Not just skin deep: Topical steroids

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Topical steroids are available in a dizzying variety of formulations and strengths used to treat a large number of skin conditions. In fact, they’re the most commonly prescribed topical medication. But do you really understand this medication and its adverse reactions? In this article, we’ll give you the knowledge you need to correctly administer these medications and monitor their adverse reactions.

Classification station
Topical steroids, a form of corticosteroid, have revolutionized the practice of dermatology since they were introduced in the late 1950s. They’re effective anti-inflammatory preparations used to control many skin conditions, such as rashes, eczema, psoriasis, and dermatitis, and in the form of eye drops that are typically used following eye surgery.

In the United States, there are seven types of topical steroids that are classified by using a standardized test based on how much the blood constricts in the upper layer of the skin. Class I is the strongest—class I topical steroids are up to 600 times more potent than hydrocortisone—and class VII is the mildest. Understanding the strengths of topical steroids will guide the prescriber and the nurse on their use for specific areas of the body. For example, the weakest topical steroids are reserved for eyelids, facial skin, body folds, axillae, genitals, and perineal regions. Moderate-strength steroids (5 to 100 times more potent than hydrocortisone) are used for the trunk, arms, and legs on open unoccluded areas and for a variety of conditions such as severe dermatitis, certain eczemas, or graft versus host disease of the skin. The strongest topical steroids are reserved for limited thick skin areas, such as the palms of the hands and soles of the feet, and for certain conditions such as lichen planus (itchy, swollen rash of the skin or mouth) or psoriasis of the limbs.

Topical steroids are also grouped by the specific type of steroid. For example, group A is hydrocortisone, group B is budesonide, group C is betamethasone, and group D is hydrocortisone-17-butyrate. The key information to understand about these groups is that if your patient is allergic to one member of the group, he’s considered allergic to all members of the group and shouldn’t use medications from that group.

Absorption and application
Different parts of the body absorb topical steroids at different rates:
• soles of the feet—0.5%
• palms of the hands—0.1%
• forearms—1%
• armpits—4%
• face—7%
• eyelids and genitals—30%.

When applying these medications, first wash the affected area. Apply a thin layer of medication and massage it in until it has disappeared. If you have another medication to apply, allow the first one to dry for about 30 minutes before you apply another. Because absorption rates can be increased substantially by covering the skin following application, occlusive dressings shouldn’t be applied without express instructions from the healthcare provider. Topical steroids aren’t usually applied more than two times a day.

How do you figure out how much to squeeze out of the tube for a thin layer? Use the fingertip units method. This is the...
measurement from the tip of your index finger to the first crease of that finger (see *Fingertip units for topical steroids*).

**Alert! Adverse reactions**

Long-term use of topical steroids should be avoided because they can cause adverse reactions. For this reason, the dosing schedule of the topical steroid is designed to minimize adverse reactions. The schedule may be for 1 week on and 1 week off or 3 days of application and 4 days off. Long-term use is discouraged unless necessary. Allergy or sensitivity to the medication or to the formulation that it’s mixed in may necessitate its discontinuation.

Common adverse reactions include:

- **infections.** Long-term use of topical steroids can lead to secondary infections from fungus or bacteria.
- **telangiectasia** (prominent blood vessels). This is evident in the treated skin and doesn’t go away.
- **skin bruising and fragility.** This occurs over time but is generally expected if the steroid is strong and used over a long period, regardless of administration route.
- **tachyphylaxis.** The patient’s skin can develop a tolerance to the medication, requiring him to use more to get the same effect.
- **steroid rosacea.** This condition looks like a red rash with small bumps and occurs from steroid usage on the face. It can show up on the cheeks, eyelids, and chin.
- **skin atrophy.** This is due to long-term use of steroids in the same area on the body, causing the skin to thin and appear shiny. As the skin becomes thinner it may tear more easily, so care in handling these patients is key.
- **stretch marks.** These can develop from using topical steroids in the armpit and groin area. They look like wide red lines on the skin that won’t disappear.
- **rebound syndrome.** Rapid withdrawal of these medications can cause aggressive recurrence of the condition treated.
- **glaucoma.** This condition is caused by pressure that develops in the eye, causing damage to the optic nerve. Be aware of the potential for glaucoma when you have a patient who’s using steroids around the eyes.
- **ocular effects.** Although steroid drops are commonly used following eye surgery, they can raise intraocular pressure. Patients should be monitored frequently if drops are used for an extended time.

**Be proactive: Patient teaching**

Teach the following to your patients who are prescribed topical steroids:

- While using topical steroids, it’s important to follow the directions from the healthcare provider.
- Only use the medication to treat the affected area and avoid nearby tissue.
- Use the medication as prescribed.
- Pay particular attention to the dosage for each application.
- Wash the affected area before applying the medication.
- Apply a thin layer of medication until it disappears.
- If there’s more than one medication to apply, wait until the first one dries before applying another.
- Stop using the medication when the healthcare provider indicates that it’s no longer necessary.
- Call the healthcare provider if there are any questions or if symptoms become worse.

**Not just skin deep!**

It’s easy to forget that topical medications require the same respect and vigilance as any other medication route. With a solid understanding of topical steroids and their administration, you can help your patient safely benefit from this valuable treatment.

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**Fingertip units for topical steroids**

<table>
<thead>
<tr>
<th>Area</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire hand</td>
<td>1 unit</td>
</tr>
<tr>
<td>Foot</td>
<td>2 units</td>
</tr>
<tr>
<td>Arm</td>
<td>3 units</td>
</tr>
<tr>
<td>Leg</td>
<td>6 units</td>
</tr>
<tr>
<td>Chest and abdomen</td>
<td>7 units</td>
</tr>
<tr>
<td>Buttocks and back</td>
<td>7 units</td>
</tr>
</tbody>
</table>

Source: DermNet NZ. Fingertip units. [http://www.dermnetnz.org/treatments/fingertip-units.html](http://www.dermnetnz.org/treatments/fingertip-units.html).

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**Learn more about it**


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