

Transdermal Patch

To cut or not to cut?

Although manufacturers **DO NOT** recommend cutting any transdermal patches, there are case reports of cut patches being used. Healthcare professionals are to use their clinical judgement if circumstances arise (i.e. when the dosage required is not commercially available). Narcotic patches, however, are **NOT to be cut**.

There are 2 major types of transdermal patch systems:

The Matrix patch system

The medication is embedded in the adhesive matrix/layer and diffuses directly into the skin and then into the bloodstream. Hence, the amount of drug delivered is proportionate to the size of the patch. Theoretically, cutting the patch will reduce the amount of medication delivered, proportionate to the reduced patch size. However, cutting this may decrease the adhesiveness of the patch, and may cause local irritation if medication leaks from the cut. Handle all cut patches carefully.

The Reservoir patch system (never cut)

Reservoir system has a semi-permeable membrane that controls the release of medication. Cutting will destroy this rate-controlling membrane and may result in a 'dose-dumping' effect. Hence, reservoir systems should not be cut. An option to cutting is to use the impermeable material technique² described below.

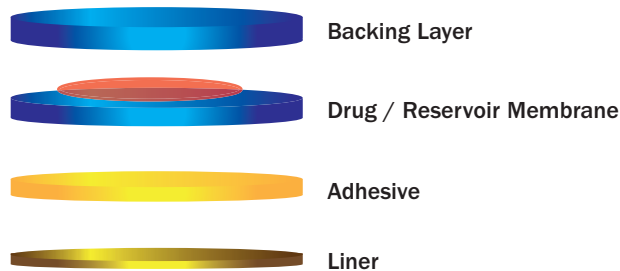
Use of partial patches with impermeable material technique²

This is based on the principle that by reducing the contact area, it can reduce the dosage delivered. First, apply an impermeable material such as an adhesive bandage on the skin (i.e. Blendern occlusive). Then apply the patch such that a section of the patch overlaps the bandage (to block a section of the patch). The contact area of the patch and the skin should be proportional to the intended dose (i.e. half the patch contact with the skin delivers dose of half a patch). **This technique can only be used when exact dosing is NOT critical.**

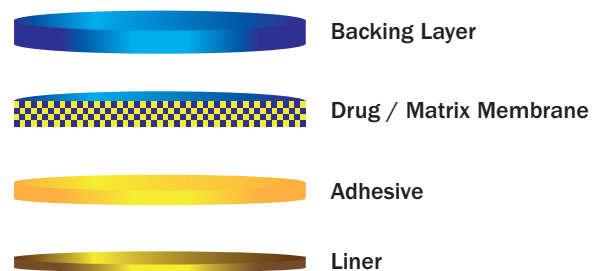
When exact dosing is critical

Even though some brands of fentanyl patches are available in a matrix patch system and can theoretically be cut, ISMP suggests that where exact dosing is critical (i.e. fentanyl), whether it is matrix or reservoir system, the patch should not be cut due to the potential of erratic drug delivery rate and inaccurate dose. Serious harm, including fatality, has been reported.³ On the other hand, some matrix patches where exact dosing is not as critical (i.e. Climara, etc) may be cut.⁴ Note that all generic products do not necessarily have the same delivery system (i.e. fentanyl).

Reservoir Transdermal Patch Construction



Drug-in-Adhesive Matrix Patch Construction



Ask your Remedy'sRx Pharmacist for advice on cutting patches – we're here to help.

The table below lists transdermal products with the matrix system.¹

Brand Name	Generic	Directions	Application Sites
Bu-Trans	Buprenorphine	Once a week	Upper outer arm, upper chest, upper back, side of chest
Climara	Estradiol	Once a week	Buttock, lower abdomen, hip, side or lower back
Climara Pro	Estradiol/ Levonorgesterol	Once a week	Buttock, lower abdomen, hip, side or lower back
Duragesic MAT	Fentanyl	Every 3 days	Back, flank, upper arm, chest
Estalis	Estradiol/ Norethindrone	Twice a week	Buttock, lower abdomen
Estradot	Estradiol	Twice a week	Buttock, lower abdomen, hip, side or lower back
Evra	Ethinyl estradiol/ Norelgestromin	Once a week for 3 out of 4 weeks	Buttock, upper outer arm, abdomen, upper torso
Exelon	Rivastigmine	Once a day x 24 hours	Upper or lower back, upper arm, chest
Habitrol	Nicotine	Once a day x 16-24 hours	Upper outer arm, upper body
Minitran	Nitroglycerin	Once a day x 12-14 hours	Chest, shoulders, back, upper arm
Nitro-Dur	Nitroglycerin	Once a day x 12-14 hours	Arm, chest
Oesclim	Estradiol	Twice a week	Buttock, torso, upper arm, thigh
Oxytrol	Oxybutynin	Twice a week	Buttock, abdomen, hip
Ran-Fentanyl Matrix	Fentanyl	Every 3 days	Back, flank, upper arm, chest (DO NOT CUT)
Ratio Fentanyl	Fentanyl	Every 3 days	Back, flank, upper arm, chest (DO NOT CUT)
Sandoz Estradiol Derm	Estradiol	Twice a week	Buttock, lower abdomen, trunk, hip
Sandoz Fentanyl MTX	Fentanyl	Every 3 days	Back, flank, upper arm, chest (DO NOT CUT)
Trinipatch	Nitroglycerin	Once a day x 12-14 hours	Any area of skin except distal extremities

The table below lists transdermal products with the reservoir system.¹

Brand Name	Generic	Directions	Application Sites
Androderm	Testosterone	Once a day x 24 hours	Back, abdomen, thigh, upper arm
Duragesic	Fentanyl	Every 3 days	Back, flank, upper arm, chest
Estraderm	Estradiol	Twice a week	Buttock, lower abdomen, hip, side or lower back
Nicoderm	Nicotine	Once a day x 16-24 hours	Upper body, upper outer arm
Ran Fentanyl	Fentanyl	Every 3 days	Back, flank, upper arm, chest
Transderm-Nitro	Nitroglycerin	Once a day x 12-14 hours	Any area of skin except distal extremities
Transderm-V	Scopolamine	Every 3 days	Behind earlobe

References:

1. Individual Product Monograph. CPS, 2012.
2. Lee HA, Anderson PO. Giving partial doses of transdermal patches. Am J Health-System Pharm 1997;54:1759-60.
3. Cohen MR, Smetzer JL. ISMP Medication Error Report Analysis. Risk of cutting certain medication patches. Hospital Pharmacy 2009;44:18-21.
4. Cupp M. Characteristics of Transdermal Patches. Pharmacist's Letter/Prescriber's Letter August 2012.