

# Transdermal Fentanyl Patches

## Placement

An area of skin should be clipped and gently cleaned for patch placement. Alcohol should not be used (as a defatting agent it may interfere with drug absorption). In dogs an area on the dorsum of the neck is prepared, in cats the lateral thorax is used. These patches do not always adhere to the skin well and sometimes it is easier to keep them in place by bandaging the patch to the antebrachium, but if this is the case an Elizabethan collar is advisable. Putting firm pressure on the patch with the palm of your hand for a minute or two after placement helps the adhesive to set. A light dressing is applied to prevent removal of the patch. This is especially important for dogs, to avoid ingestion of a removed patch.

## Dosing

There is a lag between patch placement and effective analgesia. This is approximately 24 hours in dogs and 12 hours in cats.

The dose of 2-4  $\mu\text{g}/\text{kg}/\text{hour}$  is advised for cats and dogs. The patches supply  $2.5\mu\text{g}/\text{hour}/\text{cm}^2$ . The 25 patch supplies  $25\mu\text{g}/\text{hour}$  and is recommended for animals less than 10kg. For animals less than 5kg the dose given can be reduced by leaving the patch membrane partially covered with the removable protective liner. The 50 patch (or two 25 patches) is advised for dogs between 10 and 30kg. The patch should produce effective analgesia for 72 hours after the lag phase in cats and dogs. However there may be individual variation between animals such that some receive lower plasma levels of fentanyl than others, and thus have lower levels of analgesia. Supplemental analgesia can be used particularly in the immediate postoperative period (e.g. morphine/pethidine) but agonist-antagonist opioids (e.g. butorphanol/buprenorphine) should be avoided. If being used preoperatively the patch should be applied 6-12 hours preop. for cats and 12-24 hours preop. in dogs. Lower levels of inhalational anaesthetic will be required.

## Removal

If patches are to be used for longer than 72 hours a fresh patch should be placed on a separate area of skin. Two sites can be rotated for long term use. Patches are obviously open to abuse and strict records should be kept of patch use as for any controlled drug.

**WARNING!** The residual fentanyl in a patch removed after 72 hours may exceed the lethal human dose and so patches must be discarded safely. If patients are discharged with patches in place owners must be warned to keep small children away from the pet/patch and they must be told not to throw the patch away in domestic waste. Patches should ideally be returned to veterinary surgeries for proper disposal or alternatively they can be discarded by flushing down a toilet.

## Adverse Effects

In man the most important adverse effect is respiratory depression. Animals are less sensitive to opioid-mediated respiratory depression but should be monitored for evidence of respiratory compromise.

Ref. Kyles, A. (1998) Transdermal Fentanyl. *Compendium on Continuing Education* **20**, 721-726.

