

DRY SKIN MANAGEMENT

FACTS:

- ◆ Dry skin (rough, dry and sometimes redness or scaly skin) is a common condition that can impact one's level of discomfort and quality of life. Patients may experience symptoms of itching (can affect sleep & cause irritability), tightness, pain, tingling, or stinging.
- ◆ Our skin is divided into 3 main tissue areas or layers: the hypodermis (storage of fat), the dermis (middle layer; rich in blood & nerve supply) and the outermost layer the epidermis.
- ◆ Our skin protects the body from physical and chemical harm and to prevent loss of water and other substances. If water is lost and our skin becomes dry, it loses its ability to function and irritating symptoms result.
- ◆ Most common areas of the body impacted by dry skin are lower legs, arms, sides of abdomen, thighs & scalp.
- ◆ Causes of dry skin include: **low humidity in the air**, air conditioning and cold weather; warm/hot weather or heated environments; **ultraviolet radiation** (sun); exposure to cigarette smoke or other pollutants; constant contact with skin irritants or exposure to chemicals or allergens; abrasion and friction from clothing; frequent showers or baths (breaks down lipid behavior); excessive washing; use of harsh soaps; excessive swimming in a chlorinated pool; windy weather; excessive alcohol ingestion; **low levels of sodium, chloride, lactate & potassium**, impact of certain foods or medications (i.e. daily Vitamin A intake above 100,000 units) or genetics (predisposed to dry skin).
- ◆ Dry skin may be the manifestation of an underlying chronic skin disorder, such as atopic dermatitis or eczema (inflammation; intense itching sensation; most common in children), seborrheic dermatitis (inflammation; redness & scaling eruptions; common in infants & young adults) or psoriasis (distinct psoriatic plaques; autoimmune disease), sunstroke or underlying medical conditions such as diabetes, kidney disease, thyroid disorders (decreased activity of sweat & oil glands) or fungal infection (i.e. jock rash or ringworm).
- ◆ Skin health is deeply impacted by exposure to many environmental factors over years, especially ultraviolet radiation. As skin ages, collagen and elastic fibers **decrease** along with total skin thickness. This results in a decrease in water and lipid content (harder for skin to retain water), decreased sebum production (oily/waxy matter) and decreased sweating (atrophy of sweat glands). The **elderly** are impacted more by these changes than other age groups. Up to 85% of seniors experience dry skin and many are confronted with painful **fissures (skin tears) called "the winter itch" (often appears on the lower leg region)**. The condition may be aggravated by the colder weather, low humidity, indoor heating, soaps and cleaners. Winter itch can take 3 to 4 weeks to develop after the onset of cold weather and then 3 to 4 weeks to resolve as the weather gets warmer. The elderly also take longer to heal from an injury that impacts the skin.
- ◆ The major cause of wrinkles is the breakdown of fibers in the skin by the sun's ultraviolet light. This causes the skin to lose its natural ability to snap back after stretching. Gravity then pulls on the skin and causes it to sag.

Cigarette smoking heavily contributes to wrinkles. According to the American Academy of Dermatology, over-the-counter “wrinkle creams and lotions” claiming to revitalize aging skin, may soothe dry skin, but they do little or nothing to reverse wrinkles. At this time, the only products approved by the FDA to treat signs of sun-damaged or aging skin are **tretinoin cream and carbon dioxide (CO₂) and erbium (Er:YAG) lasers**. However, these products don’t eliminate wrinkles, repair sun-damaged skin or restore skin to its healthier, younger structure”. The FDA currently is studying the safety of alpha hydroxyl acids (AHAs) which are heavily promoted to reduce wrinkles, spots and signs of aging

- ◆ **Skin cancer** is the most common type of cancer in the United States (90% of cases are basal cell carcinomas). 40-50% of Americans who live up to age 65 will have skin cancer at least once. Fair skin and individuals with freckles are at highest risk

Artificial sources of UV radiation such as sunlamps and tanning booths can cause skin cancer. People living in areas with high levels of UV radiation like Florida & Texas are more likely to get skin cancer

MANAGEMENT OF DRY SKIN:

The American Academy of Dermatologists recommends a **daily routine** for general skin care. This includes **cleansing, moisturizing, and using sunscreen (also wearing a hat & avoiding mid-day sun helpful)**. While adherence to the routine won't prevent or heal all conditions, it will decrease the damage to the skin and will help keep the skin well hydrated.

Even though chronic skin conditions are often treated with topical agents like corticosteroids, experts strongly recommend that patients maintain a strict daily routine of **non-pharmacologic treatments**.

All patients with dry skin must try to **drink at eight (8) glasses of water each day, should ensure that house and workplace air is adequately humidified** and should try to limit baths or showers (especially during winter months) to **2 to 3 times per week in tepid water**, no warmer than 90oF. Recommended total time in water is 3-5 minutes with bath oil added to bath water towards the end of the bath to increase skin hydration.

After exiting the bath or shower, the patient should **pat the skin dry** and apply moisturizer (**unscented best**) within three (3) minutes. Some experts recommend applying moisturizer directly to **wet skin** especially in damaged areas.

Moisturizer should be applied generously and may be continued throughout the day. **Moisturizers must be used indefinitely to prevent recurrence of dry skin. Hence, no quick fix for healing dry skin.**

MAKE-UP OF SKIN FORMULATIONS:

The base or vehicle of topical formulations has therapeutic properties and the proper choice is important for treatment. Creams, ointments, gels, pastes and liquid preparations are used depending on where the product is to be applied or what works best for the patient. Body moisturizers are most commonly **lotion** based and provide easily spreadable product, especially in hair-bearing areas.

Moisturizers generally consist of **60% to 80% water**, lipids, emulsifiers, humectants, preservatives, fragrance, color and sometimes special additives like vitamins (no benefits). Topical products mostly differ by the addition of different fragrances, color, and special additives.

Humectants are among the most important properties in choosing a topical product. Humectants **hydrate the skin** by increasing its water binding capacity and improving the degree of skin hydration. Alpha-hydroxy acids (**AHAs**) are a group of humectants that consists of **lactic acid, glycolic acid and tartaric acid**. Ranges of up to **12% lactic acid** is the most common used AHA in the treatment of dry skin (AHA products, however, do have a **greater sensitivity to sun**). **Glycerin (or glycerol)** has smoothing properties, is hygroscopic (absorbs & retains moisture) and helps to maintain lipids in liquid crystalline. **Propylene glycol (PG)** is an alcohol humectant which attracts water and is often added into cosmetics and pharmaceuticals to stabilize substances that are **unstable in water**.

Lipids in moisturizers provide occlusion, **reducing the loss of water from the skin**. Most moisturizers are either water-in-oil (W/O) or **ointments** like Lanolin or Petrolatum, oil-in-water (O/W) emulsions (creams) or **lotions** (powdered crystals dissolved in water; high water content; cool on skin; less greasy but **lower protection qualities**). W/O emulsions have an oil content that can vary by 15% to 30%. They tend to be greasier & more resistant to washing off after application (can apply less often). **Most patients prefer O/W preparations**, as they are more esthetically acceptable, spreading more easily and absorbing more quickly into the skin (does, however, require application more often). Common oil or lipid materials found in moisturizers include **mono-, di- and triglycerides, waxes, esters, petrolatum, fatty acids, lanolin and mineral oil**.

Urea is a keratolytic that increases the water-binding capacity and elasticity of the skin. A concentration of 10% is used on mild dry skin and up to 30% for more severe or resistant dry skin. Urea-based topical lotions and creams may be beneficial in removing crust lesions and scales. Emollient ointments are better at rehydrating the skin. Common side effects with urea-based products include mild stinging or burning, especially where skin is broken (start with a small amount of product to begin).

Astringents, such as aluminum acetate (Burrow's solution) or witch hazel, reduce the blood flow to the underlying area and can be used to treat **seriously** damaged and dry skin for short-term use (no more than 3 days; will reduce oozing or bleeding in damaged areas of the skin). A tense moisturizing routine should follow use of an astringent.

Antihistamines should be reserved as a last option for treating itching associated with dry skin (may take a few days for itching to subside). Use of **topical corticosteroids** has a limited role in the treatment of dry skin. They may help to relief itching, but they do not play a role in treatment of the underlying causes and the long-term effects can be undesirable (i.e. atrophy of the skin). If used, therapy should be only for a short period of time (less than 1 week) and the focus should be on moisturizing the skin appropriately.

COMMON PRODUCTS USED FOR DRY SKIN:

Petroleum Jelly (straight): Low cost. Used for ages. Seals off wounds & keeps dirt & irritants out. Helps to trap moisture into the skin (good for dry spots). **Doesn't** help to heal cuts and burns. Great for after a shower or bath at night.

Aquaphor (Eucerin) Ointment: glycerin, mineral oil & cressin in 41% petroleum base. Fragrance free. Used for dry skin, baby bottoms (doesn't help with itching), moisturizing tattoos & soothes irritated skin due to radiation treatments & dermatitis.

Zinc Oxide Ointment: Low cost. Used for baby bottoms (does help with itching) & total skin sun blocker. Not esthetically pleasing (stark white paste appearance) & hard to wash off.

Calmoseptine Ointment: Contains 20.6% Zinc Oxide; 0.44% Menthol & inactive calamine, glycerin, phenol, thymol and lanolin.

Aloe Vera Gel or Juice: Natural product used around the world (no dyes, fragrances or irritants). Excellent moisturizer, soothes skin & exfoliates (removes dead skin). Not greasy. First aid treatment for kids (cuts, scraps or burns). Sap from a live Aloe Vera plant has powerful antioxidants; anti-inflammatory properties & helps with itching. Often lanolin-based products include aloe vera in their formulations.

Vaseline Intensive Care Body Lotion or Cream: water, glycerin & petroleum.

Amlactin Lotion (12% lactic acid): Ph balanced, gently encourages natural skin cell renewal through exfoliation & **increases ones sensitivity to sun**. Also includes water, ammonium lactate, mineral oil, propylene glycol & glycerin.

Lubiderm Lotion: water, mineral oil and glycerin.

Cetaphil Lotion, Cream or Ointment: Fragrance-free. Lotion (high water; glycerin; sweet almond oil) provides light weight hydration & is non-greasy. Good product for dry & sensitive skin especially face. Cream formulation used for atopic dermatitis and eczema.

Neutrogena Lotion, Cream or Ointment products. Fragrance-free hand crème for cracked and dry hands and fingers highly recommended by pharmacists (pea size amount soaked into affected area throughout the day).

Nivea Cream: Water, glycerin, natural lotus extract & L-Carnitine. Manufacturer claims that it "tones the skin to visible reduce the appearance of cellulite within 2 weeks of daily use".

Noxzema Cream: Water, propylene glycol, eucalyptus oil, soybean oil & linseed oil. Removes dirt, oil and **make-up** without over drying.

Gold Bond Anti-Itch Lotion: Skin protector that includes Dimethicone 5%, Menthol 5%, Aloe Leaf Juice & Pramoxine 1%. **Gold Bond Ultimate Lotion** which is used to soften rough, dry skin includes water, glycerin, urea, shea butter & Aloe Juice.

Olay Cream or Lotion: Water, glycerin, oxidized polyethylene and salicylic acid.

Aveeno Cream, Lotion & Bath Treatment: The #1 lotion sold in the United States comes in many different formulation (with seaweed extract; for eczema, etc.) but all products contain a unique Natural Colloidal or ultra-fine Oatmeal powder which claims to hold in moisture and relief dry, irritated skin.

Special Soaps for sensitive skin such as **Basis** which contains glycerin (Pears and Neutrogena also), chamomile, Aloe Vera and Beeswax. Glycerin soap on face **doesn't alter Ph.** of skin.

Most commercial soaps are irritating to skin and should be avoided. Ivory soap is especially not recommended. **Dove soaps** appear to be better.

ALTERNATIVE AND NATURAL TREATMENTS:

Adequate **hydration** and ensuring that moisture in your indoor air is replenished (humidifier; bowls on radiators; simmering tea kettles; houseplants) remains the #1 natural therapy for dry skin.

Cocoa butter, butter, lanolin, petroleum jelly, olive oil, safflower oil, apricot oil and papaya blossoms in oil are all safe and effective moisturizers. Apply after washing with warm water. Let stand for 15 minutes and wipe off excess.

Herbs can be added to safflower, sunflower or almond oil to make more extensive homemade moisturizers. Marigold and comfrey are good for chapped or irritated skin. Elder or lime blossoms whiten and soften. Mint and chamomile are antiseptic. Marshmallow root and Irish moss soften the skin.

Milk and Honey: Safe and effective for any part of the body including the scalp. Combined product soothes, moisturizes and exfoliates. Excellent for dry skin, facial masks and burns.

Olive Oil (extra-Virgin): Safe and effective for all parts of the body and scalp. Can add a tablespoonful directly into a bath with or without an essential oil like lavender. Antioxidants in olive oil help to protect and repair skin from the damage of free radicals.

For dry, itching or flaky scalps, use a conditioner after shampooing, use cool water as final rinse and consider rinsing with Apple Cider Vinegar (ACV Rinse), applying a Brown Sugar paste or scrub (mix olive oil and brown sugar to form a paste; part your hair in sections and apply paste to the entire scalp; massage paste into scalp for 5 minutes; shampoo, condition; cool water rinse) or massaging two tablespoons of lemon juice into the scalp and leaving on for 5-20 minutes. Also, do a couple of extensive scalp massages per week and moisturize your hair at least one to two times a day (lemon juice with olive oil is one safe option).

For itchy skin, add vinegar to your bath water and take 2 tablespoonful of vegetable oil daily. Helpful herbs include yarrow, violet and marjoram. Dry brush massage your skin, to tone it up.

Cut out all greases and other saturated fatty acids from your diet. Add to your diet, **unsaturated fatty acids** (uncooked vegetable oils, such as wheat germ oil, flaxseed oil, sesame seed oil, corn oil, and soy oil; make sure oil is not rancid), take antioxidant Vitamin E (8-1,200 units) and Vitamin A (NOT more than 50,000 units) daily. Drink Carrot Juice regularly and take a **multi-vitamin** that contains zinc, B complex, Vitamins A, C & E and selenium. Consider adding Omega-3 Fatty Acids or Flaxseed Oil to supplement your diet.

For chafing, wear cotton clothes, not synthetics. Wash new inner clothing before you wear it. Do not wear coarse cloth next to the skin.

Pour 2 cups of oatmeal (ground to a fine powder) into a bathtub of warm water. Tie some oatmeal in a washcloth and, then, use it as a washcloth. **Oatmeal is very soothing to the body, fragrance free and natural.** Simply empty packets or cups into running water and let your body absorb the oatmeal by soaking in the bath for at least 15 minutes. After soaking, pat dry and apply a quality moisturizer to damp skin. Oatmeal can also be mixed with vanilla extract and baking soda (add to one cup of warm water to melt the powder) and then added to bath for a 30-40 minute soak

Use **traditional or glycerin-based soap as little as possible.** Soap, in general, is relatively harsh to the skin and is a drying surfactant. Substitute soap that contains cocoa butter, coconut oil, or another vegetable oil. They don't clean as well, but are more soothing to the skin. Also, use a **body wash**

after showering, cold cream and try a vinegar rinse (1 tablespoon cider vinegar mixed to a quart of warm water) instead of an alcohol based toner (dries the skin) after cleaning your face or body part.

Skin brushing (NOT for infants or children) eliminates toxins, cleans clogged pores and promotes healing by stimulating nerve endings. Brushing helps exfoliate the top layer of skin, exposing a newer, healthier layer. Body brushes with stiff, compact bristles will provide the most exfoliation. Cover the affected area with a light layer of olive, coconut or almond oil and brush in a circular motion. Rinse with cool water, pat dry and follow with a thick moisturizer.

Mix one tablespoonful of olive oil and a 1/2 tablespoonful of lemon juice with **one beaten egg (with yolk)**. Let mixture cool and spread it on any dry areas. Skip lemon juice if skin is raw or very sensitive.

Diluted **Essential Oils** (NOT for infants) are often added to bath water but they can be most effective with moist heat. Moist heat or steaming helps open and clean pores; essential oils (Lavender rose & Sandalwood Oils best; peppermint leaves, orange blossoms, rosemary, chamomile, thyme, rose leaves and rose hips also effective) lightly moisturize and are absorbed readily into warm skin. Pour a half gallon of boiling water into a wide bowl and add three drops of essential oil. Put a towel over your head (face peeking through) and lean over the bowl, inhaling the steam.

Remove dried flaky dead skin weekly with a smoothing mixture such as ground almonds or apricot seeds, oatmeal, bran, cornmeal, wheat germ, brewer's yeast or mashed papaya.

Fruit helps to soften, repair and tone your skin (great face mask; can help the appearance of stretch marks & reduce the effects of psoriasis). Best mixture: one large banana, one peach & one avocado. Apply to skin and let it settle for 20 minutes. When mixture has dried, rinse off, in a circular motion, with warm water. Apply raw honey or olive oil as a natural moisturizer.

Slightly cooked carrots (pureed), avocado, Miracle Whip and Cherry Pulp are also used as a **safe facial masks**. For extra help with exfoliation (removing dead skin), try Kosher salt with coconut, almond or olive oil.

Add leafy greens, broccoli, squash, apricots, cantaloupe and other **foods rich in vitamin A** to your diet. Keeping a **daily food journal** can be helpful to identify habits and patterns.

To help keep skin moist throughout the day, consider carrying with you water or mineral water, Aloe Vera or essential oil **mister**.

Pay careful attention to the laundry detergents used for washing. Can be highly allergenic. Tide Free or All Free products appear ok for most patients. Be careful in drying or over-drying clothes especially bed sheets

Stress management techniques can be helpful to assist with skin management along with acupressure and acupuncture treatment.

In Ayurvedic medicine oil enemas are used to help remove toxins from the body.