Fentanyl Patches (green)

Introduction
Description: Potent opioid analgesic in a topical patch lasting 72 hours (on specialist advice some patients may require the patch to be changed every 48 hours).

Preparations
| Matrix patch | 12, 25, 50, 75, 100 micrograms/hour | Durogesic D-Trans®, Matrifén®, Fencino®, Mezolar®, Osmanil®, Victanyl® |
| Reservoir patch | 25, 50, 75, 100 micrograms/hour | Durogesic®, Tilofyl®, Fentalis® |

It is recommended that patients should ideally stay on the same formulation and should not switch between a matrix and a reservoir patch. Consult local guidance for preferred brand.

Note that for small dose titrations matrix patches may be cut diagonally (unlicensed practice). Reservoir patches must not be cut.

Indications
- Second line opioid for moderate to severe opioid responsive pain.
- Pain that is stable.
- Oral and subcutaneous routes are not suitable.
- Patient unable to tolerate morphine/diamorphine due to persistent side effects.
- Compliance is poor, but supervised patch application is possible.

Cautions
- Fentanyl is a potent opioid analgesic; check the dose carefully.
  
  **25 microgram/hour fentanyl patch is equivalent to about 60mg-90mg of oral morphine in 24 hours.**
- Frail or elderly patients may need lower doses and slower titration.
- Heat/pyrexia increases the absorption of fentanyl and can cause toxicity. Avoid direct contact with heat (e.g. hot water bottle, heat pad). Showering is possible as the patches are waterproof, but patients should avoid soaking in a hot bath, sauna or sunbathing. If the patient has a persistent temperature of 39°, the patch dose may need reviewed - use anti-pyretic measures.
- Liver impairment: dose reduction may be needed in severe liver disease.
- Renal impairment: no initial dose reduction. May accumulate gradually over time. Monitor patient and reduce dose. Fentanyl is not usually removed by dialysis.
- If the patient has unstable pain or pain likely to change following treatment, do not start fentanyl. Seek advice and consider alternative opioids.
Drug interactions

- Hepatic metabolism is reduced by grapefruit juice and a number of medications (e.g. fluconazole, clarithromycin, erythromycin): check BNF
- Alcohol and CNS depressants increase side effects.
- Anticonvulsants may reduce its effect. See BNF.
- Manufacturers warn of a risk of serotonin toxicity when fentanyl is used in combination with other serotoninergic drugs.

Side effects

- Similar to other opioids (dizziness, sedation, delirium) but less constipation and possibly less nausea.
- If signs of opioid toxicity (eg sedation, delirium), remove the patch and seek advice. Fentanyl will be released from the site for up to 24 hours. Monitor the patient for 24-48 hours.
- Titrated naloxone is only needed for life-threatening, opioid induced respiratory depression (see: Naloxone guideline).
- An allergic reaction to the patch adhesive can occur – consider switching brand of patch, change opioid or consider one to two doses of a 50-100 micrograms beclometasone dipropionate inhaler on to site prior to application of patch.

Dose and Administration

Starting a fentanyl patch:
1. Choose a suitable patch - matrix patch allows titration in smaller increments.
2. Calculate the dose of fentanyl from the conversion chart given here or seek advice. Patch strengths can be combined to provide an appropriate dose.
3. The 12 microgram patch is only licensed for dose titration. In clinical practice it is used for patients needing a lower starting dose however this is an unlicensed indication.
4. Make sure the patient takes another regular opioid for the first 12 hours after the patch is first applied to allow the fentanyl to reach therapeutic levels:

| Immediate release (quick acting) morphine or oxycodone | Apply patch; continue the immediate release opioid 4 hourly for the next 12 hours. |
|Modified release (long acting) 12 hourly morphine or oxycodone | Apply patch when the last dose of a 12 hourly, modified release opioid is given. |
|Subcutaneous infusion of morphine, diamorphine, oxycodone or alfentanil | Apply the patch and continue the infusion for the next 12 hours, then stop the infusion. |

5. An immediate release opioid (e.g. oral morphine or morphine SC) must be available 1-2 hourly, as required, for breakthrough pain or to treat any opioid withdrawal symptoms (diarrhoea, abdominal pain, nausea, sweating). These can occur during the fentanyl initiation period due to the variable time to reach steady state. The correct 4 hourly equivalent dose should be used.
6. Fentanyl is often less constipating than morphine; half dose of any laxative and titrate.
Adjusting the fentanyl patch dose:

Review the fentanyl patch dose after 72 hours; drug levels will be at steady state.

a) If the patient shows signs of opioid toxicity (drowsiness, confusion), reduce the dose and reassess the pain. Seek advice.

b) If the patient still has pain which is opioid responsive, titrate the fentanyl dose in 12-25microgram/hour increments depending on the patch type in use. Remember to include the breakthrough doses used. It will take 12-24 hours for the new dose to take effect so give breakthrough analgesia at the correct dose, as required. If there is a significant increase in the number of breakthrough doses required seek specialist advice.

Changing fentanyl patches to another opioid: Seek specialist advice.

Fentanyl patches in the last days of life:

1. If a patient is semi-conscious or close to death, continue the fentanyl patch, changing it every 72 hours.
2. If a new, opioid responsive pain develops, use subcutaneous morphine as required for breakthrough pain. Use the conversion chart to calculate the dose of morphine. If the patient is known to be renally impaired alfentanil may be a more appropriate choice. (eGFR<30ml/min – see Renal Palliative Care – Last Days of Life guideline).
3. After 24 hours, the breakthrough doses of morphine given in that period can be totalled and this dose of morphine administered as a SC infusion in a syringe pump over the next 24 hours in addition to the fentanyl patch.

Dose Conversions

- All opioid dose conversions are approximate.
- Patients should be monitored closely so that the dose can be adjusted if necessary.
- Manufacturers of the various formulations of fentanyl have issued different recommendations for dose conversion, as have drug regulatory bodies.
- Fentanyl is approximately 100-150 times more potent than oral morphine; this table provides a guide to dose conversions, but if in doubt seek advice.

<table>
<thead>
<tr>
<th>24 hour oral morphine dose</th>
<th>Fentanyl patch dose (micrograms per hour)</th>
<th>Immediate release oral morphine (1) Suggested breakthrough dose (see guidance in dose and administration above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 to 60mg</td>
<td>12</td>
<td>5 to 10mg</td>
</tr>
<tr>
<td>60 to 90mg</td>
<td>25</td>
<td>10 to 15mg</td>
</tr>
<tr>
<td>90 to 120mg</td>
<td>37</td>
<td>15 to 20mg</td>
</tr>
<tr>
<td>120 to 180mg</td>
<td>50</td>
<td>20 to 30mg</td>
</tr>
<tr>
<td>180 to 240mg</td>
<td>62</td>
<td>30 to 40mg</td>
</tr>
<tr>
<td>240 to 300mg</td>
<td>75</td>
<td>40 to 50mg</td>
</tr>
<tr>
<td>300 to 360mg</td>
<td>87</td>
<td>50 to 60mg</td>
</tr>
<tr>
<td>360mg</td>
<td>100</td>
<td>60mg</td>
</tr>
</tbody>
</table>

(1) The above table is based on the use of 1/6th of the 24 hour oral morphine dose.
Converting from fentanyl given by IV infusion or via a PCA device. This conversion is not routine practice. Liaise with a specialist. If pain is stable the patient may be considered for conversion to a fentanyl patch.

**Fentanyl patch care:**
- Apply to intact, non-hairy skin on the upper trunk or upper arm; avoid areas treated with radiotherapy, scar tissue or oedematous areas.
- Apply each new patch to a different skin site; clean the skin with water only as soap products can alter absorption. Make sure skin is dry. Following removal of both parts of the protective liner, the patch should be pressed firmly in place with the palm of the hand for approximately 30 seconds, making sure the contact is complete, especially around the edges.
- Record the date, time and site if the patch is changed by different people.
- Change the patch every 72 hours at about the same time of day.
- Check the patch daily (or as per local guidance) to ensure it is still in place.
- If patch adherence is poor, check local guidance for advice – micropore tape may be recommended; fentanyl is unsuitable for patients with marked sweating.
- Used patches still contain active drug. When removed, fold the patch in half with the adhesive side inwards. Dispose of it safely (sharps bin for in-patients, domestic waste in the community). Wash your hands after patch changes.

**Practice Points**
- Fentanyl patches are used for moderate to severe, stable pain.
  - Fentanyl patches are licensed to be applied whole. In clinical practice for small titrations and to overcome short term supply issues patches that are matrix formulation can be cut diagonally however this procedure is unlicensed. Reservoir patch formulations must not be cut.
- Do not change fentanyl patches to another opioid in a dying patient, continue the fentanyl patch and use an additional opioid as required.
  - Do not initiate fentanyl patches at the end of life when the oral route is no longer available – see Subcutaneous infusion of medicine in Palliative Care guideline.

**Patient and Carer Advice Points**
- The same patch formulation should ideally be prescribed and dispensed consistently for each patient.
- Ensure patients understand the safe use, storage and disposal of the patch, and the importance of not heating the skin under the patch.
References