

**GUIDELINES ON THE
MANAGEMENT OF PAIN DUE TO
CANCER IN ADULTS**

**Bristol Palliative Care
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GUIDELINES ON THE MANAGEMENT OF PAIN DUE TO CANCER

Assess the patient's pain to determine the type of pain, its severity and the impact on the patient's life.

1. Take a full pain history
2. Examine the patient, including neurological examination and pressure areas
3. Identify and treat the underlying cause of the pain where possible
4. Prescribe using the WHO analgesic ladder
5. Prescribe analgesics **regularly**
6. Use **oral** drugs where possible
7. **Always** prescribe analgesics for breakthrough pain
8. Discuss concerns and anticipated side effects of analgesics with the patient
9. Assess and record response to analgesics
10. Review medication if pain not controlled.

For effective pain control the physical, functional, psychosocial and spiritual dimensions of a patient's experience should be assessed.

WORLD HEALTH ORGANISATION ANALGESIC LADDER

PREFERRED DRUGS

Principle of the WHO analgesic ladder: if pain is persisting or increasing on regular, full-dose, current step analgesic, move up to the next step.

Step 1 non-opioids	paracetamol and NSAIDs
Step 2 opioids for mild to moderate pain	codeine + paracetamol (as co-codamol 30/500*) or tramadol 50-100mg, qds
Step 3 opioids for moderate to severe pain	morphine or alternative opioid

Notes on WHO analgesic ladder

Adjuvant analgesics can be added at any step. These are drugs whose primary indication is for something other than pain which are analgesic in some painful conditions. Many 'adjuvants' are now also licensed for neuropathic pain.

Non-opioids (paracetamol and NSAIDs) can be continued and combined with step 2 and step 3 analgesics if they are beneficial and tolerated.

*The prescriber must specify co-codamol 30/500, otherwise co-codamol 8/500 (with a sub-therapeutic dose of codeine) will be dispensed.

COMMENCING ORAL MORPHINE

Discuss the following information with the patient:

1. Explore the patient's ideas, concerns and expectations about starting morphine
2. Emphasise the need for regular administration and explain about breakthrough medication
3. Warn about possible side effects and risks of driving
4. Reassure that when used for pain relief, morphine is not addictive, will not shorten life and will continue to be effective even when used long term.

Then:

- i. **Stop** step 2 opioid
- ii. Prescribe **10mg immediate release (ir) oral morphine** every 4h, i.e. **6 doses over 24h** (5mg in the frail, elderly, opioid-naive or in renal impairment (eGFR 30-60ml/min))
or prescribe 10-20mg modified release (mr) oral morphine every 12h
- iii. For breakthrough pain, prescribe 1/6th of the total amount of morphine used in 24h as required (prn), **in addition** to the regular dose. This can be given up to a maximum of 1-hourly
- iv. Titrate the dose to achieve pain relief **either** based on prn requirements i.e. each day add up the total dose of morphine required in the last 24h (regular plus prn) **or** by 30-50% increments in

dose every 2-3 days. Divide total by 6 to give the new 4-hourly dose

- v. Increase the prn dose to be the same as the new 4-hourly dose. **Check for signs of opioid toxicity**
- vi. When pain is controlled, convert the patient to a modified release (mr) preparation: divide the total 24h dose by 2 and prescribe 12-hourly
- vii. Continue to prescribe ir oral morphine prn for breakthrough pain i.e. divide the total regular 24h dose by 6.

Caution: morphine metabolites accumulate in renal impairment; 6-8-hourly or prn administration may be necessary, **or consider using an alternative opioid.**
Avoid morphine if eGFR < 30ml/min and seek specialist advice.

Note: If breakthrough pain is movement-related, the background dose of opioid may not need to be increased.

SIDE EFFECTS OF OPIOIDS

Constipation

Explain that this will occur with opioids; give softening **and** stimulant laxatives e.g. docusate and senna

Nausea & vomiting

Explain that this may occur with opioids; prescribe prn haloperidol 1.5–3mg nocte or cyclizine 50mg tds or metoclopramide 10mg tds

Sedation

Explain that this is likely if starting or increasing dose of opioid; usually wears off within 3-5 days

Dry mouth

Explain that this is likely with opioids; use good mouth care, sips, ice chips, sugar-free chewing gum.

Encourage the patient to report any other side effects they feel might be due to opioids.

Step 3 opioids: 2nd line

Diamorphine Available for parenteral use. Highly soluble therefore useful if patient needs large doses.

Oxycodone Available in 4-hourly ir (e.g. Oxynorm, Shortec) and 12-hourly mr (e.g. Oxycontin, Longtec) preparations orally. Available parenterally.

Hydromorphone* Available in 4-hourly ir and 12-hourly mr preparations orally. Available parenterally: specialist advice required.

Fentanyl * Available via a transdermal patch. Also oral trans-mucosal (buccal, intranasal or sublingual) routes for breakthrough pain. Parenteral use in renal failure: specialist advice required.

Alfentanil * Available parenterally. Rapid onset and short duration of action. Specialist advice required.

Buprenorphine* Available via a transdermal patch. Partial opioid antagonist.

* May be useful in renal impairment – seek advice.

CONVERTING TO A SYRINGE DRIVER

When a patient is unable to take oral medication, opioids can be given subcutaneously via a syringe 'driver' or 'pump' as a continuous subcutaneous infusion (CSCI).

The breakthrough dose for subcutaneous use will be 1/6th of the 24h subcutaneous dose up to hourly.

For patients on regular opioids, see the dose conversion table on final page. If unsure, seek advice.

TIMING OF CONVERSION TO A SYRINGE DRIVER

When converting between opioids or route of administration, write clear instructions about when drugs should be started and stopped on drug chart.

Converting from oral opioid to CSCI:

- ir opioid – give final 4-hourly dose at the time of setting up syringe driver
- mr opioid – set up syringe driver 4h before next dose would be due if patient no longer able to take oral medication. If the indication for CSCI is nausea and vomiting, use prn anti-emetics prior to commencing syringe driver.

Converting from a CSCI to oral opioid:

- ir opioid – give first dose as taking syringe driver down
- mr opioid – give first dose as taking syringe driver down.

NB: For patients on fentanyl or buprenorphine patches **at the end of life**, continue the patch and prescribe an appropriate subcutaneous opioid for prn use. If more than 2 doses per day are used, these can be added to a syringe driver **in addition** to the patch. Remember to take the patch dose into account when calculating opioid dose for breakthrough pain PRN.

TRANSDERMAL FENTANYL

Transdermal fentanyl may be indicated in patients who have **chronic stable pain** who are taking at least 30mg oral morphine/day (or equivalent opioid) and have

- a problem with the oral route eg difficulty swallowing or poor GI absorption **or**
- poor compliance with oral medication **or**
- a preference for a patch **or**
- renal impairment.

Pharmacology

Effective analgesic concentrations are usually reached within 12-16h. Elimination half-life is up to 24h once the patch is removed.

MORPHINE - FENTANYL CONVERSION TABLE

4-HOURLY MORPHINE (mg) <i>(also prn dose)</i>	FENTANYL PATCH STRENGTH (microg/h)	EQUIVALENT 24-HOURLY ORAL MORPHINE DOSE (mg)
5 to 10	12	<60
10 to 20	25	60 to 134
25 to 35	50	135 to 224
40 to 50	75	225 to 314
55 to 65	100	315 to 404
70 to 80	125	405 to 494
85 to 95	150	495 to 584
100 to 110	175	585 to 674
110 to 125	200	675 to 764
130 to 140	225	765 to 854
145 to 155	250	855 to 944
160 to 170	275	945 to 1034
175 to 185	300	1035 to 1124

Based on the Summary of Product Characteristics. Note - taking the midpoint of the range a fentanyl patch 25 microg/h is equivalent to 90mg of oral morphine/24h (ratio 150:1), whereas BNF states 25microg/h is equivalent to 60mg of oral morphine/24h (ratio 100:1).

Changing oral opioid to fentanyl patch

Continue current opioid for 12h (overlap time*) after applying first patch ie

- a) ir morphine 4-hourly for 12h (3 doses)
- b) or final dose of mr morphine taken as patch applied

*** Reduce overlap time to 6-8 hours or seek specialist advice** for patients at risk of opioid toxicity e.g. current or past opioid side effects/toxicity, high opioid doses, patients converting from a syringe driver.

For all patients prescribed a fentanyl patch prescribe ir oral opioid equivalent to 4-hourly dose for breakthrough pain. Change patch every 72 hours.

Administration of fentanyl patch

Packet should be torn open, not cut. A new patch should be applied to a new site. Fold used patches in half and put in sharps bin (hospital) or dustbin (home).

Caution: Absorption may be increased by heat, so local heat sources should be avoided (eg heat pad).

Converting fentanyl patch to alternative opioid if pain unstable:

1. Calculate equivalent 24h oral morphine dose
2. Remove fentanyl patch
3. Prescribe 1/6th of the 24h oral morphine dose (or equivalent opioid) prn
4. Continue with prn ir opioid as required for 12h
5. Prescribe regular 4-hourly ir opioid to commence 12h after patch removed.

MORPHINE - BUPRENORPHINE CONVERSION TABLE*

BUPRENORPHINE PATCH STRENGTH (microg/h)	EQUIVALENT 24-HOURLY ORAL OPIOID DOSE
7 day patches	
5	9 to 14mg morphine
10	18-28mg morphine
15	27-41mg morphine
20	36-65mg morphine
3 or 4 day patches (depends on brand)	
35	63-97mg morphine
52.5	95-145mg morphine
70	126-193mg morphine

Conversion based on manufacturer's recommended ratio of 95:1 for oral morphine:transdermal buprenorphine. Current literature suggests oral morphine:transdermal buprenorphine ratio has a variance of 75:1 to 115:1. Note: there is likely to be significant inter-individual variation in converting to a buprenorphine patch and this table should therefore be considered a guide only.

PRN step 2 (for low dose patch) or step 3 ir opioid (1/6th of total morphine oral 24h dose equivalent) should be prescribed for patients on a buprenorphine patch.

OPIOID DOSE CONVERSION TABLE

This can be used if patients need to be converted to an alternative opioid, or to change the route of administration of an opioid. Injections should be prescribed **subcutaneously**, not intramuscularly (painful), and intravenous administration is rarely necessary for managing cancer pain. Ratios are approximate: consider reducing the dose of new opioid in the presence of existing opioid toxicity.

Patient on drug A	Divide the 24 hour dose of A by this number:	To convert to the 24 hour dose of drug B	Example	
			A	B
PO codeine	10	PO morphine	240mg	24mg
PO tramadol	5-10	PO morphine	400mg	40-80mg
PO morphine	2	PO oxycodone	60mg	30mg
PO morphine	7.5	PO hydromorphone	10mg	1.3mg
PO morphine	2	SC morphine	60mg	30mg
PO morphine	3	SC diamorphine	60mg	20mg
PO morphine	100-150	SC fentanyl	10mg	60-100mcg
PO morphine	30	SC alfentanil	60mg	2mg
PO oxycodone	2	SC oxycodone	30mg	15mg
PO hydromorphone	2	SC hydromorphone	10mg	5mg
SC diamorphine	10	SC alfentanil	20mg	2mg