Moisturizers can serve numerous important clinical functions. These may include treatment and prevention of clinically “dry skin,” skin protection, reduction of treatment-associated skin irritation, maintenance of benefits of other therapies, and improvement of stratum corneum health and function, as discussed in the last edition (available online at PracticalDermatologyPeds.com). Moisturizing products achieve these effects through the combination of moisturizing, occlusive, and humectant ingredients. The quality of moisturizers varies tremendously, and it is important that patients and the physicians who make skincare recommendations thoughtfully assess the merits of products. Use of suboptimal formulations can actually be detrimental—whether they contain irritating ingredients or undesirably shift the balance of moisture in the skin.

To facilitate product selection and recommendation, below I highlight some worthwhile but perhaps not as well known moisturizer products that may be suitable for use by pediatric patients. Note that other formulations featuring the same ingredients may be available and of benefit, however, the discussion here is based on the specific formulations mentioned.

**Popular and Pharmacy Brands**

Several popular brands offer moisturizers that are quite effective at a reasonable price point. Aveeno Daily Moisturizing Lotion (Johnson and Johnson Consumer Companies) features colloidal oatmeal (previously discussed in this department), which has a history of use to calm inflammation and itch, as in oatmeal baths, but which is also known to be a natural moisturizer. Specifically, the high concentration of starches and beta-glucans in colloidal oatmeal are thought to attract and hold water. Colloidal oatmeal is also featured in Aveeno Baby Soothing Relief moisture cream and Aveeno Eczema Care. Also from Aveeno is a product marketed primarily to adult women but certainly suitable for use by pediatric patients and individuals of all ages. Aveeno Absolutely Nourishing 24-Hour Ultra Hydrating Whipped Souffle contains colloidal oatmeal along with shea butter, cocoa butter, and antioxidants, including vitamin E, along with other exotic plant and fruit extracts. The product’s consistency is similar to that of a light cream; it is non-greasy and may rub into the skin more readily than some other creams. While cocoa butter has not shown consistent results for treatment of specific conditions, such as reduction or prevention of stretch marks; it has a long history of reliable use as a moisturizer. A very recent study confirms the anti-inflammatory and anti-tumor effects of moisturizing shea butter and shea fat compounds.

Original Keri lotion (Novartis Consumer Health) is now 50 years old and is still a good choice for basic moisturizing. The product features five moisturizers: mineral oil, glycerin, sunflower seed oil, aloe barbadensis (alo vera is a newer more popular designation), and vitamin E oils. In mouse models of AD, skin treated with glycerin-based moisturizer achieved rapid hydration compared to untreated skin. Aloe is a traditional botanical therapy with anti-inflammatory properties that has been shown beneficial in the management of atopic dermatitis. The barrier repair and maintenance effects of sunflower seed oil were recently demonstrated in a study of preterm infants in Bangladesh. Use of inexpensive sunflower seed oil

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**Over-the-Counter Moisturizers Worth Considering**

All moisturizers are not equally beneficial, but several OTC formulations are potentially useful for pediatric patients.

By Jeanine B. Downie, MD
was associated with 41 percent lower risk of developing nosocomial infections compared to controls who used a petrolatum-based moisturizer.6

CeraVe Lotion and Cream (Coria Laboratories) are ceramide-dominant topical formulations that feature multi-vesicular emulsion (MVE) technology. Similar to liposomes, MVEs are concentric lipid shells designed to facilitate slow release of cholesterol and lipids. The formulations contain three types of ceramides, along with cholesterol, and dimethicone, a commonly-used occlusive.7 Dimethicone within a product can sometimes contribute to a sticky or tacky residue, but that is not the case with these formulations. One trial showed that use of CeraVe moisturizing cream and cleanser in conjunction with fluocinonide cream 0.05% reduced disease duration, time to disease clearance, and symptoms compared to use of bar soap plus the same corticosteroid.8

Specialty Brands
Trixera Emollient Bath (Avene) is an oil-based, hypoallergenic, and paraben-free bath oil containing Avene thermal spring water, ceramides, sterols, glycerin, essential fatty acids, coconut oil, and castor oil to restore the hydrolipidic barrier and protect skin from moisture loss. It is hydrating, non-sticky, and easily absorbed and may be particularly beneficial for patients with atopic dermatitis, psoriasis, ichthyosis, xerosis, and lichen simplex chronicus. Recent studies with topical coconut oil show that it has anti-inflammatory and antioxidant actions and that it increased the rate of wound healing in mice.9

Specialty brand Kiehl's Crème de Corps Lightweight Body Lotion offers a patient-friendly alternative to the company’s original Crème de Corps, a moisturizer that is very thick and potentially leaves a sticky residue. The Lightweight Lotion formulation has a light scent and the benefit of providing broad spectrum (UVA and UVB) SPF 30 photoprotection. Moisturizing ingredients are primarily botanically derived and include sesame seed oil, olive oil, jojoba oil, apricot oil, and avocado oil. Topical jojoba oil is anti-inflammatory,10 and there has been substantial study of the beneficial effects of olive oil on the skin, both as an ingested nutrient and as a topically applied moisturizer.11 Comprised primarily of triglycerides, olive oil also contains alpha-tocopherol, phenol compounds, carotenoids, squalene, phytosterols, and chlorophyll.11 Rich in vitamins A, D, and E, avocado oil has been studied as a wound-healing agent in rats, in which it was shown to increase wound healing by three days relative to controls.12

Topical antioxidants in the formulation may work synergistically with sunscreens to enhance photoprotection. Because of the number of ingredients, including fragrance, the product may be a second-line option for patients with very sensitive skin.

Finally, Lierac Hydrofilia fluid body cream is a good moisturizer for very dry, keratotic skin. With urea, mineral oil, glycerin, dimethicone, and vitamin E, it contains both emollients and humectants. Often applied topically as an anti-aging therapy, topical vitamin E is also an anti-inflammatory antioxidant.13 Urea has concentration-dependent keratolytic effects. These desquamating properties may provide a smoother skin surface feel and possibly facilitate the delivery of other topical agents. Urea is associated with decreased transepidermal water loss and some protective effects against known skin irritants.14

Dr. Downie has served as a consultant/lecturer or researcher for Johnson & Johnson.


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