National Essential Medicines List Committee (NEMLC)

Transdermal fentanyl

Clinical Guidance for South African Healthcare Practitioners

The oral route of administering opioids is preferable in patients experiencing severe pain. In patients unable to take pain medication orally and for whom parenteral opioids via syringe driver is not accessible, transdermal fentanyl has been approved by the NEMLC.

Eligibility criteria:

Patients (children*, adolescents, adults)** with severe stable pain who:

- are unable to take pain medication orally and have no access to subcutaneous opioids via a syringe driver; **OR**
- those with severe renal impairment (GFR< 30 ml/min/1.73m^2) where other opioids cannot be safely prescribed.

Specific palliative care indications include:

1. Cancers of the head and neck and aerodigestive tract causing obstruction resulting in dysphagia and/or odynophagia
2. Cancers affecting the gastrointestinal tract either directly or indirectly resulting in intractable vomiting and inability to absorb oral opioids.
3. Patients with neurological conditions causing dysphagia who have intractable pain.
4. Patients at end of life who have severe pain but are unable to take oral opioids due to frailty or a depressed level of consciousness.
5. Patients with severe oral mucositis due to chemotherapy or radiotherapy.

**Contraindicated in children under 2 years of age.*

*** Caution must be taken when prescribing in children under 12, and in the elderly.*

Prescribing transdermal fentanyl:

- Transdermal fentanyl is not indicated for patients with escalating pain.
- In patients with significant hepatic or renal impairment (stage 4 and 5 chronic kidney disease, GFR< 30 ml/min/1.73m^2), start with 50% of the usual dose. Monitor for signs of respiratory and central nervous system depression.
- On first application of a fentanyl patch the serum concentration reaches effective concentration after 6-12 hours, steady state concentration in 12-24 hours and remains stable for 72 hours.
- Starting dose for opioid-naïve patients is 12.5 mcg/hour.
- For patients on opioids calculate the previous 24-hour analgesic requirement and use the conversion table to prescribe. Starting dose should not be more than 12.5-25mcg/hr.
- While awaiting steady state, parenteral opioids (subcutaneous or intramuscular) should be used for break -through pain.
- After 3 days the dose of fentanyl can be titrated based on the supplemental opioid requirement.
- Prescribe antiemetics for the first few days as required and adjust laxative dose as clinically indicated.
- After patch removal, a depot of fentanyl remains in the system for up to 24 hours.

Important instructions to provide to patients

- Keep patches in a secure location and wash hands with soap and water before and after application.
- Apply to a flat surface like the chest, back, flank or upper arm.
- Skin should be intact, non-irritated, not irradiated and hair can be clipped, not shaved, prior to application.
- Press firmly into place for 30 seconds. Then wash hands.
- If there are problems with adhesion, you may overlay it with a transparent adhesive film dressing.
- Avoid exposure to external heat sources e.g. electric blankets.
- The patch can be worn for 72 hours. After removal, apply the replacement patch to a different skin site.
- Used patches should be folded in half (adhesive side inwards) and discarded safely (preferably return to the healthcare facility for disposal).
- Avoid accidental exposure to used patches or the unwashed application site e.g. when hugging someone.
- Return unused patches to healthcare facility for disposal.

Oral/subcutaneous morphine to transdermal fentanyl conversion

2 mg oral morphine/24 hour = 1 mcg of transdermal fentanyl rounded to nearest patch strength
Suggest reducing the dose by 1/3 especially in the elderly and titrating slowly.

24-hour oral morphine dose	24-hour subcutaneous morphine	Fentanyl patch
30-59 mg	15 mg	**12 mcg**
60-134 mg	30 mg	**25 mcg**
135-224 mg	60 mg	**50 mcg**
225-314 mg	90 mg	**75 mcg**
315-404 mg	120 mg	**100 mcg**

- Conversion from 4-hourly morphine syrup: continue for the first 12-24 hours after patch is administered.
- Conversion from 12-hourly modified-release morphine: apply the patch at the same time as taking the final 12 hourly tablet.
- Conversion from 24-hourly modified-release morphine: apply the patch 12 hours after taking the 24-hourly tablet.

References:

- Guide to the Treatment of Cancer Pain in South Africa. South African Cancer Pain Working Group. 2015
- WHO Guidelines for the Pharmacological and Radiotherapeutic management of Cancer Pain in Adults and Adolescents. 2018
- UK Medicines Information pharmacists for NHS healthcare professionals 2012
- Cherny N, Fallon M, Kaasa S. Oxford Textbook of Palliative Medicine 6th Ed; Section 7.5 and 7.6; p 364 - 415; Oxford: OUP Oxford; 2021.
- Emanuel L, Librach SL. Palliative Care Core Skills and Clinical Competencies 2nd Ed; Appendix 1 medication tables e1-e9; Elsevier Saunders: St Louis, Missouri; 2011