

Winter Dry Skin

—Why People Get It And How They Can Make It Better—

Dry skin is a very common skin problem and is often worse during the winter when environmental humidity is low (i.e., "winter itch"). It can occur at all ages and in people with or without other skin problems. This newsletter discusses the causes of dry skin and how to treat and prevent this problem. We hope you find it useful.

What does dry skin look like? Everyone is familiar to some degree with the appearance of dry skin. The normally fine lines in the skin become more visible, the skin feels rough and appears dull and flaky. In more advanced cases, fish net-like cracks resembling the fine fracture lines of cracked porcelain can occur. Dry skin occurs most commonly on the arms and legs, but can also affect the trunk of the body. Dermatologists often call dry skin "xerosis" or "asteatosis".

Problems associated with dry skin. Dry skin very commonly produces itching, which can be severe and interfere with sleep and other daily activities. Repeated rubbing and scratching can produce areas of thickened, rough skin (lichenification). Dry, thickened skin can crack, especially in areas subject to chronic trauma (e.g., hands and feet), causing painful cracks in the skin (fissures). Dry skin and scratching may result in a dermatitis when the skin becomes red (inflamed) in addition to dry and scaly. Round, scaly, itchy, red patches scattered over the legs, arms and trunk (nummular eczema) may also appear. The appearance of yellow crusts or pus in these areas indicates that a bacterial infection is developing. This would require specific antibiotic therapy from your dermatologist or family physician.

If your skin is very dry, or if you have an associated red dermatitis, it is a good idea to seek the advice of your dermatologist or family physician. Severe dry skin is a feature of certain genetic diseases such as atopic dermatitis and ichthyosis (fish scale-like skin). In addition, people with hormone imbalances such as underactivity of the thyroid gland can also experience severe skin dryness (there are other changes in the body that accompany dry skin in this setting that helps doctors recognize this problem). On occasion red, dry skin rashes can be confused with other skin problems such as a ringworm infection or allergic contact dermatitis (i.e., a poison ivy-like skin rash), which would need different forms of treatment.

What causes dry skin? Healthy skin can be pictured as a multi-layer cake covered by a single sheet of clear plastic food wrap to keep it fresh. The plastic food wrap prevents the frosting and underlying layers of the cake from drying out by preventing loss (evaporation) of the water from the cake into the air. It is the moisture in the cake that gives it its freshness. The outermost layer of the skin, which acts like the plastic food wrap and is about the same thickness, is called the *stratum corneum*. (This is the layer that peels off after a sunburn). The stratum corneum consists of dead skin cells embedded in a mixture of natural oils (lipids) that are made by underlying living skin cells. These natural skin oils keep the water inside our body from escaping into the air and also keep irritating substances and germs from entering the body. Both the skin oils and the dead skin cells hold a certain amount of water in the stratum corneum and it is this stratum corneum water that helps keep the skin soft, pliable and smooth.

Dry skin results when there is not enough water in the stratum corneum for it to function properly. One way this can happen is when protective oils in the stratum corneum are lost and the water that is normally present in the skin is allowed to escape. Too much soapy water, exposure to harsh chemicals, the normal aging process and certain types of skin diseases are some of the causes of decreased amounts of protective skin oils. As the stratum corneum dries out it shrinks and, as it shrinks, small cracks can occur. This exposes the underlying living cells to irritating substances and germs in the environment.

Treatment of dry skin. An important aspect of treatment is to identify and tackle any factors that may be contributing to the dry skin. It is natural to think that applying water alone to dry skin would help control the problem. However, water alone (especially hot water) can actually worsen the problem of dry skin by removing the normal, protective skin oils. Hot, soapy water depletes the natural skin oils to the greatest degree. Anyone who has tried to wash a skillet covered with bacon grease in cold soapy water knows how effective heat is in softening up oils and fats so that they can be washed away. However, water followed by the application of oil such as a moisturizer (also known as an emollient or lubricant) is of great benefit for dry skin. The oil in the moisturizer helps trap and seal water in the stratum corneum and makes the skin softer, smoother and less likely to become dry, cracked and itchy.

A mainstay of management is attention to proper bathing techniques and liberal use of the most effective moisturizers. You should take a short bath or shower (no more than 10 minutes) only once in a 24 hour period. For adults, showers are generally better than baths. While longer baths or showers, especially in hot water, can be quite relaxing, they will also increase the loss of natural oils from the skin and worsen skin dryness. The bath or shower should be in warm rather than hot water. Soap should be used minimally and only when and where needed (for example, under the arms, the groin and genitals, the feet, and the face). Milder, less drying soaps include Dove, Neutrogena Dry Skin Formula (unscented), Aveeno Cleansing Bar for Dry Skin, Purpose, Basis, and Oil of Olay Sensitive Skin Soap. Cetaphil is a liquid cleanser that works as a gentle and effective soap substitute for some people. It is especially helpful for cleaning the face and hands.

After bathing or showering, quickly and gently pat the skin partially dry with a towel (do not rub!). Within three minutes of getting out of the water apply a moisturizer (see discussion of moisturizers below) to seal the water in the skin before it can evaporate. Bath oil, if selected as a moisturizer, can be directly rubbed into the skin after showering or bathing, but should not be added to bath water since this can make the tub dangerously slippery. Moisturizers should

be reapplied liberally during the day and evening when possible especially to those areas prone to dryness (hands, arms, legs) and when itchy.

Treat any red dermatitis (eczematous) patches with a topical cortisone (steroid) cream or ointment for a 5 to 15 day course. Over-the-counter strength cortisone creams and ointments can occasionally be helpful, but prescription strength products are often required to calm down this type of dermatitis. Make sure you understand where the cortisone cream or ointment is to be applied (only on the red patches unless instructed otherwise) and how often you should apply it (no more than twice daily). When using both a cortisone product and a moisturizer, always use the cortisone first and the moisturizer second.

Be careful about using other over-the-counter anti-inflammatory and itch-suppressing creams or lotions. Many of these products contain chemicals that can irritate or cause allergic reactions in dry, dermatitic skin. *A good general rule is if anything that you apply to your skin causes more burning and itching than you started with, you should stop using it until you can talk with your doctor about it.* Anti-itch products containing pramoxine (e.g., Prax, Pramosone) or menthol and camphor (e.g., Sarna) are generally safe to use. However, these products are not treating the cause of skin dryness, they are only temporarily treating the itching that accompanies skin dryness.

Any way that you can increase the humidity level in the air of your home and workplaces would be advisable. If not already present, you should consider adding a humidifier to the central heating system of your home. If you use a portable humidifier, make sure it is used in your bedroom at night.

Use of skin moisturizers (emollients) for long term control and prevention of dry skin. Dry skin is usually a long-term problem that recurs often, especially in winter. When you notice your skin beginning to get dry, resume your moisturizing routine and avoid the use of harsh soaps. If the itchy, dry, skin rash returns, use both the moisturizers and the prescription steroid cream or ointment.

There are basically two types of moisturizers — facial moisturizers and body moisturizers. Most facial moisturizers on the market relate largely to makeup and cosmetic concerns. They are surrounded by considerable mystique and are often outrageously expensive. These products are different than body moisturizers in that they are very carefully designed to avoid causing allergic reactions (hypoallergenic) and flares of acne on the face (non-comedogenic). These types of facial moisturizers will not be discussed further here. While dryness of the skin of the face is usually not a major problem for people during the winter, the use of certain medications such as anti-acne treatments can produce considerable facial dryness in the winter or summer. There are several excellent facial moisturizers that also contain effective sunscreen chemicals that can be used in this setting (Neutrogena Moisture SPF 15 Untinted, Cetaphil Daily Facial Moisturizer SPF 15).

There are four basic classes of body moisturizers — ointments, oils, creams and lotions (listed in decreasing order of moisturizing power). It should be noted that all of the moisturizer products mentioned in this article are available without prescription.

Ointment moisturizers have the greatest ability to trap moisture in the skin, but they have the greasy consistency and feel of Vaseline Petroleum Jelly. People often shy away from using them because of the greasy feel, but this can be minimized by applying a small amount and rubbing it into the skin well. Examples of effective ointment moisturizers include

Aquaphor and plain Vaseline Petroleum Jelly. In addition to brand name moisturizers, some common household products, such as Crisco vegetable shortening, can be used as very inexpensive body moisturizers. Again, the key to using an ointment is to apply small amounts and rub it in well.

Oil moisturizers are less greasy but still effective. Examples of oils that can be applied directly to the skin include baby oil, mineral oil, vegetable oil, and bath oil. Bath oils used in the bath water make the tub too slippery and should not be used. It is preferable to apply bath oils after getting out of the tub or shower, just as you would other moisturizers, directly to damp skin immediately after a light toweling off to partially dry the skin.

Cream moisturizers are usually white and disappear when rubbed into the skin without leaving a greasy feel. As a result they tend to be more popular than ointments. Examples of effective cream moisturizers include Original Eucerin Cream, Aquaphilic, Cetaphil Moisturizing Cream, Vaseline Cream, Eutra/Elta, Nutraderm, Moisturel, Nivea, Nutraplus, Complex-15, Carmol, Pen-Kera, and Neutrogena Hand Cream (especially helpful for dry, chapped hands).

Lotion moisturizers are suspensions of oily chemicals in alcohol and water. Lotion moisturizers are generally the least greasy and the most pleasant to use and therefore are quite popular. However, because of their alcohol content, they can be somewhat drying when used repeatedly compared to ointments and creams. *The bottom line is that if the moisturizer you choose does not feel at least a bit greasy you may not be getting as strong a moisturizer as you might need.* Examples of popular lotion moisturizers include Vaseline Intensive Care, Nutraderm Keri, Lubriderm, Curel, and Complex 15, Nivea, U-Lactin, Neutrogena, Nutraplus, Eutra Lite, Moisturel, Complex-15, Lac-Hydrin 5. There are many other cream and lotion moisturizers on the market that have not been listed here because of space constraints. We have chosen to list some of the more popular products and those more often recommended by dermatologists.

Some moisturizers contain chemicals that can cause skin irritation or allergic reactions in some people (e.g., fragrances, preservatives, alpha hydroxyacids, urea, sunscreens). Thus, if one brand of moisturizer gives you problems, try another in the same class that has a different set of ingredients. Within a given moisturizer class, the choice of which one to use is a matter of personal preference. Generally speaking, the greasier the feel of the moisturizer, the more it traps and holds water in the skin. *To be fully effective, it is necessary to use a moisturizer three or more times daily, in the same way that chapped hands in the winter need many treatments.* As mentioned before, the most important time during the day to use a body moisturizer is right after a short lukewarm bath or shower.

Everyone in our department hopes that the information presented above will help you, your family, or someone else you know to get through the winter season with less dry and itchy skin than ever before.

Some material for this newsletter was excerpted from the following Internet sites that we consider to be reliable:

<http://www.dermnet.org.nz/index.html>;

<http://www.kaiserpermanente.org/toyourhealth/library/skintypes.html>;

http://my.webmd.com/content/asset/adam_symptoms_dry_skin