

## Guidelines on the use of Transdermal Fentanyl Patch

### Indications

Fentanyl is a strong opioid which may be used in the management of cancer pain. Fentanyl patches may be suitable in patients who have:

- Intolerable side effects with oral morphine e.g. intractable constipation and vomiting (despite appropriate antiemetics) and hallucinations (despite haloperidol).
- Difficulty swallowing oral medication.
- Poor compliance with oral medication.
- Renal impairment as morphine may accumulate

### Contra-indications

- NOT suitable for patients who need rapid titration of their medication for severe uncontrolled pain.
- NOT suitable for pain which has not responded to morphine.

### Side effects

Side effects are similar to morphine, although a fentanyl patch is generally less constipating and causes less nausea and vomiting.

- Haloperidol 1.5mg at night orally should control fentanyl induced nausea.
- Patients should be warned that fentanyl may cause daytime drowsiness.
- About 10% of patients experience opioid withdrawal when changing from morphine to fentanyl. Symptoms are “flu” like (e.g. lethargy, nausea, sweating, diarrhoea and shivering) and can be controlled with rescue doses of morphine.

### Dose of Fentanyl Patches

- FIVE strengths available – 12mcg/hr, 25mcg/hr, 50mcg/hr, 75mcg/hr & 100mcg/hr.
- The patches are usually changed every 72 hours, although occasionally very thin patients may need their patch replacing every 48 hours to obtain adequate control.
- The strength of patch should not usually be increased more often than every 3 days, and usually in increments of 6, 12 or 25 micrograms dependent on the current patch strength & the patient’s medical condition. Be cautious in renal impairment.
- If a patient gets confused or experiences hallucinations with a fentanyl patch the dose may need decreasing. If by reducing the dose the patient is alert but not pain controlled an alternative opioid may need to be considered. Contact the Palliative Care Team for advice.

### Starting fentanyl patches

Steady state plasma concentrations of fentanyl are achieved only after 36-48 hours. In the first 3 days of treatment, and particularly the first 24 hours, the patient may need regular doses of a fast acting opiate (e.g. Oramorph or Oxynorm) for breakthrough pain. Rescue doses of morphine should be equivalent to the dose of 4 hourly morphine for the strength of patch being used.

**Note:** In patients with renal impairment fentanyl appears to be better tolerated than morphine but still may accumulate & cause side effects so dose cautiously.

**Table 1**

Patients on weak opioids (e.g. codeine 60mg QDS)	<ul style="list-style-type: none"> <li>• Start on fentanyl 6 to 12mcg /hr every 72 hours <b>**for a dose of 6mcg use half a 12mcg patch**</b></li> </ul>
Patients on oral morphine	<ul style="list-style-type: none"> <li>• <b>Use table 2 overleaf to calculate the dose of fentanyl [Alternatively divide the 24 hour oral morphine dose (in mg) by 3.0 or 3.6 to determine fentanyl dose (in mcg/hr). Divide by 3.0 for morphine doses less than 250mg and by 3.6 for morphine doses 250mg or more]</b></li> <li>• If converting from 4 hourly morphine (ie Oramorph) continue to give regular doses for 12 hours after applying the first patch.</li> <li>• If converting from 12 hourly morphine (i.e. Zomorph or MST) apply the first fentanyl patch at the same time as giving last dose of morphine.</li> </ul>
Patients on subcutaneous morphine / diamorphine	<ul style="list-style-type: none"> <li>• <b>Use table 2 overleaf to calculate the dose of fentanyl [Alternatively convert s/c dose to oral morphine 30mg s/c morphine = 20mg s/c diamorphine = 60mg oral morphine Then convert oral morphine to fentanyl by dividing by 3.0 or 3.6 as above]</b></li> <li>• Maintain the syringe driver for about 12 hours after applying the first patch.</li> </ul>

**Table 2**

Total oral morphine (mg every 24 hrs)	Total s/c diamorphine (mg /24 hr)	Total s/c morphine (mg /24 hr)	Fentanyl patch every 72 hr (micrograms/hr)	Break through Immediate release oral morphine (Oramorph) (mg every 4 hr)	Break through diamorphine s/c (mg every 4hr)	Break through morphine s/c (mg every 4hr)	Break through Immediate release oral Oxycodone (Oxynorm) (mg every 4hr)
<60	<20	<30	12	<10	3	<5	<5
60-89	20-25	30-40	25	10-15	3-5	5	5
90-134	30-40	45-65	37	15-20	5	5-10	10
135-189	45-55	70-90	50	20-25	5-10	10-15	10-15
190-224	60-70	95-105	62	30-35	10-15	15-20	15-20
225-314	75-100	110-155	75	40-50	15-20	20-25	20-25
315-404	105-130	160-199	100	55-65	20-25	25-30	25-30
405-494	135-160	200-245	125	70-80	25-30	35-40	35-40
495-584	165-190	250-285	150	85-95	30-35	40-50	40-45
585-674	195-220	290-335	175	100-110	35-40	50-55	50-55
675-764	225-250	340-375	200	115-125	40-45	55-60	55-60
765-854	255-280	380-425	225	130-140	45-50	60-70	65-70
855-944	285-310	430-466	250	145-155	50-55	70-75	70-75
945-1034	315-340	470-515	275	160-170	55-60	80-85	80-85
1035-1124	345-370	520-560	300	175-185	60	90	85-90

Note a) If converting from fentanyl patch to alfentanil s/c , s/c alfentanil dose is 1/10<sup>th</sup> of s/c diamorphine dose) (i.e diamorphine 30mg s/c = alfentanil 3mg s/c)

b) If converting to Oxycodone injection (OxyNorm) the dose is half the s/c morphine dose

**Discontinuing Fentanyl patches, changing to oral morphine or changing to a syringe driver**

If a patch is removed and not replaced significant blood levels may persist for 24 hours or longer (it takes about 17 hours for the concentration of fentanyl in the plasma to half).

**Changing to oral morphine**

As a general guide, remove the patch and 12 hours later give the first dose of modified release oral morphine (Zomorph, MST). Ensure that immediate release oral morphine is prescribed for rescue doses. Monitor the patient closely for signs of opioid excess (e.g increased sedation).

**Changing to sc morphine/diamorphine infusion (Patients with GFR < 30mL/min may need alfentanil instead. Seek advice)**

As a general guide, in the terminal phase leave the patch in situ and top up with subcutaneous morphine/diamorphine in a syringe driver. Initially use 1/5<sup>th</sup> to 1/6<sup>th</sup> of the patch (micrograms/hr) dose as morphine/diamorphine (mg) s/c over 24 hours and titrate up as necessary. Remember that the breakthrough when required dose should be calculated by taking account of both the morphine/diamorphine in the syringe driver and the fentanyl patch.

**e.g Patient on fentanyl patch 50mcg – Leave patch on & add morphine s/c over 24hrs in syringe driver**

	<i>From table 50mcg patch equiv to 75mg morphine over 24hr (range 70-90mg)</i>
<b>Dose morphine in s.driver</b>	10mg (i.e 1/6 <sup>th</sup> of 75mg)
<b>4 hrly prn dose of morphine</b>	15mg (i.e 1/6 <sup>th</sup> of 85mg i.e 75mg equivalent as patch & 10mg prn in syringe driver)

**Practical points and advice for patients – Applying patches and destroying patches**

- Apply to clean, dry, non-inflamed, non-irradiated, hairless skin on the upper arm or trunk. Body hair may be clipped, but do not shave. Some patients may need a semi permeable dressing (e.g. Tegaderm) to ensure adherence.
- Patients can bathe or shower (with care) whilst wearing fentanyl patches, but the water should not be too hot. A new patch should not be applied immediately after a bath or shower, or immediately after using creams, talc or soap on the skin.
- Always remove the old patch before applying a new one and rotate the site of application.
- Fentanyl patches are “matrix patches” which experience has shown can be cut in half (although this is unlicensed). For accuracy cut the patches diagonally.
- Heat (e.g. hot baths, electric blankets, hot water bottle) should NEVER be applied over the top of the patch as it may enhance the absorption of fentanyl. Pyrexia may also increase absorption.
- After removal fold patches in half so that the adhesive side sticks together and discard in a sharps container (in hospital) or safely in the waste bin (patients at home).
- Wash hands after handling.

For further information contact Palliative Care Team (ext 5835) or Pharmacy Medicines Info. (ext 5960).