

Liniments (or salves) and lotions are also semisolid preparations. Liniments are rubbed on the skin. They have an ingredient (usually camphor, wintergreen, or alcohol) that irritates the skin. This irritation (patients feel burning or pain) causes blood flow to increase to the affected area and decreases pain. Examples are Bengay and Icy Hot, used for sore muscles.

Lotions are used externally for skin disorders, such as the itchy skin associated with chickenpox or poison ivy. Lotions are similar to creams in that they are water based. Creams are basically 50% water and 50% oil, whereas lotions contain more water than oil, thus making them lighter and less greasy. They are patted on, not rubbed into, the skin, to allow the medication to stay on the target area and not absorb into the skin. An example is calamine lotion, which must be shaken and applied with a cotton ball or other applicator because of its thin consistency.

Solid Preparations

Topical medications are also available in solid form, such as a powder or patch. Powders are often applied to the skin to treat fungal disease or reduce moisture. One example is Desenex (miconazole nitrate), a powder to put on toes to prevent or treat athlete's foot. Gold Bond Extra Strength Medicated Powder is used to reduce moisture anywhere on the body, but most commonly the feet and toes.

A transdermal patch holds a specific amount of medication over a specific area and delivers medication over time (Fig. 10-1). Patches are often used to relieve nausea, provide pain relief, alleviate nicotine addiction, and control angina, as well as provide hormonal treatment such as birth control and hormone replacement therapy.

Advantages of using the transdermal patch include ease of application and removal, effectiveness over time, and reliable results based on even drug distribution in the body. Disadvantages include difficulty keeping the patch in place. Some patients' skin is not ideal because of excessive dryness or oiliness, which can cause the patch to fall off. Failure to wipe away leftover medication at the site when changing patches can lead to medication overdose. If patches are not disposed of properly, pets finding the patches in the garbage may be exposed to the medication and become very sick. In addition, this medication route may have a slow onset.

An example of a transdermal patch is NicoDerm (nicotine patch), which delivers very small amounts of nicotine through the skin to help curb nicotine cravings when a person is trying to quit smoking. Another example is nitroglycerin, which is used to treat and prevent angina (chest pain caused by decreased blood flow to the heart). Nitroglycerin is a vasodilator that helps the coronary blood vessels open up and allows more efficient blood flow to the heart.

Most patches come from the manufacturer ready for administration. Wear gloves so medication from the patch does not enter your body. Remove the sticky backing on the patch, and apply the patch to an appropriate location on the body (Fig. 10-2). Be sure the area is free of tattoos, scarring, and redness because these features may alter absorption of the medication. Teach the patient to rotate sites to prevent skin irritation.

To remove the patch, apply gloves to avoid contact of the remaining medication with your own skin. Then fold the patch inward, and dispose of it carefully so that children or pets are not inadvertently exposed to the medication. See Procedure Box 10-1 for administration of a transdermal patch.

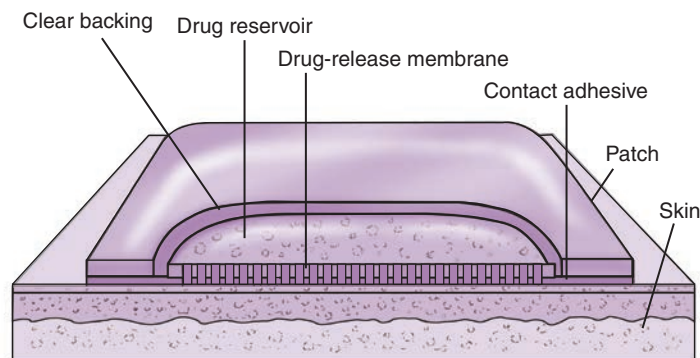


FIGURE 10-1: Transdermal administration. In a transdermal delivery system, the medication is contained in a drug reservoir, which is released through a membrane when the patch is applied to the skin by an adhesive backing.