



ALLERGY & ASTHMA CLINICS OF GEORGIA, P.C.

Adult & Pediatric Allergy
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PATIENT HANDOUT for ECZEMA (also known as ATOPIC DERMATITIS)

What is eczema? Eczema is a chronic condition with acute flares and periods of remission. It is often the first manifestation of a group of allergic disorders that includes **asthma, allergic rhinitis, and food allergy**. The skin affected by eczema usually looks red, dry, and scaly and is extremely itchy. Eczema is not contagious.

How frequent is eczema? Up to 20% of **children** and up to 3% of **adults** are diagnosed with eczema. The condition develops during the first 12 months of life in 75% of children who are affected and clears completely at, or shortly after, puberty in up to 60%.

Where does eczema occur on the body?

- In **children**, the most commonly affected areas are the cheeks, chin, back, stomach, and arms. The hands, feet, and creases of the elbows and knees are also commonly affected.
 - In **adults**, eczema is commonly found on the eyelids, neck, hands and wrists, inside the elbows and behind the knees.
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What is standard therapy for eczema? **Topical steroids** are used for acute flares. There is no evidence for better efficacy of twice compared to *once daily* application. Even short-term use can be associated with side effects, specifically in the face, axillae, and groin. **Children are more susceptible to side effects** in part due to their larger skin surface to body mass ratios.

A topical steroid should never be used for longer than 2 consecutive weeks.

- **Local side effects** include but are not limited to burning, itching, stinging, skin thinning, irreversible stretch marks, changes in skin color that do not always go away, secondary infection, folliculitis, acneiform eruption, perioral dermatitis, and allergic contact dermatitis.
- **Systemic side effects** include but are not limited to high blood glucose and manifestations of Cushing's syndrome.

Betamethasone Dipropionate 0.05% cream (most potent)

Luocinonide 0.05% cream

Triamcinolone 0.025% cream

Hydrocortisone 2.5% cream (least potent)

What is wrap therapy? This approach is for localized and resistant eczema. It entails using **Saran®** plastic wrap to cover treated skin at night. After bathing, a topical steroid is applied to damp skin followed by **Saran®** plastic wrap. This technique serves three purposes:

1. Improved steroid penetration into the skin,
2. Decreased evaporative water loss,
3. Decreased ability to scratch affected area.

The treatment should be targeted for less than **10 days** since **occlusive dressings increase the probability of steroid side effects**.

What are nonsteroidal topical immunomodulators?

- Tacrolimus (**Protopic®**) (\$117 for 30 g & \$385 for 100 g) and
- Pimecrolimus (**Elidel®**) (\$96 for 30 g & \$284 for 100 g)

These nonsteroidal topical immunomodulators are considered by most dermatologists to be safer than topical corticosteroids, particularly when used on eyelids, the face, axillae and groin.

A theoretical risk of immunosuppression, with resultant theoretical progression to skin cancers and lymphoma, prompted the FDA to require a “black box” warning on these products, despite the fact that neither immunosuppression nor carcinogenesis has ever been demonstrated in humans.

While usually not particularly useful as monotherapy for treatment of acute eczema, **Protopic®** and **Elidel®** are effective for **prevention of exacerbations**.

Vitamin B12 cream: A new maintenance treatment for eczema

A double-blind, placebo-controlled clinical trial in adults revealed a continuously progressive beneficial effect of vitamin B12 cream on eczema throughout the treatment phase of 8 weeks (*Br J Dermatol 150: 977, 2004*). Two patients (4%) reported a very good efficacy and a further 26 patients (55%) reported a good efficacy of the vitamin B12 cream.

A recently published trial extended this finding to children with a mean age of 3.6 years (*J Altern Complement Med 15:387, 2009*).

Thus, following treatment of an acute flare of eczema with high-potency steroids, vitamin B12 cream can be tried for maintenance treatment in an attempt to prolong the relapse-free interval.

Patients need to be aware that while topical vitamin B12 appears to have minimal to no adverse effects it is still a new drug which implies that there may be side effects that we do not know about yet.

What moisturizer should I use?

The importance of frequent moisturizing can not be overemphasized as a treatment for eczema. Moisturizers maintain skin hydration and barrier function. Historically, the gold standard has been the thick, petroleum based emollients. These treatments, such as **vaseline**, are occlusive by design and manage to hold the moisture in the skin by physically blocking the evaporative water loss. They should be applied **within 5 minutes of bathing while the skin is still damp**. While most effective, they might be impractical for adolescents and in warmer climates because of their greasy, sticky feel. Moreover, petroleum ointments are oil based and may stain clothes and bed linens.

What can we do to relieve itching?

Over-the-counter **Sarna Ultra®** anti-itch cream is the first choice. It relieves itching associated with dryness and cracked skin.

- Over-the-counter *diphenhydramine* (**Benadryl®**; not expected to be harmful to an unborn baby) and
- Prescription *hydroxyzine* (**Atarax®**, contraindicated in pregnant and nursing women)

Are antihistamines that effectively reduce the itch of hives but *only relieve eczema's itch by causing drowsiness*. The effect of these medications lasts less than 6 hours.

Over-the-counter *cetirazine* (**Zyrtec®**) and *loratadine* (**Claritin®**) or prescription *fexofenadine* (**Allegra®**) are longer-acting, non-sedating antihistamines, given not more than twice a day. These medications work best to control hives and rhinitis, which are frequently associated with eczema.

Unfortunately, non-sedating anti-histamines are of limited benefit for the itch associated with eczema.

Why do we use Antibacterial Agents?

- Children with eczema are heavily colonized with staphylococcus, and the extent of this colonization directly correlates with the disease activity. We address acute infection with either oral or topical antibiotics depending upon the severity of the infection.

We recommend using Cefdinir (Omnicef®) and Mupirocin (Bactroban®, Centany®), respectively, as first line agents.

- In those patients who suffer from chronic, relapsing infection, we suggest weekly ***bleach baths*** to keep colonization counts low and prevent re-infection.

During the last few minutes of the child's bath — remember, bathing should be quick to begin with! - half a cup of household bleach is added to the tub, taking care not to directly contact eyes, nose, or mouth. This preparation is dilute enough not to sting irritated skin, yet potent enough to effectively decrease bacterial colonization.

Bleach baths have never been formally evaluated in eczema, but have proven quite helpful in reducing bacterial transmission rates in third-world nations.

What is narrow-band ultraviolet B (UVB) therapy?

This is an exceptional option, both for its safety and efficacy profile. While relatively slow to start (children will sometimes need several weeks of therapy before a palpable effect is observed), UVB also can have an effect after treatment has ended. Like many systemic treatments in children, there is a conspicuous scarcity of long term data to assess the *possible carcinogenic effect* after short term UVB treatment for eczema. However, the exposure from a targeted UVB session is comparable to a few minutes of full spectrum ambient exposure to the sun.

Roughly 70% of children experience good or excellent clearance with more than 20 UVB treatments. Itch responds before improvement in the rash.