4 it is advised to reduce doses of dihydrocodeine and morphine. Additionally, the dosing interval should be increased when using these drugs in patients whose creatinine clearance is < 20ml/min. It may therefore be appropriate to avoid the use of dihydrocodeine and morphine in patients with CrCl 10 – 20ml/min also.

Also refer to Care of the Dying – severe renal failure guidelines

Analgesia via subcutaneous syringe drivers
(continuous subcutaneous infusion over 24 hours)

Indications for using a syringe driver:

- Inability to take oral medication:
 - persistent nausea and/or vomiting for more than 24 hours
 - decreased level of consciousness
 - dysphagia
 - variable level of absorption of medication via the oral route
- Continuous infusion to improve symptom management
- Bowel obstruction
- Severe weakness and symptomatic in terminal stage of disease process
- Inappropriate for patient to have IV access

See Wirral Syringe Driver Policy, Wirral Care of the Dying Pathway and Wirral Care of the Dying Pathway (Renal Guidelines) for further information.

Which opioid to use:

Morphine is the strong opioid of choice in syringe drivers.

Diamorphine should only be considered as an alternative opioid where the dose of morphine in the syringe driver exceeds 360mg per 24 hours. This dose would warrant a subcutaneous (s/c) breakthrough dose of more than 60mg of morphine (which at its most concentrated injection is available as a 2ml volume). Diamorphine is more soluble than morphine therefore enabling much larger opioid doses to be administered in a smaller volume. It should be noted if a patient is admitted on diamorphine it is appropriate that this is continued rather than switched to morphine.

Oxycodone should only be used in patients already established on oral oxycodone or as a second line agent to morphine.

When changing from an oral opioid to a syringe driver consider the relevant potency of oral and injectable preparations:

Refer to attached Opioid Conversion Chart in appendix 1.

For further information contact Pharmacy or the Palliative Care Team.

Stat and when required (PRN) doses

Subcutaneous breakthrough opioid doses should always be prescribed. These must be reviewed daily.

If the patient is symptomatic of pain on commencement of the syringe driver a subcutaneous stat dose of the opioid should be given as it will take 4 hours for doses in the syringe driver to be fully effective.

Commencing morphine syringe driver in opiate naïve patients

Morphine sulphate 5mg - 10mg and Haloperidol 2.5mg to 5mg (for anti-emetic effect) subcutaneously over 24 hours

Breakthrough dose: Morphine Sulphate 2.5 mg subcutaneously 3 to 4 hourly when required.

Commencing morphine syringe driver in patients receiving oral morphine

To calculate total 24 hour subcutaneous morphine required:

$$\frac{\text{Total 24 hour oral morphine}}{2} = 24 \text{ hour s/c morphine in syringe driver}$$

Breakthrough dose:

$$\text{morphine s/c 3 to 4 hourly PRN} = \frac{24 \text{ hr s/c morphine dose}}{6}$$

To calculate subsequent morphine requirement in the next 24 hrs add PRN doses received in last 24 hours to current dose in syringe driver.

Commencing oxycodone syringe driver in patients already established on oral oxycodone

To calculate total 24 hour s/c oxycodone required:

$$\frac{\text{Total 24 hour oral oxycodone}}{2} = 24 \text{ hour s/c oxycodone in syringe driver}$$

$$\text{oxycodone s/c 3 to 4 hourly PRN} = \frac{24 \text{ hour s/c oxycodone dose}}{6}$$

To calculate subsequent oxycodone requirement in next 24 hrs add s/c PRN doses received in last 24 hrs to current dose in syringe driver.

For further information contact Pharmacy or the Palliative Care Team.

Commencing a syringe driver in patients using fentanyl patches

If a patient receiving a fentanyl patch is commenced on a syringe driver, continue to change the same dose of fentanyl patch every 72 hours and titrate any additional analgesic requirements via the opioid in the syringe driver.

The subcutaneous opioid administered via the syringe driver will be dependent on which oral breakthrough opioid the patient is already established on (see Wirral Care of the Dying Pathway).

When a patient is receiving their fentanyl patch plus additional opioids via a syringe driver, specialist advice should be sought to recalculate appropriate breakthrough analgesia.

To calculate subsequent opioid requirements in the syringe driver in next 24 hrs add s/c PRN doses received in last 24 hrs to current dose in syringe driver.

Refer to attached opioid conversion chart in appendix 1.

Administration

There are two sizes of syringe for use with syringe drivers:

- ◆ 20mL Luer Lock syringe that should be made up to 14mL
- ◆ 30mL Luer Lock syringe that should be made up to 18mL

The usual syringe driver diluent is sodium chloride 0.9% for injection. Only exceptions being where the syringe contains:

- ◆ cyclizine
- ◆ diamorphine at concentrations > 40mg/mL in the syringe

In these cases water for injection must be used as the diluent.

The National Patient Safety Agency recommends the following strengths of opiates are used to prepare doses:

Morphine: **10mg in 1mL** ampoules available for patients newly commenced on morphine and for stat and PRN doses
 30mg in 1mL ampoules available for patients already established on morphine who require larger doses via the syringe driver or larger stat / PRN doses

Oxycodone: **10mg in 1mL** ampoules available for patients newly commenced on oxycodone and for stat and PRN doses.
 20mg in 2mL ampoules available for patients established on oxycodone who require larger doses via the syringe driver or larger stat / PRN doses.
 50mg in 1mL ampoules are **restricted** to those patients established on very high doses where there are volume problems in the syringe driver or where volume problems arise due to larger stat / PRN doses
(contact ward Pharmacist or the Palliative Care Team)

Co-prescribing with opioids

Opioid induced nausea is common at the start of treatment. Haloperidol 1.5mg orally at night for the first 3 to 4 days is often useful in preventing opioid induced nausea and vomiting when treating chronic pain.

Laxatives may also be required and should be prescribed as soon as opioids are initiated, refer to Wirral Laxative Guidelines for further details.

Consider:

Lactulose 15ml twice daily

Senna 7.5 – 15mg at night

Docusate sodium 200mg twice daily

Co-danthramer (25/200) one to two capsules at night (Palliative care)

Dose Conversion Chart for Strong Opioids

(This chart should be used only as a guide. The titration to optimum pain control should always be individualised)

This table is based on the recommended approximate conversion ratios

Oral Morphine : Subcutaneous Morphine 2:1 to 3:1
Oral Morphine : Subcutaneous. Diamorphine 3:1
Oral Morphine : Oral Oxycodone 2:1

For use where opiate rotation is considered appropriate or for converting to a modified release preparation following successful titration of analgesia

PRN doses should always be prescribed for breakthrough pain and these are represented as the **4 hourly doses (Shaded areas)**

Morphine modified release (MST®, Zomorph®)	Morphine modified release (MXL)	Morphine immediate release	TOTAL 24hour Oral Morphine	Morphine injection Subcutaneous	Morphine injection Subcutaneous	Oxycodone modified release (Oxycontin®) Oral	Oxycodone immediate release (Oxynorm®) Oral	TOTAL 24hour Oral Oxycodone	Oxycodone injection Subcutaneous	Fentanyl Transdermal Patch Topical	Diamorphine injection Subcutaneous	Diamorphine Injection Subcutaneous
Oral	Oral	Oral		Dose via syringe driver over 24hours	Dose taken 4 hourly	Dose taken 12 hourly	Dose taken 4 hourly		Dose via syringe driver over 24hours	Dose every 72 hours	Dose via syringe driver over 24 hours	Dose taken 4 hourly
30mg	60mg	10mg	60mg	20 to 30mg	3 to 5mg	10 to 20mg	5mg	30mg	15 to 20mg	25micrograms /hour	20 mg	2.5 to 5mg
60mg	120mg	20mg	120mg	40 to 60mg	5 to 10mg	30mg	10 mg	60mg	30 to 40mg	25 to 50 micrograms /hour	40 mg	5 to 10mg
90mg	180mg	30mg	180mg	60 to 90mg	10 to 15mg	40 to 50mg	10 to 15mg	90mg	45 to 60mg	50micrograms /hour	60 mg	10mg
120mg	240mg	40mg	240mg	80 to 120mg	15 to 20mg	60mg	20 mg	120mg	60 to 80mg	50 to 75 micrograms /hour	80 mg	10 to 15mg
150mg	300mg	50mg	300mg	100 to 150mg	20mg	70 to 80mg	20 to 25mg	150mg	75 to 100mg	75 to 100 micrograms /hour	100 mg	15 to 20mg
180mg	360mg	60mg	360mg	120 to 180mg	20 to 25mg	90mg	30mg	180mg	90 to 120mg	100micrograms /hour	120 mg	20mg
210mg	420mg	70mg	420mg	140 to 210mg	25 to 30mg	100 to 110mg	30 to 35mg	210mg	105 to 140mg	125micrograms /hour	140 mg	20 to 25mg
240mg	480mg	80mg	480mg	160 to 240mg	30mg	120mg	40mg	240mg	120 to 160mg	125 to 150 micrograms /hour	160 mg	25 to 30mg
270mg	540mg	90mg	540mg	180 to 270mg	30 to 35mg	130 to 140mg	40 to 45mg	270mg	135 to 180mg	150micrograms /hour	180 mg	30mg
300mg	600mg	100mg	600mg	200 to 300mg	35 to 40mg	150mg	50mg	300mg	150 to 200mg	150 to 175 micrograms /hour	200 mg	30 to 35mg

Important: Patients must be closely observed during conversion as equipotent doses vary between patients. Err on the side of caution!

Modified Release Preparations	Immediate Release Preparation
<p>Morphine MXL® capsules 30, 60, 90, 120, 150, 200mg</p> <p>Morphine Zomorph® capsules 10, 30, 60, 100, 200mg</p> <p>Morphine modified release tablets 5, 10, 15, 30, 60, 100, 200 mg</p> <p>Morphine MST sachets 20, 30, 60, 100, 200 mg</p> <p>Oxycodone modified release tablets (Oxycontin®) 5mg, 10mg, 20mg, 80mg</p> <p>Fentanyl Patches 12, 25, 50, 75micrograms/hour</p>	<p>Morphine tablets 10, 20, 50mg</p> <p>Morphine liquid 10mg/5ml, 30mg/5ml, 100mg/5ml</p> <p>Morphine injection 10mg/ml, 15mg/ml, 25mg/ml, 30mg/ml, 50mg/ml</p> <p>Oxycodone capsules Oxynorm® 5, 10, 20mg</p> <p>Oxycodone liquid 5mg/5ml (Sugar Free), 10mg/1ml (Concentrate)</p> <p>Oxycodone injection 20mg/2ml, 10mg/ml, 50mg/ml</p> <p>Diamorphine injection 5mg, 10mg, 30mg, 100mg, 500mg</p>
<p><u>Fentanyl Patches</u> When patients already on a Fentanyl Patch enter the terminal phase the patch should be continued and breakthrough doses delivered as Subcutaneous Opiate. Once the additional 24 hour requirement for Opiate is established the patch and syringe driver can continue in tandem.</p> <p><u>Swallowing Problems</u> Capsules of e.g. MXL and Zomorph can be opened, contents sprinkled on soft food and swallowed without chewing</p>	