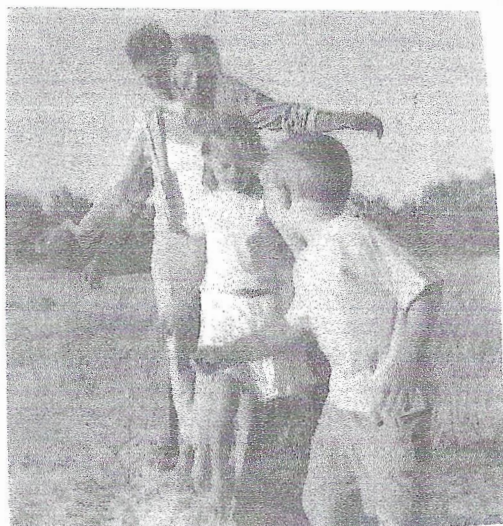


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SKIN IS A MIRACLE

Leaders Guide



Developed for Oregon FCE by Sandie Bolyard

Leaders Guide

July, 2007

INCLUDE HF#26

Layers of skin

Epidermis is the guard, the outermost and thinnest layer, it's responsible for protecting you from the harsh environment and serves as a barrier to infection, and it forms the waterproof, protective wrap over the body's surface. Most of the cells in your epidermis (95%) work to make new skin cells, the other 5% makes a substance called Melanin which gives skin its color, the darker your skin the more melanin you have. When you go out in the sun these cells make extra melanin to protect you from getting burned by the sun's ultraviolet or UV rays. But even though melanin is mighty, it can't shield you all by itself, you need to wear sunscreen and protective clothing and a hat. Protecting your skin can help prevent skin cancer.

Dermis is the middle layer, this is the layer that consists of connective tissue and cushions the body from stress and strain. This is also the layer responsible for wrinkles. The dermis is a complex combination of blood vessels, hair follicles and sebaceous (oil) glands. Here you will find collagen and elastin, two proteins necessary for skin health because they offer support and elasticity. This layer also contains pain and touch receptors.

The dermis is also full of tiny **blood vessels**, these keep your skin cells healthy by bringing the oxygen and nutrients they need and take away waste.

The dermis is home to the oil glands and they are always producing **sebum**, which is your skin's own natural oil. It rises to the surface of your epidermis to keep your skin lubricated and protected. It also makes your skin waterproof, as long as sebum is being produced; your skin won't absorb water and get soggy.

You also have sweat glands on your epidermis. Even though you can't feel it, you actually sweat a tiny bit all the time. The sweat comes up through **pores**, tiny holes in the skin that allow it to escape.

Hypodermis is the (**subcutaneous**) fat layer, it consists of loose connective tissue and elastin. Its purpose is to attach the skin to underlying bone and muscle as well as supplying it with blood vessels and nerves. Reduction of this layer is what contributes to sagging skin. It holds sweat glands, and fat and collagen cells and is responsible for conserving your body's heat and protecting your vital inner organs, also helps your body stay warm and absorb shocks.

This layer is where you will find the start of hair, which grows out of a tiny tube in the skin called a **follicle**. You have hair follicles all over your body and you have more follicles in some places than in others, there are over 100,000 follicles on your head alone.

❖ To learn more about skin proteins and their functions see page 1 of member handout.

Skin can warm and cool you

Your skin can help if you are feeling too hot or too cold. Your body is pretty smart; it knows how to keep your temperature around 98.6 degrees to keep you and your cells healthy. Your skin can respond to messages sent out by your **hypothalamus**, the brain's inner thermometer. If you have been running around on a hot day, your blood vessels get the signal from the hypothalamus to release some of your body's heat. They do this by bringing warm blood closer to the surface. That's why you sometimes get a red face when you run around.

To cool you down, sweat glands (about 2 million) distributed all over your body swing into action by making lots of sweat to release body heat into the air. Sweat glands are very important because if our temperature raises by 7 or 8 degrees and remains there for any length of time, a person will almost certainly die.

When you are cold, your blood vessels keep your body from losing heat by narrowing as much as possible and keeping warm blood away from the skin's surface.

The skin is considered the outside indicator of inside health, and putting expensive creams, lotions and treatments on the outside of the skin can't alleviate problems that stem from inner nutritional deficiencies.

Consuming the right foods and avoiding the wrong ones can reveal beautiful, youthful-looking skin without the high price tag of expensive cosmetics.

People who eat and drink raw vegetables and fruits have skin that glows. On the other hand those who eat mostly processed, refined or cooked foods have skin that ages rapidly. So be sure to include raw foods in your diet on a daily basis if you want great looking skin.

❖ (See page 3 of member handout for a recipe for a fruit smoothie.)

Drink plenty of water to keep your skin hydrated, young and healthy looking. Water in caffeinated or sugary beverages does not count; water intake must be from pure, clean water, which rejuvenates skin cells. Water both hydrates cells and helps them move toxins out and nutrients in. When the skin is properly hydrated, it sweats more efficiently, which helps keep the skin clean and clear.

Get ample sleep, most of the body's repair and rejuvenation occurs while you sleep.

Exercise regularly, In addition to toning your body and lifting your spirits, regular exercise enhances the color and texture of your skin. Exercise improves circulation, which means more blood flows to your skin, bringing with it added oxygen and nutrients. This increased blood flow nourishes your skin cells, giving you that healthy glow.

Possible harmful effects: As the protective barrier between you and your environment, your skin is subjected to continual abuse as you exercise. Your skin is assaulted by abrasions, friction, pollutants, wind, heat, cold and sun. These environmental stresses can damage skin and increase your skin's susceptibility to infections.

As much as possible, limit your exposure between 10 am and 3 pm. The sun's rays are most intense during these hours.

Avoid skin cancers:

Skin cancer is an increasingly common condition, in part attributed to increased exposure to ultraviolet radiation. More than 1 million new cases of skin cancer are diagnosed every year, and the sun is the major culprit. Apply sunscreen at least 30 minutes before you go out into the sun and reapply often, don't forget your lip balm, skin cancers occur commonly on the lips.

Skin cancer isn't the only reason to shun the sun, the wrinkling you get from sun exposure causes deeper, more visible wrinkles.

Avoid tanning booths, no tan is a safe tan, your skin tans only as a reaction to damage.

- ❖ You will find more information on skin conditions and the different types of cancers in the Hearth Fire # 23 booklet.
- ❖ See page 3 of member's handout for vitamins for healthy skin.
- ❖ See page 2 for natural facial treatments.
- ❖ You can find a lot more information on the site in the bibliography.

Skin is truly a miracle, engineered by God. Take care of it and it will take care of you.

SKIN IS A MIRACLE

Leaders Guide

Use the National FCE Heart Fire lesson # 23 “More Than Skin Deep”

What would you be like without skin?

The answer is quite simply, a big squishy mess. Your skin is like a very large container and without it, all your delicate insides would spill out.

So, what is Skin?

Skin is a miracle garment. It's soft, pliable, strong, waterproof, and self-healing it insulates you against all kinds of bumps, bangs and wear and tear. It keeps germs out (unless you have a cut) and keeps your body fluids and salts in.

Skin manufactures and oozes out all sorts of wonderful liquids. Waxes and oils act as your body's natural waterproofing and a protector against germs. They make your skin softer, but they can also give you pimples.

Your skin also contains glands, which manufacture sweat, which cools your body through evaporation; it also is a convenient way to get rid of toxins.

How does it do all this?

Skin is alive, it is made of many thin sheets of layers of thin flat, stacked cells in which you'll find nerves, blood vessels, hair follicles, glands, and sensory receptors.

Older cells are constantly being pushed to the surface by new cells, which grow from below. When the old ones reach the top, they become wider and flatter as they get rubbed and worn by all your activity. And sooner or later they end up popping off like tiles blown from a roof in a strong wind. In fact every minute 30,000 to 40,000 dead skin cells fall from your body. In approximately a month's time, your body has made a whole new layer of skin cells.

You are likely to shed about 40 pounds of skin in a lifetime.

The human skin is considered the largest organ of the body (about 16% of your body weight), and covers an area of 20 square feet, and weighs approximately 6 pounds. Your skin has many different protective and metabolic functions that help keep your body stabilized.

In one square inch, you will find 19 million cells, 625 sweat glands, 90 oil glands, 65 hairs, 19 feet of blood vessels, and 19,000 sensory cells.

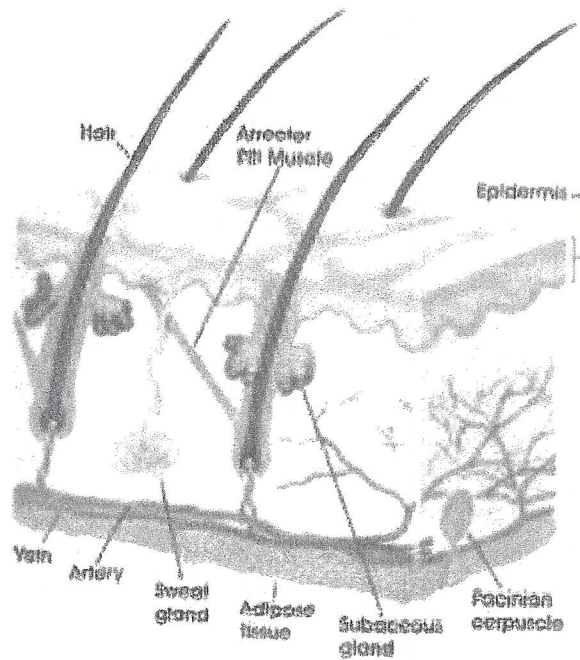
Functions of skin:

One of the most important functions of skin is that it contains our sense of touch. Receptors located at the ends of nerve fibers are used to detect stimuli and convert them into neural impulses to be sent to the brain through the central nervous systems.

Receptors are also located in the internal organs, muscles and skeletal joints, and can detect information such as the temperature of a cup of coffee or the roughness of sandpaper. Although we touch with our epidermis (the outer layer), the sense of touch actually is recorded in the dermis (the inner layer) and passed on to the central nervous system.

SKIN IS A MIRACLE

Members Handout



Skin is a miracle Member Handout

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The skins proteins

Collagen: It's the most abundant protein in the skin, making up 75% of your skin. This is also your fountain of youth, for it is responsible for warding off wrinkles and fine lines. Over time, environmental factors and aging diminish your body's ability to produce collagen.

Elastin: Think elastic. This protein is found with collagen in the dermis. It's another protein, responsible for giving structure to your skin and organs. As with collagen, elastin is affected by time and the elements. Diminished levels of this protein cause your skin to wrinkle and sag.

Keratin: This dominant protein in your skin makes up hair, nails and the surface layer of skin. Keratin is what forms the rigidity of your skin.

As skin ages, it becomes thinner and more easily damaged. Intensifying this effect is the decreasing ability of skin to heal itself. Skin sagging is caused by the fall of elasticity; skin also receives less blood flow and lower gland activity.

Homegrown facial treatments:

There may be plenty of peaches in your favorite night cream, but it's also filled with chemicals to maintain its shelf life. If you want a more natural way to pamper your face, try treatments created from homegrown garden ingredients. Pamper yourself with these homegrown facial treatments.

When creating your own lotions, always work with clean equipment. Use fruits and vegetables that have not been sprayed with toxic chemicals, and refrigerate leftover products no longer than two days. If your skin is sensitive, spot-test the product on the inside of your arm.

Calming chamomile toner: Chamomile's antiseptic oil stimulates repair and has a soothing, anti-inflammatory effect on the skin. Place a generous hand-full of fresh, thoroughly cleaned chamomile flowers in 2 cups of boiling water. Let it steep and cool, then strain. Pour the liquid into an ice cube tray and freeze. Wrap a cube in a handkerchief and rub gently on cleansed skin for a refreshing toner.

Heavenly herbal steaming: Steam softens the skin, stimulates circulation, and activates the sweat glands. Place a generous handful of fresh herbs in a large pot and bring to a boil. (Lavender, chamomile and lemon balm works well for dry or normal skin). Rosemary and sage are good choices for oily skin.) Remove the pot from the heat and let water cool slightly. Grape a large towel over your head and shoulders to form a tent and trap steam. Close your eyes, bend over the pot (no closer than 12 inches), and steam your face for five to seven minutes. Let your skin air-dry before applying a moisturizer.

Under-eye soother: The sensitive skin under the eyes often becomes puffy from irritation or lack of sleep. Mineral rich potatoes have soothing, anti-inflammatory properties, reducing puffiness and lightening dark circles. Divide a peeled, finely grated potato into two small cheesecloth sacks, lie down, close eyes and place the sacks under your eyes. Relax for 10 minutes. Rinse your face with tepid water.

Cool as a cucumber toner: Cucumber has a cooling, soothing effect on the skin and makes a perfect pH-balanced skin toner. Cut a large, peeled cucumber into cubes. Place in 2 cups of water. Bring to a boil and simmer for 15 minutes. Cool, strain and press through cheesecloth or a very fine sieve. Using a cotton ball, gently apply the liquid to your face. Allow it to dry before applying moisturizer.

Colorful carrot facial: Carrots are full of vitamin A which helps maintain healthy skin, protein-rich mayonnaise is naturally soothing and nourishing to the skin. Mix ½ cup of peeled, grated carrot with 1½ teaspoons of mayonnaise. Spread on your face, avoiding eyes, and leave in place for 10 minutes. Rinse your face with tepid water and pat dry.

Hydrating pear mask: Pears are an excellent source of sorbitol, a substance that helps keep skin hydrated. Puree or mash a ripe, peeled pear with 1 teaspoon of olive oil, which is rich in anti-oxidants. Apply to your face, avoiding eyes. Keep in place for 10 minutes before washing off.

Peachy exfoliating mask: Peaches, plums and nectarines contain alpha-hydroxy acids, which help purge excess dirt and oils from your pores. Honey has antibacterial properties, drawing blemishes to the skin's surface. Cut up one large peach and steam in a small amount of water until soft. Drain, cool, and mash with a fork. Add 1 tablespoon of regular oatmeal (which is rich in minerals) for thickening. Apply mask to face skin and keep in place for 10 minutes. Rinse well with tepid water before applying moisturizer.

Guacamole mask: The next time your vitamin rich avocado looks pathetically past its prime, mash it and slather it on your face. Leave it in place for 10 minutes for a moisturizing, green-goddess mask.

Eat your Way to more beautiful skin

Some vitamins in creams can help improve your complexion, but some of the chemicals in creams can harm some peoples skin, if you really want to have beautiful skin, start on the inside. Although acne and wrinkles have different causes, nutrition can help minimize or prevent both these problems and enhance your skin's natural beauty.

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The best defense against the free radical damage of oxidation is a diet rich in antioxidant vitamins and minerals and plenty of water.

Vitamin C: Vitamin C is involved in collagen production and protecting cells from free radical damage. Replenish your skin's vitamin C stores by eating plenty of Vitamin C rich fruits and vegetables on a daily basis. Good sources include peppers (red/green/yellow), oranges, strawberries, lemons and broccoli.

Vitamin E: Vitamin E helps protect cell membranes and guard against UV radiation damage. Eat plenty of vitamin E rich foods such as wheat germ, fortified cereals, nuts and seeds.

Beta-Carotene: Beta-Carotene is converted to vitamin A in the body. It is involved in the growth and repair of body tissues and may protect against sun damage. Foods like sweet potato, pumpkin, carrots, mangos and apricots are great for your skin.

Selenium: Selenium helps safeguard the skin from sun damage and delays aging by protecting quality and elasticity. Dietary selenium has been shown to reduce sun damage, and even to prevent some skin cancers. Food sources include Brazil nuts, tuna (canned in water) crab and wheat germ.

Omega-3 fats: Healthy fats known as omega-3 fatty acids help maintain cell membranes so that they are effective barriers allowing water and nutrients in, and keeping toxins out. Omega-3 also seems to be able to protect skin against sun damage. Good food sources include: oily fish, sardines, flaxseeds and walnuts.

Smoothie

This smoothie is full of complexion-friendly nutrients, Vitamin A and E, Beta-Carotene. Selenium and Omega-3. Serves two

2 cold oranges, peeled and cut into sections

½ chopped mango, cold

1.2 cup sliced frozen (unsweetened) strawberries

1 medium carrot, peeled, shredded

1.2 cup plain, non-fat yogurt, chilled

2 tablespoons wheat germ

2 tablespoons ground flaxseed

1 tablespoon fresh lemon juice

1 tablespoon granulated sugar

Place all ingredients in a blender or food processor and blend until smooth

Bibliography:

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