



# Rx Update

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## TRANSDERMAL PATCHES: REDUCING MEDICATION ERRORS

Many medications are available as transdermal patches and are used for a variety of indications (e.g., tobacco cessation, menopause, contraception, angina, peripheral pain, analgesia, depression, etc.) (see Table 1 on back). Medication errors can easily occur with this route of use. Patches vary in the frequency of administration (e.g., daily to once weekly), site of application, and appearance. Some patches are available in a two-piece patch system (active drug patch and inactive overlay to prevent it from falling off), while most are just available as a one-piece system.

There is the potential for overdose when medications are delivered via transdermal patches. Serious adverse reactions have been reported when new patches were applied without removing the existing patches, especially with fentanyl patches, which can cause respiratory depression. **Nurses must be especially cautious when applying transdermal patches. The patient should be asked if they already have a patch on before applying a first dose.** If a patch appears to have "fallen off," carefully examine the skin not only in the location it was applied, but in all other areas where it may have re-adhered. Some patches are not labeled with the drug or strength which can make it hard to differentiate patches, especially if multiple patches are utilized in a patient. If the patient is wearing two patches without a visible drug name and dose, the wrong patch might be removed and replaced with the same patch that remains on the patient. Thus, the patient would receive double the dose of one medication and none of the other. **There is also the potential for error when switching from one dosage form to the other or for the patient to receive duplicate therapy if it is not realized that the patient is also wearing a patch** (selegiline patch and oral antidepressant), which could also result in significant drug interactions.

Patches should be applied to a clean, dry, unbroken, non-hairy part of the skin. **Patches must be applied directly to the skin to be absorbed.** There have been reports of patients who have put the patches on top of existing patches. All patches have different recommended application sites (see Table 1). In general, the buttocks, lower abdomen, lower back, and upper arm (outer part) are good choices. If the area has body hair, the hair should be clipped (not shaven) as close as possible to the skin with scissors. **Women should not apply a patch containing estrogen or nicotine to their breasts.** The protective liner that covers the adhesive side of the patch must be removed before applying the patch to the skin. There are reports of patients not removing or only partially removing the liner before applying the patch which prevents the medication from being absorbed into the body. The liner should be removed from the patch without touching the adhesive side and the patch pressed firmly on the skin with the palm of your hand for about 30 to 60 seconds. Make sure the patch sticks well to the skin, especially around the edges. If the patch does not stick well, or loosens after it is applied, tape the edges down with first aid tape. Wash your hands after applying the patch. **After wearing the patch for the prescribed period of time, remove the patch and throw it away** so that it is safely out of the reach of children or pets. The adhesive and the medication remaining in the patch could seriously harm a child or pet. It is important to rotate the site of application to avoid irritation.

Patches should not be exposed to heat while being worn because this can increase the rate at which the drug is released; this can be especially problematic with fentanyl patches. **Some patches may be cut, but others should not be cut because this would destroy the release mechanism. Consult pharmacy for information on cutting a specific patch.**

Table 1 (on the next page) includes information on the commercially available patches, the recommended frequency of use, and the recommended application site.

**Table 1: Commercially Available Transdermal Patches, Dosing, and Application Sites**

<b>Transdermal Patch</b>	<b>Dosing Interval</b>	<b>Recommended Application Site</b>
Clonidine (Catapres TTS <sup>®</sup> )	once every 7 days	upper outer arm or chest.
Estradiol (Climara <sup>®</sup> ) (NF)	once every 7 days	abdomen or upper quadrant buttock (not breasts)
Estradiol (Menostar <sup>®</sup> ) (NF)	once every 7 days	lower abdomen (not breasts)
Estradiol (Vivelle <sup>®</sup> , Vivelle Dot <sup>®</sup> )	applied twice weekly (q 3 to 4 days)	lower abdomen (not breasts)
Estradiol (Estraderm <sup>®</sup> ) (NF)	applied twice weekly (q 3 to 4 days)	trunk (including buttocks/abdomen) (not breasts)
Estradiol (Alora <sup>®</sup> ) (NF)	applied twice weekly (q 3 to 4 days)	lower abdomen, upper quadrant of the buttocks or outer aspect of the hip (not breasts)
Estradiol & Levonorgestrel (Climara Pro <sup>®</sup> ) (NF)	once every 7 days	lower abdomen (not breasts)
Estradiol & Norethindrone Acetate (Combipatch <sup>®</sup> ) (NF)	applied twice weekly (q 3 to 4 days)	lower abdomen (not breasts)
Ethinyl Estradiol & Norelgestromin (Ortho Evra <sup>®</sup> )	Weekly for three weeks (21 total days). Week Four is patch-free.	buttock, abdomen, upper outer arm or upper torso
Fentanyl (Duragesic <sup>®</sup> )	Every 72 hours	chest, back, flank, or upper arm
Lidocaine (Lidoderm <sup>®</sup> )	Every 24 hours (max 12 hrs per day)	the most painful area
Methylphenidate (Daytrana <sup>®</sup> ) (NF)	Once daily for 9 hours (Apply 2 hours before an effect is needed)	hip
Nicotine (Nicoderm CQ <sup>®</sup> , Habitrol <sup>®</sup> )	apply one new patch every 24 hours (wear patch for 16 to 24 hours)	any convenient skin area
Nitroglycerin (Minitran <sup>®</sup> , Nitro-Dur <sup>®</sup> )	Daily for 12 to 14 hrs (off 10 to 12 hrs)	any convenient skin area (arm or chest preferred); do not apply to the distal part of the extremities
Oxybutynin (Oxytrol <sup>®</sup> )	applied twice weekly (q 3 to 4 days)	abdomen, hip, or buttock
Rotigotine (Neupro <sup>®</sup> ) (NF)	once every 24 hours	stomach, thigh, hip, flank, shoulder, or upper arm
Scopolamine (Transderm Scop <sup>®</sup> )	every 72 hours	behind one ear
Selegiline (Emsam <sup>®</sup> ) (NF)	once every 24 hours	torso (below the neck and above the waist), upper thigh, or outer surface of upper arm
Testosterone (Androderm <sup>®</sup> )	once every 24 hours	back, abdomen, upper arms, or thighs

(NF) – Not on UIHC Formulary