

Dr. Gary Sibbald Answers a Question on Creams and Ointments



R. Gary Sibbald

Q What creams and ointments should I use on my patients with leg and foot ulcers?

A Moisturizers

There are two ways to moisturize the skin: lubrication and hydration. Lubrication adds an external covering of an oily substance to prevent insensible water loss. Lubricating agents should not have lanolin or perfumes, especially for our leg ulcer patients where we sensitize 50 to 70 per cent of the patients we treat. Hypoallergenic lubricating creams should be used instead. Humectants bind water, and the superficial layer of the skin (stratum corneum) requires a 10 per cent moisture content to stay intact.

Red Skin

Topical steroid creams and ointments are the mainstay for treating stasis and contact dermatitis of the lower leg and foot. Creams contain preservatives to prevent bacterial contamination because of the continuous phase of cream water with a little oil added or suspended. Ointments have a greasy or petrolatum-like base, and they will not support bacterial growth, so a preservative is not required. Preservatives, particularly those containing or releasing formaldehyde can cause allergies. In my practice, I divide topical steroids into five groups depending on the degree of inflammation (redness) and the location that I am treating (for example, the bottom of the foot will

require higher strength steroids to penetrate). Table 1 compares each of the classes to hydrocortisone, which is assigned an arbitrary concentration of 1x potency. Remember that a topical steroid has its potency determined by substitutions in the steroid ring, and the relative concentration is meaningful only for the steroid molecule in question. For example, Betamethasone 0.1% valerate is six times more potent than 1% hydrocortisone.

Ulcer Margins

It is very important to protect peri-ulcer skin. There are four main considerations in my toolkit:

1. Use zinc oxide paste. This is simply zinc oxide powder in

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TABLE 1

Relative Topical Steroid Potencies

x1	1% Hydrocortisone	Mild red areas on legs – taper to moisturizer when erythema fades
x3	Betamethasone 0.05% valerate	Moderate erythema on legs
x6	Betamethasone 0.1% valerate	Severe erythema on the legs or mild changes on the plantar aspect of the foot
x9	Lidex or Halog (full strength)	Blisters on the legs or moderate erythema on the plantar aspect of the feet
x12	Dermovate, Ultravate	Severe erythema on the plantar aspect of the feet or if systemic steroids are contemplated for a dermatitis elsewhere

Ask the Expert

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petrolatum. Not all zinc oxide pastes are equal. Some contain lanolin and others contain perfumes, both of which are potential contact sensitizers. Some zinc oxide pastes are stiffer than others. To make zinc oxide paste stiffer and less runny, especially in hot water, you can apply talc on a cotton ball and dab it on top of the applied zinc oxide for a stronger barrier. Do not scrub the old zinc oxide off unless it is contaminated; simply fill in the spaces. A tongue depressor is a convenient way to apply the product because it cuts down on the frictional resistance with application.

2. Petrolatum is less stiff than zinc oxide and tends to melt or disappear more easily. It does, however, allow the clinician to visualize the ulcer margin.
3. Use a hydrocolloid or adhesive film dressing as a window frame around the ulcer margin, removing the centre for local ulcer treatment and effectively isolating the ulcer margin from the wound treatment and exudate.
4. Use a film-forming liquid acrylate preparation. This allows ulcer margin visualization and gives longer wear time and greater protection than petrolatum. ☺