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Skin Disorders: Atopic Dermatitis

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Atopic dermatitis (AD), also known as *eczema*, is an inflammatory disorder of the skin with an onset usually in early childhood. Patients typically have flares of dermatitis that present as ill-defined patches of erythema, scale and excoriations. Significant pruritus and generalized dry skin are usually prominent features. Atopic dermatitis may be associated with other atopic conditions such as asthma, allergic rhinoconjunctivitis and food allergies. Although patients with atopic dermatitis are more likely to have food allergies, food ingestion as a causal factor in eczema flares is uncommon.

Goals of Therapy

Atopic dermatitis is a chronic, recurring condition without a cure, so the major focus is control of dermatitis, pruritus and dryness. Goals of therapy are:

- Relieve generalized dry skin and pruritus, particularly when they interfere with activities of daily living
- Treat patches of dermatitis to reduce inflammation and pruritus and reduce risk of secondary infection
- Prevent flare-ups caused by environmental irritants
- Promptly treat complications of atopic dermatitis such as secondary bacterial or viral infection

Investigations

- Physical exam may show 1 of 3 typical morphologic patterns:
  - facial and extensor dermatitis in infants
  - flexural and fold dermatitis in older children
  - prominence of facial and hand dermatitis in adults

Investigations are rarely required for the work-up of classic atopic dermatitis. Bacterial swabs showing moderate or heavy growth of organisms may suggest secondary bacterial infections in resistant patches of dermatitis. However, many patients with atopic dermatitis are colonized with *Staphylococcus aureus*, making swabs with minimal growth difficult to interpret.

Therapeutic Choices

An algorithm for the management of atopic dermatitis is presented in Figure 1 - Management of Atopic Dermatitis .

Prevention

Maternal use of **probiotics** during pregnancy and maternal and/or infant use during breastfeeding may be helpful in reducing the development of atopic dermatitis in the child [SORT B].[1, 2] However, there is not enough evidence to support the role of probiotics in the treatment of established atopic dermatitis.[3, 4]

Nonpharmacologic Choices

Evidence suggests that disease-specific formal patient education programs, usually provided by a trained nurse, contribute to the success of treatment.[5]

Reducing environmental irritants is very useful; use nonirritating soaps and avoid perfumed products, wool and synthetic fibres, dry grass and leaves.

Patients with atopic dermatitis have abnormal barrier function, so they cannot maintain adequate hydration. Frequent use of lubricating skin **emollients** such as petrolatum helps seal in moisture. Emollients are first-line therapy for prevention of flares and treatment of minimal irritation and itch. Even when medication is required, emollients should be used at least twice daily. Remind patients to apply medicated treatments directly to the skin, not over emollients. Emollients should not contain fragrances or irritants (e.g., salicylic acid). Plain **petrolatum** jelly, while greasy, is highly effective, nonirritating

and inexpensive.

Bathing, done properly, can help to hydrate the skin and protect the barrier. Bathing should be brief (5–10 minutes), the water warm (not hot) and the skin patted dry rather than rubbed aggressively. After bathing, apply emollients within 3 minutes of light drying.

Wet wraps (wet bandages applied over emollients or medication) are a useful second-line therapy but should be supervised by a physician experienced in this technique. Multiple different approaches are used and complications can occur. These include hypothermia, tissue maceration, infection and excessive absorption of medication.

Pharmacologic Choices

Topical **corticosteroids** affect several inflammatory pathways in the skin and work quickly and effectively. They are available in a wide variety of potencies and vehicles. The actual clinical potency of topical corticosteroids depends on the molecular structure and vehicle as well as the thickness and integrity of the skin. There is no formula to calculate the precise relationship between these factors. Some principles, however, can guide appropriate treatment selection (see Table 1 and Table 2). A systematic review of once-daily versus more frequent use of potent topical corticosteroids in atopic dermatitis found little difference between regimens with respect to clinical outcomes and adverse events.[6]

When prescribed and monitored by an experienced physician, topical corticosteroids are safe medications. Clinically significant adverse effects are rare and generally due to misuse.[7,8] Laboratory detection of adverse effects such as cutaneous atrophy and HPA axis suppression due to systemic absorption may not translate to clinical effects in the patient.[9,10,11,12,13,14] Regardless, in the setting of atopic dermatitis "steroid-phobia" is widespread[15] and many patients, particularly children, suffer with undertreated eczema due to exaggerated fears about corticosteroid side effects. Many health care providers automatically warn that these products should be used "sparingly", reinforcing this fear. This can lead to suboptimal therapy and result in the eczema being maintained in a chronic, active state. Inadequately treated eczema can lead to secondary infection and substantial sleep loss, and can significantly decrease quality of life [SORT C].[16] The negative effects of undertreatment outweigh the risk of adverse effects of corticosteroids. Ensure effective use of corticosteroids by choosing correct potency and vehicle (see Table 1 and Table 2) and using adequate quantities (see Table 3) for appropriate periods of time. Treatment should continue until rash and itch are resolved. This may be a few days or up to several weeks for each flare depending on the patient (see Figure 1 - Management of Atopic Dermatitis). However, any eruption which does not improve significantly within 2 weeks, should be reassessed. Useful Info?

For more information on corticosteroids, see Corticosteroids: Topical (CPhA Monograph).

Table 1: Selection of Topical Corticosteroid by Body Area

Body Area	Skin Properties	Corticosteroid Potency
Face, intertriginous folds	Thin skin, more absorption	Low potency
Body and scalp	Medium thickness	Medium potency
Palms, soles	Thick skin	High potency

Table 2: Selection of Topical Therapy by Vehicle

Vehicle	Advantages	Disadvantages
Cream	Cosmetically elegant	Less absorption; additives can irritate
Lotion	Evaporates well, good for large areas, hairy areas	Alcohol base will sting/irritate open areas of eczema
Gel	Good for hairy areas, oily skin	Alcohol base will sting/irritate open areas of eczema
Ointment	Excellent penetration, offers emollient effect, little or no irritation	Cosmetically less acceptable, thick, greasy

Table 3: Estimating Amount of Topical Therapy for One Application Using Fingertip Units (FTU)[a]

Body Area to be Treated	Fingertip Units (FTUs) Required for One Application (by age group)[b]				
	3–6 Months	1–2 Years	3–5 Years	6–10 Years	Adults
Face and neck	1	1.5	1.5	2	2.5
1 Arm and hand	1	1.5	2	2.5	4
1 Leg and foot	1.5	2	3	4.5	8
Trunk (front)	1	2	3	3.5	7
Trunk (back, including buttocks)	1.5	3	3.5	5	7

Adapted from Patient.co.uk. *Fingertip units for topical steroids for eczema*. Available from: www.patient.co.uk/health/fingertip-units-for-topical-steroids.

a. The fingertip unit is approximately 0.5 g, estimated to be the amount squeezed from a tube (with a standard 5 mm nozzle) from the fingertip to the first crease of an adult finger. Each 1 FTU should cover approximately 250 cm^2 of area (equal to approximately 2 adult hand prints with fingers together).[17]

b. To calculate quantity to prescribe: (FTU for body area(s) involved × 0.5 g/FTU) × (# applications/day) × (# days of treatment). E.g., to treat a 10-yr old's trunk (front) once daily for 2 weeks: 3.5 FTU × 0.5 g/FTU × 1 application/day × 14 days = 24.5 g.

Calcineurin inhibitors, also referred to as topical immune modulators, are a newer class of medications designed to specifically block calcineurin. They provide a targeted, specific anti-inflammatory mechanism in contrast to the wide-ranging effects of corticosteroids. **Tacrolimus** and **pimecrolimus** are available in Canada. These products work more slowly than corticosteroids[18] and generally require twice-daily dosing. Evidence supports the short-term safety of these products.[19]

Concerns have been raised about the long-term safety of calcineurin inhibitors, particularly the risk of malignancy.[19] Currently, insufficient data exist to adequately support or refute this claim.[19, 20] These agents can be useful in the treatment of atopic dermatitis but should be used only as indicated: in patients over 2 years of age, as second-line therapy and on an intermittent basis. Calcineurin inhibitors can be used as second-line agents for eczema of the face or folds if there is a concern about the amount or frequency of use of low-potency corticosteroids. These patients may continue to use corticosteroids elsewhere on the body while using calcineurin inhibitors on face or folds. Both pimecrolimus and tacrolimus significantly reduce eczema severity scores compared to placebo.[21] Tacrolimus 0.03% has demonstrated better efficacy than a mild corticosteroid,[22] and tacrolimus 0.1% has shown no difference compared with a mid-potency corticosteroid.[23] Pimecrolimus 1% was not as effective as betamethasone valerate 0.1% in patients with eczema of at least moderate severity, although it is indicated for patients with mild to moderate eczema.[24] Pimecrolimus has not been compared with low-potency topical corticosteroids as a treatment for mild eczema. Combining calcineurin inhibitors and topical corticosteroids does not appear to confer benefit over topical corticosteroids alone.[25]

Barrier repair therapies are new products developed in response to recognition of the contribution of a defective barrier to the etiology of atopic dermatitis.[26] Disrupted ceramide content is one aspect of barrier dysfunction, and restoring the correct balance of ceramides is a strategy employed by newer products. One study found that a ceramide-dominant product was equivalent to a mid-potency corticosteroid after 28 days.[27] However, another study found no difference in the management of mild-to-moderate eczema when comparing ceramide-dominant barrier repair therapy with another barrier repair therapy or a petrolatum-based moisturizer.[28]

Topical treatments for atopic dermatitis are addressed in Table 4.

There is no convincing evidence of the benefit of **dietary supplements** in eczema.[3]

Consider referral to a dermatologist for patients who fail to achieve good control of their eczema despite nonpharmacologic management (trigger avoidance, generous use of emollients) in combination with first- and second-line therapies such as topical corticosteroids or calcineurin inhibitors.

Other therapies such as systemic agents (e.g., **cyclosporine**, **methotrexate**, **azathioprine**) or ultraviolet (UV) light have

been used in patients with extensive dermatitis, patients who have not responded to topical treatment and those who are unable to tolerate topical therapy. **Alitretinoin** is approved for severe chronic hand eczema in adults; referral to a dermatologist is recommended. *Oral* corticosteroids should not be routinely used in the treatment of atopic dermatitis, given their many side effects and the tendency for the eczema to rebound on withdrawal of corticosteroids.[29]

Flare Prevention

Evidence suggests the use of long-term intermittent topical corticosteroids or calcineurin inhibitors may help to keep atopic dermatitis in remission. Different regimens exist and generally involve application 2–3 times weekly. Duration of use has ranged from 16–40 weeks or longer, depending on the specific agent.[30, 31, 32, 33, 34] Use of tacrolimus twice weekly for flare prevention is an approved indication in Canada, while the other regimens remain off-label. A systematic review of proactive treatment suggests that both tacrolimus and topical corticosteroids (several potencies) aid in flare prevention when used twice weekly, and that a potent topical corticosteroid may be more efficacious in flare prevention than tacrolimus.[35] There is also evidence to support early intervention with calcineurin inhibitors at the first signs of a flare to prevent progression to a more serious episode.[36, 37] This remains an off-label indication for these medications.

Secondary Infection

Secondary infection is common with atopic dermatitis. Treat obviously infected eczema with topical or oral antibiotics. Questions have arisen about the role of preventive strategies with topical antiseptics or prophylactic antibiotics. **Bleach baths** are a useful second-line therapy but should be supervised by a physician experienced in this technique. Complications can include irritation ranging from mild to severe if the dilution is incorrect. A systematic review examined 26 randomized controlled trials that used a variety of antistaphylococcal treatments in the management of atopic dermatitis, including oral antibiotics, antibacterial soaps, topical antibiotics or antiseptics, special textiles and combinations of topical corticosteroids with antibacterials. While reduction of *S. aureus* counts on the skin was reported with some interventions, no trials showed improvement in eczema control. The poor quality of many of the studies and low patient numbers make this evidence difficult to interpret.[38]

Choices during Pregnancy and Breastfeeding

Atopic Dermatitis and Pregnancy

Atopic dermatitis is the most common skin condition in pregnancy, although overall prevalence during pregnancy is unknown.[39] Sixty to 80% of affected pregnant patients develop symptoms for the first time during pregnancy, usually within the first 2 trimesters. One quarter of women with pre-existing atopic dermatitis will improve during pregnancy, but over half will experience worsening of the condition. Untreated atopic dermatitis can be extremely uncomfortable and carries the considerable risk of secondary infection. There is some evidence that maternal use of **probiotics** during pregnancy or maternal and/or infant use during breastfeeding may be helpful in reducing the development of atopic dermatitis in the child.[1, 2]

Pre-pregnancy Management

Ideally, disease activity should be minimized prior to conception. Patients receiving systemic treatment may need to discontinue their medication well before conception; timing depends on the drugs involved. **Methotrexate** must be stopped at least 3 months prior to conception in women.[39, 40] It is also recommended that men stop methotrexate 3 months prior to conception,[39, 40] however a small cohort study showed no adverse pregnancy outcomes after paternal low-dose methotrexate exposure during time of conception.[41] Although no specific time period is recommended, **psoralens** with ultraviolet-A (UVA) should be stopped before attempting to conceive.

Management of Atopic Dermatitis during Pregnancy

Maximize nonpharmacologic approaches, such as use of emollients and avoidance of environmental irritants. There is no information available on the safety of barrier repair therapies in pregnancy but the ingredients (skin lipids) are not expected to pose a significant risk. **Topical corticosteroids** remain the main treatment option throughout pregnancy. Low- and mid-potency corticosteroids are preferred over potent or very potent agents.[39, 42, 43] If further treatment is needed, second-line choices include ultraviolet-B (UVB) therapy and **calcineurin inhibitors** (very low bioavailability when

applied topically).[39] Systemic therapy with **cyclosporine** or **azathioprine** is considered only in the most severe cases after careful discussion, and requires close monitoring for both mother and baby in a hospital setting. **Methotrexate** is contraindicated during pregnancy.

Management of Atopic Dermatitis during Breastfeeding

Emollients and **topical corticosteroids** remain the main treatment options throughout breastfeeding. Though safety data are lacking for **ceramide**-based barrier repair therapies, there is no theoretical reason for concern. Risk to the baby via passage of topical corticosteroids into breast milk is unlikely since only extensive use of the most potent corticosteroids causes systemic effects in the mother. The topical corticosteroid with the lowest effective potency should be applied to the smallest area possible for the shortest possible time.[39] , [44] , [45] **Topical calcineurin inhibitors** appear to be poorly absorbed after topical administration and are second-line therapy.[39] , [44] , [45] Avoid direct contact of the infant with the mother's treated skin. UVB therapy is considered safe during breastfeeding.[39] Avoid **methotrexate** and **cyclosporine** during breastfeeding.

Up to 2% of mothers develop atopic dermatitis of the nipple or areola during breastfeeding.[39] Emollients and low-potency corticosteroids can be applied to the areola or nipple, and wiped off gently but thoroughly before nursing. To prevent ingestion by the infant, topical calcineurin inhibitors should not be applied to the nipple/areola.

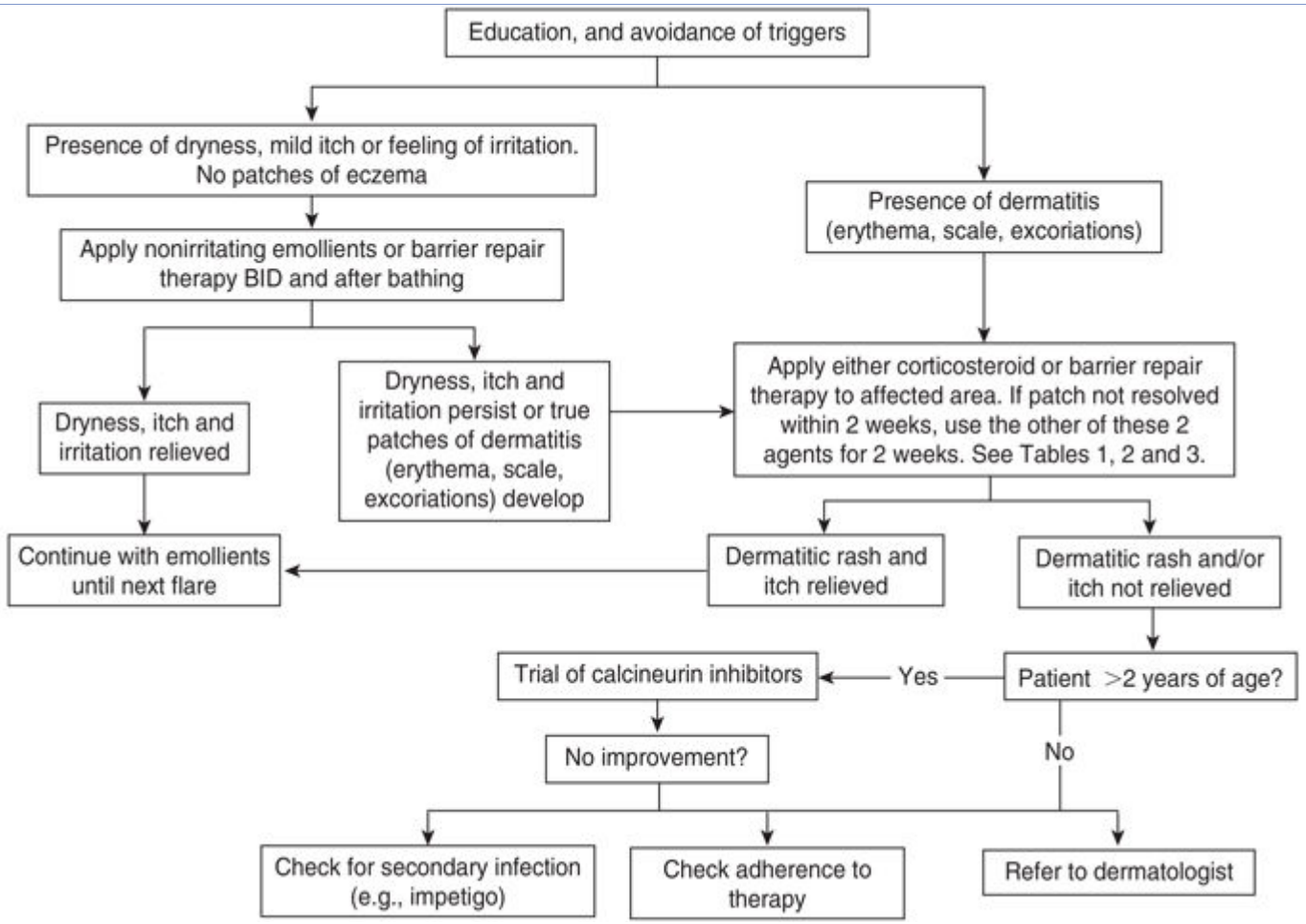
A discussion of general principles on the use of medications in these special populations can be found in Drug Use During Pregnancy and Drug Use During Breastfeeding. Other specialized reference sources are also provided in these appendices.

Therapeutic Tips

- Ointments are less irritating and penetrate better than creams or lotions. They are an excellent choice for atopic dermatitis but cosmetic acceptability and patient adherence are lower. Generally, the same corticosteroid molecule will be more potent in an ointment base than in cream or lotion.
- Education is a key part of therapy. Patients have to understand they have a chronic, recurring condition that can be controlled, not cured.
- Sweating, stress and overheating can all increase itching.
- Patches of dermatitis that are resistant to treatment despite good adherence to therapy may require a short course of a more potent corticosteroid.
- Pruritus in atopic dermatitis is not histamine-mediated and therefore does not respond well to histamine blockade. Nonsedating antihistamines are of little use in the pruritus of atopic dermatitis but may help associated allergic symptoms (e.g., allergic conjunctivitis). Potent, sedating antihistamines (e.g., diphenhydramine, hydroxyzine) taken 30–60 minutes prior to bedtime may provide some relief, possibly through central sedation.

Algorithm

Figure 1 - Management of Atopic Dermatitis



Drug Table

Table 4: Topical Treatments for Atopic Dermatitis[a]

Class[b]	Drug	Dose	Adverse Effects	Comments	Cost[c]
Antibiotic/ Corticosteroid Combinations	*betamethasone valerate 0.1%/gentamicin 0.1%* Valisone-G	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	For use in secondarily infected dermatitis. Caution: extensive use of gentamicin may lead to increased systemic absorption, especially in children.	$$$
Antibiotic/ Corticosteroid Combinations	*fusidic acid 2%/hydrocortisone 1%* Fucidin H	TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression	For use in dermatitis with associated *S. aureus.*	$$$

Class[b]	Drug	Dose	Adverse Effects	Comments	Cost[c]
			of HPA axis although clinically relevant features are very rare.		
Barrier Repair Products	*ceramides/cholesterol/free fatty acids* EpiCeram Skin Barrier Emulsion, others	BID	Mild burning or stinging lasting 10–15 min.	Do not apply within 4 h prior to radiation therapy.	$$
Calcineurin Inhibitors	*pimecrolimus cream* 1% Elidel	BID	Transient burning sensations, skin tingling, pruritus at site of application.	For use as a second-line agent until skin clears. Not for use in children <2 years of age or in patients who are immunocompromised. Apply a thin layer and avoid unnecessary UV exposure. Indicated for patients with mild to moderate atopic dermatitis.	$$$$
Calcineurin Inhibitors	*tacrolimus ointment* 0.03%, 0.1% Protopic	Pediatric (>2 years): 0.03% ointment BID Adult (≥16 years): 0.03% or 0.1% ointment BID	Transient burning sensations, skin tingling, pruritus at site of application.	For use as a second-line agent until skin clears. Not for use in children <2 years of age or in patients who are immunocompromised. Apply a thin layer and avoid unnecessary UV exposure. Indicated for patients with moderate to severe atopic dermatitis.	$$$$
Corticosteroids, low-potency	*desonide* 0.05% Verdeso, generics	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for face, intertriginous areas. Safe and effective when used appropriately.	$
Corticosteroids, low-potency	*hydrocortisone* 1%, 2%, 2.5% Emo-Cort, Prevex HC, Topiderm, generics	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for face, intertriginous areas. Safe and effective when used appropriately.	$

Class[b]	Drug	Dose	Adverse Effects	Comments	Cost[c]
Corticosteroids, medium-potency	*betamethasone valerate* 0.05%, 0.1% Betaderm, Celestoderm V, Celestoderm V/2, Luxiq, Prevex B, generics	Daily-BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for body areas. Safe and effective when used appropriately.	$
Corticosteroids, medium-potency	*clobetasone butyrate* 0.05%[d] Spectro EczemaCare Medicated Cream	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for body areas. Safe and effective when used appropriately.	$$
Corticosteroids, medium-potency	*diflucortolone valerate* 0.1% Nerisone	Daily-BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for body areas. Safe and effective when used appropriately.	$$
Corticosteroids, medium-potency	*fluocinolone acetonide* 0.01% Derma-Smoothe/FS	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for body areas. Safe and effective when used appropriately. Derma-Smoothe/FS product contains peanut oil but not peanut protein.	$
Corticosteroids, medium-potency	*hydrocortisone valerate* 0.2% Hydroval	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although	Good for body areas. Safe and effective when used appropriately.	$

Class[b]	Drug	Dose	Adverse Effects	Comments	Cost[c]
			clinically relevant features are very rare.		
Corticosteroids, medium-potency	*prednicarbate* 0.1% Dermatop	BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for body areas. Safe and effective when used appropriately.	$$
Corticosteroids, medium-potency	*triamcinolone acetonide* 0.1%, 0.5% Aristocort Creams and Ointments, generics	BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for body areas. Safe and effective when used appropriately.	0.1%: $ 0.5%: $$$
Corticosteroids, high-potency	*amcinonide* 0.1% Cyclocort, generics	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for thick, lichenified plaques. Safe and effective when used appropriately.	$
Corticosteroids, high-potency	*betamethasone dipropionate* 0.05% Diprosone, generics	BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for thick, lichenified plaques. Safe and effective when used appropriately. Glycol-based product is ultra potent. *betamethasone dipropionate glycol*	$
Corticosteroids, high-potency	*desoximetasone* 0.05%, 0.25% Topicort Preparations	BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects	Good for thick, lichenified plaques. Safe and effective when used appropriately.	$$

Class[b]	Drug	Dose	Adverse Effects	Comments	Cost[c]
			may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.		
Corticosteroids, high-potency	*fluocinonide* 0.05% Lidemol, Lidex, Lyderm, Tiamol, Topactin	BID-TID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for thick, lichenified plaques. Safe and effective when used appropriately.	$
Corticosteroids, high-potency	*mometasone furoate* 0.1% Elocom, generics	Daily	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for thick, lichenified plaques. Safe and effective when used appropriately.	$
Corticosteroids, ultra-potent	*betamethasone dipropionate glycol* 0.05% Diprolene	BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for palms and soles. Safe and effective when used appropriately.	$$
Corticosteroids, ultra-potent	*clobetasol propionate* 0.05% Clobex Lotion, Dermovate, Olux-E, generics	BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for palms and soles. Safe and effective when used appropriately.	$

Class[b]	Drug	Dose	Adverse Effects	Comments	Cost[c]
Corticosteroids, ultra-potent	*halobetasol propionate*0.05% Ultravate	BID	Striae, telangiectasia, atrophy, purpura. When used around the eye for longer periods of time, ocular side effects may rarely occur. Systemic effects include suppression of HPA axis although clinically relevant features are very rare.	Good for palms and soles. Safe and effective when used appropriately.	$$$

a. Few of the listed products are Health Canada-approved for use in the pediatric population but are often used in this population in practice.

b. Different potency categories may be used by other authors. Vehicle also impacts potency categorization. These rankings are meant to serve as a guide only. For more information on corticosteroids, see Corticosteroids: Topical (CPhA Monograph).

c. Cost of 30 g or 30 mL for topical products; includes drug cost only.

d. Clobetasone butyrate is available without a prescription.

Abbreviations: HPA= hypothalamic-pituitary-adrenal; UV=ultraviolet

Legend: $ < $10 $$ $10–25 $$$ $25–50 $$$$ $50–75

Suggested Readings

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