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Topical steroids for the skin

What are topical steroids?

Topical corticosteroids are used to treat inflammatory skin conditions by suppressing the inflammatory reaction and relieving symptoms. However, they are not curative and attempts to increase potency have often been associated with more adverse effects. The emphasis should be on limited, selective and careful use with clear explanation and instruction to patients.

What are topical steroids used for? (Indications)

- Eczema - the most important indication for topical steroids because it is very common both in adults and children. See separate Atopic Dermatitis and Eczema article.
- Contact dermatitis. See the separate Contact and Occupational Dermatitis article.
- Seborrhoeic dermatitis (although the mainstay of treatment is with antifungals). See the separate Seborrhoeic Dermatitis article.
- Psoriasis. See the separate Guttate Psoriasis article.
- Other inflammatory skin conditions including: discoid lupus erythematosus; lichen planus under specialist supervision.

Pre-prescribing assessment and investigation

- Establish a correct diagnosis. Consider whether the lesion fits the diagnostic criteria of, for example, atopic eczema.

- Consider diagnoses which require a different treatment approach and which might potentially be made worse by the use of corticosteroids - for example, scabies, bacterial infection (suggested by crusting and weeping), herpes infection (suggested by vesicles or punched-out erosions).
- Consider wider management issues:[1]

    - Aggravating factors.
    - Previous treatments.
    - Impact on quality of life.
    - Other medications.
    - Growth chart in children.

When should referral be considered?

The need for referral will depend on many individual factors and the vast majority of patients treated with topical corticosteroids will not require referral. However, referral might be considered if:

- Diagnosis is unclear.
- There are certain diagnoses where distribution and severity require referral.
- Severe infection is suspected - eg, eczema herpeticum (same day referral).
- There is lack of response to treatment of the primary condition (see under 'Guidance', below)
- There is failure of treatment for secondary infection.
- There is contact dermatitis requiring patch testing.
- Additional advice or treatment is required,
- Use of immunomodulatory agents is to be considered (such as tacrolimus and pimecrolimus).[2]
- Dietary factors are suspected.

Topical steroid prescribing guidance[3] [4]

Guidance on prescribing topical steroids reminds practitioners to prescribe the least strong steroid which is effective for the least possible length of time. A balance must be struck between efficacy and reducing adverse effects. Education is crucial to maximise efficacy and reduce adverse effects. Use of printed information may be helpful (including detail of how to use emollients and topical steroids) and education involving practice nurses to help improve efficacy of treatments and information for patients.

Choice of formulation

- Creams are best for weeping or moist areas. Creams are often preferred as they are not greasy to use.
- Ointments are best for dry, scaly or lichenified areas. The emollient effect is more prolonged for ointments than creams.
- Lotions are useful for larger or hair-bearing areas.
- Occlusive dressings increase absorption. Caution and close supervision are required.
- Gels, mousses and solutions are less commonly used options. They may be used more often for scalp conditions.

Choice of potency

There are four recognised strengths of topical steroid, determined primarily by the amount of vasoconstriction they induce:

- Mildly potent (eg, hydrocortisone).
- Moderately potent (eg, betamethasone valerate 0.025%, clobetasone butyrate 0.05%).
- Potent (eg, betamethasone valerate 0.1%, mometasone furoate 0.1%).
- Very potent (eg, clobetasol propionate 0.1%). These should not be used continuously for more than three weeks without specialist advice.

The least potent steroid which is effective should be used. Once control has been achieved, taper down the potency.

Potency of steroid should be matched to age, disease severity and site. For example:

- Face, genitals and flexures:
    - Skin is thin and self-occludes within the skin fold, thus increasing absorption.
    - Milder steroids should therefore be prescribed.
- Eyelids:
    - Skin is thin. Restrict to an intermittent mild steroid for no more than 14 days and avoid eye contact.
    - Over the age of 35, beware risk of glaucoma if used for more than 14 days and monitor intraocular pressure (IOP).
- Palms, soles of feet and scalp:
    - Skin is thicker. Stronger steroids are required.
    - Consider occlusive techniques.
- Trunk and limbs in adults:
    - Use the weakest strength required to achieve control within 14 days, as judged by the severity of the inflammation and previous response to treatment.
- Elderly:
    - Older people are more susceptible to the adverse effects of topical steroids because they have a thinner epidermis. Older people also have decreased dermal collagen as a result of age and sun damage.

- Children:

    - Children are also more susceptible to the adverse effects of topical steroids because they have a thinner epidermis.
    - Use weaker steroids, especially when a large area is to be treated.
    - Consider specialist referral if moderate-strength steroids are needed to maintain control.

Duration of treatment

- Treatment gives only symptomatic relief and duration of treatment should be limited as much as possible to reduce the risk of adverse effects.
- Length of treatment depends on the condition the topical steroids are used for.
- Use of a mildly potent or potent topical steroid for less than three months is unlikely to result in adverse effects. (However, this is more likely if applied to the face, the neck, the skin fold areas and under occlusion.)
- If symptoms do not improve after 3-7 days, reconsider the diagnosis.
- Short bursts of stronger steroids can be used to gain control over a few days.
- Very potent steroids should not be used for more than three weeks other than under specialist supervision.

Quantity of steroid

- Give specific information on the quantity to be applied (as too much risks side-effects and too little may be ineffective). This can be specified according to the calculation that one fingertip unit (FTU, or length squeezed from tube between tip of finger and first skin crease) is enough to cover an area about twice the area of the palmar aspect of the hand (and weighs approximately 500 mg).

- It may help to print or point people towards the related patient information leaflet Fingertip Units for Topical Steroids, which lays out specific quantities for each area.
- Application should be no more than twice daily and the National Institute for Health and Care Excellence (NICE) guidelines suggest that once daily may be as effective as more frequent applications. [5] This may also reduce side-effects.
- No more than 50 g each week should be used of potent or very potent steroids and once-daily application is advisable.
- Specific guidance on how much cream or ointment should be prescribed is helpful. For example, a guide to quantities to prescribe for twice-daily application for two weeks for an acute eczema flare-up in adults is:

Face and neck	30 g
Both hands	30 g
Scalp	30 g
Both arms	60 g
Both legs	100 g
Trunk	100 g
Groin and genitalia	30 g

Use of emollients

- Topical steroids should not be used for emollient effect.
- Emollients should be applied at least 30 minutes before the topical steroid.
- Frequent and intensive emollient use in eczema will reduce the amount of steroid needed.

Monitoring of treatment

- Regular review of treatment should be undertaken to ensure that minimum strength required is being used and to check for side-effects.
- Care should be taken to follow up more closely use of stronger steroids, children and in areas of the body where skin is thin.
- Children on large amounts of topical steroids should have their growth monitored.
- Immunomodulatory agents such as tacrolimus and pimecrolimus are now available as an alternative to topical steroids. These are as effective but more expensive. Initiation usually requires referral.[2]

Cautions/contra-indications[3]

Topical corticosteroids are contra-indicated in:

- Untreated infection (bacterial, fungal and viral).
- Acne rosacea.
- Perioral dermatitis.
- Extensive plaque psoriasis.

They should be used with particular caution in children, at certain sites such as the face and (potent/very potent steroids) in psoriasis.

Topical steroids, other than the very potent ones, are considered to be safe to use in pregnant and breast-feeding women, as long as normal safe prescribing guidelines are adhered to. Only a mild steroid should be applied to nipples and areolar areas, and any steroid applied to the breast should be washed off prior to breast-feeding.

Side-effects of topical steroids[3]

These may be systemic or local. The advent and severity of adverse effects is directly linked to:

- Potency of the steroid used.

- Length of treatment - the longer this is, the more likely the risk of systemic effects.
- Amount of surface area of skin to which the steroid is applied.
- The condition of the skin - absorption is more common in skin which is thin and inflamed.
- Whether the steroid cream is applied under occlusion (which increases the risk of systemic absorption).
- Age (increased risk in children and the elderly).

Systemic adverse effects

Systemic side-effects are rare when topical steroids are used following the guidelines above. If significant systemic absorption occurs, there is the risk of the side-effects usually associated with oral steroids, such as:

- Adrenal suppression.
- Cushing's syndrome.
- Suppression of growth in children.
- Glaucoma.

Localised adverse effects

Localised effects include:

- Spreading infection.
- Depigmentation.
- Skin thinning.
- Striae.
- Telangiectasia.
- Contact dermatitis.
- Perioral dermatitis.
- Acne.
- Acne rosacea.

- Hypertrichosis.

Effects such as skin thinning are unlikely to occur in less than three months in steroids of mild-to-moderate strength but can occur with potent steroids within one to three weeks. This will often, but not always, reverse within four weeks if stopped.

Avoidance of infection may be promoted by steroid-antibiotic combinations (evidence is lacking), emollient antimicrobial preparations, not leaving tubs open, pump dispensers and general hand hygiene measures.

Further reading

- Abraham A, Roga G; Topical steroid-damaged skin. Indian J Dermatol. 2014 Sep;59(5):456-9. doi: 10.4103/0019-5154.139872.
- Corticosteroids - topical (skin), nose, and eyes; NICE CKS, June 2022 (UK access only)

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