Guidelines for the Use of Transdermal Fentanyl Patches

1. Transdermal fentanyl is an alternative strong opioid which can be used in the place of both oral morphine and subcutaneous (SC) morphine/diamorphine in the management of cancer pain.

2. Indications for using transdermal fentanyl include:
   * intractable morphine-induced constipation
   * intolerable adverse effects with morphine e.g. nausea and vomiting (despite the appropriate use of anti-emetics) and/or hallucinations (despite the use of haloperidol)
   * 'table phobia' or difficulty in swallowing oral preparations
   * poor compliance with oral medication.

3. Transdermal fentanyl is **contra-indicated** in patients who need rapid titration of their medication for severe, uncontrolled pain.

4. *Warning:* pain not relieved by morphine will **not** be relieved by fentanyl. If in doubt, seek specialist advice before prescribing transdermal fentanyl.

5. Transdermal fentanyl patches are available in four strengths: 25, 50, 75 and 100mcg/h **for 3 days:**
   * patients with inadequate relief from **codeine, dextropropoxyphene** or **dihydrocodeine> 240mg/day** should always start on 25mcg/h
   * patients on **oral morphine: divide 24h dose in mg by 3** and choose nearest patch strength in mcg/h
   * patients on **SC diamorphine:** choose nearest patch strength in mcg/h.

   Note: these doses are slightly higher than the manufacturers recommendations.

6. Apply the transdermal fentanyl patch to **dry, non-inflamed, non-irradiated, hairless skin** on the upper arm or trunk. Some patients need micropore around the edge to ensure adherence.

7. Systemic analgesic concentrations are generally reached within 12h, so:
   * if converting from **4-hourly oral morphine**, continue to give regular doses for 12 hours
   * if converting from **12-hourly oral morphine** preparations, apply the fentanyl patch at the same time as giving the final 12-hourly dose
   * if converting from a **syringe driver**, maintain the syringe driver for about 12 hours after applying the first patch.

8. Steady-state plasma concentrations of fentanyl are achieved only after 36-48h; the patient should use 'rescue doses' liberally during the first 3 days, particularly during the first 24 hours. Rescue doses should be approximately half the fentanyl patch strength given as normal release morphine in mg. (Example: with fentanyl 50mcg/h, use morphine 20 – 30mg p.r.n.).

9. After the first 48h, if a patient continues to need 2 or more rescue doses of morphine, the patch strength should be increased by 25mcg/h. When using the manufacturer's recommended starting doses, about 50% of patients need to increase the patch strength after the first 3 days.

10. If the patient continues to experience breakthrough pain on the third day after patch application, increase patch strength and review.

11. About 10% of patients experience opioid withdrawal symptoms when changed from morphine to transdermal fentanyl. Patients should be warned that they may experience symptoms 'like gastric flu' for a few days after the change, and to use rescue doses of morphine for these symptoms.

12. Fentanyl is less constipating than morphine; halve the dose of laxatives when starting fentanyl and titrate according to need. Some patients develop diarrhoea; if troublesome, use rescue doses of morphine to control it, and completely stop laxatives.

13. Fentanyl probably causes less nausea and vomiting than morphine but, if necessary, prescribe haloperidol 1.5mg stat and nocte.

14. In febrile patients, the rate of absorption of fentanyl increases, and occasionally causes toxicity, principally drowsiness. Absorption may also be enhanced by an external heat source over the patch, e.g. electric blanket or hot-water bottle; patients should be warned about this. Patients may shower with a patch but should not soak in a hot bath.

15. Remove patches after 72h; change the position of the new patches so as to rest the underlying skin for 3-6 days.

16. A reservoir of fentanyl accumulates in the skin under the patch, and significant blood levels persist for 24h, sometimes more, after removing the patch. This only matters, of course, if transdermal fentanyl is discontinued.

17. In moribund patients, it is best to continue transdermal fentanyl and give rescue doses of SC diamorphine based on the 'rule of 5', i.e. divide the patch strength by 5 and give as **mg of diamorphine.** (Example: with fentanyl 100mcg/h. use diamorphine 20mg as needed).

18. In moribund patients, should it be decided to replace the patch by **continuous SC diamorphine:**
    * give **half the patch strength as mg/24h** rounded up to a convenient ampoule size.
    * after 24h, give **the whole of the previous patch strength as mg/24h** rounded up to a convenient ampoule size.

19. Transdermal fentanyl patches are unsatisfactory in some patients, generally because of failure to remain adherent or allergy to the silicone medical adhesive.

20. Used patches still contain fentanyl. After removal, fold the patch with the adhesive side inwards and discard in a sharps container (hospital) or dustbin (home); wash hands. Ultimately, any unused patches should be returned to pharmacy.

These guidelines have been produced by Dr. Robert Twycross, Sir Michael Sobell House, Churchill Hospital, Oxford. The views expressed are based on his interpretation of the published data. Prescribers are advised also to study the manufacturer's recommendations.