

Caring for Aging Skin: Participant Handout



Introduction

In this lesson we will look at what causes changes in the skin as we age as well as different techniques to preserve skin quality. We will also look at treatments to prevent or address skin damage and pre-cancerous cells. Most of us have probably observed signs of aging in our skin—wrinkles, skin spots, red patches, softness in areas that used to be firm—these are natural signs of aging. However, we can slow down or minimize some of these changes and identify potentially dangerous skin problems with simple, consistent practices.

Description of Skin & Effects of Aging

The outermost layer of skin is called the epidermis. It is flexible and resistant, and provides a waterproof/water resistant covering. It protects us from water loss, and regulates gas exchange. It also helps to protect the body from trauma and eliminates body waste in the form of sweat. The skin is a barrier to pathogens and other harmful materials. Because it is naturally acidic it combats bacteria and germs that we encounter every day.

The sensory receptors in skin detect pressure, temperature, pain and other sensations. Some parts of our bodies have thicker layers of epidermis than others, for example the palms of our hands and the soles of our feet. The thinnest epidermal layer is on our eyelids.

Melanocytes, which produce skin color pigment are scattered throughout the basal layer of the epidermis. They help to filter out ultraviolet radiation. Exposure of the skin to sunlight for as little as 15 minutes a day allows skin cells to produce Vitamin D which works with calcium to strengthen bones.

Our skin becomes more delicate as we age, thinning out, losing fat, and losing elasticity. It no longer looks as smooth and plump as it used to. Veins can be seen more easily. Scratches, cuts and bruises take longer to heal. In addition, we lose sweat and oil glands making skin drier. The number of melanocytes also decreases so skin is less able to protect itself from the sun. Years of exposure to sun and dry air lead to wrinkles, dryness, age spots and sometimes cancer. In our 30s we need to use daily moisturizer and sunscreen to protect our skin. In our 40s and beyond we continue to need moisturizer and sunscreen and we may want to consider using lotions or creams with alpha-hydroxy acids or retinols to reduce wrinkles, reveal smoother underlying skin, and enhance skin tone.

Basic Skin Care

A basic skin care regime involves using a cleanser, a moisturizer and sunscreen. If you use a skin medication apply it after the cleanser. If you use makeup, apply it after the sunscreen. Using too many products on your skin can irritate the skin.

Cleansing: Skin cleansers remove make up, dead skin cells, oil, dirt, and pollutants from the skin, and help unclog pores. Use a gentle, non-abrasive cleanser that doesn't contain alcohol. Use your fingers, not a washcloth to apply the cleanser and use lukewarm water to moisten and rinse. Limit washing to once in the morning and once at night, and after sweating. Pat your skin dry with a soft towel after cleaning.

Moisturizing: The *stratum corneum* is the outermost layer of skin. When it becomes dehydrated it becomes cracked and scaly. Moisturizers hold water in the outer most layer of skin. This helps protect and treat dry and sensitive skin, and improve skin tone and texture. Most moisturizers contain a combination of *humectants* and *emollients* in the form of lightweight oils like cetyl alcohol or cyclomethicone. A heavier moisturizer might include *antioxidants* like grape seed oil, or dimethicone, or petroleum-based products. Sensitive skin moisturizers may include soothing ingredients like chamomile or aloe.

Natural skin moisturizers need to be conserved. Urea is one of three natural moisturizing factors (NMF) found in the outer layer of our skin. The other two are lactic acid and amino acids. Mature skin will require an oil-based moisturizer that contains petrolatum and has antioxidants and alpha-hydroxy acids to combat wrinkles.

Apply moisturizers immediately after bathing when skin is patted dry. Use heavy oil-based creams on legs, hands and feet because they tend to be dryer. If you have dry skin, then avoid skin care products with alcohol. Look for products that have *lactic acid*, *urea*, or *hyaluronic acid* that can help the skin hold water.

Dimethicone and glycerin help draw water to the skin and keep it there. Lanolin, mineral oil, and petrolatum (also known as petroleum jelly) effectively trap water in the skin. Some anti-aging products containing *retinoids* or *alpha-hydroxy acids* can irritate skin. Switching to a more moisturizing formula can bring relief.

Sun Protection: Experts recommend using a broad spectrum (protects against ultraviolet A & B radiation) sunscreen with SPF of at least 30. UVA rays cause wrinkling and cancer. UVB rays cause burning. Choose a water resistant sunscreen and apply it 15-30 minutes before exposure to the sun. Reapply every two hours and after swimming, sweating or rubbing skin with a towel. Most people don't apply enough sunscreen. You should apply 2-3 tablespoons of lotion to all skin surfaces exposed to the sun—face, ears, hands, arms, lips—and top of head if balding. Sunscreen loses effectiveness over time so if yours is over three years old, throw it away and start fresh.

Other forms of sun protection include protective clothing—including a wide brim hat, sunglasses, and loose-fitting lightweight shirts, pants, or skirts. Also, avoid the sun during peak hours—generally 10 am to 4 pm regardless of the season. Remember that sand, water and snow reflect sunlight intensifying the need for sunscreen, and that UVA rays penetrate both glass and clouds.

Anti-Aging Products and Procedures: Skin care products and procedures that have anti-aging properties are very popular today. For example, moisturizing creams help plump up wrinkles, and chemical peels and laser skin resurfacing may improve the appearance of thin wrinkles and irregular pigmentation. Products that have antioxidants and anti-inflammatory properties may be used to decrease eye circles and puffiness, reduce blotchiness and shrink pore size. Other products may maintain muscle tone in the face firming and lifting the skin. Vitamin C ester helps to stimulate the production of collagen and elastin giving skin more strength and flexibility.

Lifestyle Choices that Improve Skin Health

1. Things to decrease: stress, and caffeine.
2. Things to increase: sleep, exercise, and drink more water.
3. Things to avoid: smoking, hot showers or baths, harsh skin cleansers.

Vitamins, Food and Skin Health

Vitamins A, C, D and E are found in a wide variety of foods and skin care products, and are particularly helpful for nourishing our skin.

Vitamin A (retinol) helps regulate skin cell function and boosts the immune system. It is often used as a topical anti-aging treatment. Foods containing Vitamin A include carrots, sweet potato, green leafy vegetables, melons, and apricots.

Vitamin C (ascorbic acid) helps fight skin damage from UV rays and acts as an antioxidant preventing skin dryness, and development of fine lines and wrinkles. Foods high in vitamin C include citrus fruits, bell peppers, broccoli, green leafy vegetables, strawberries, papaya and cauliflower.

Vitamin D (calcitriol, calcidiol, and calciferol) is synthesized in the skin when exposed to the sun. It is responsible for absorbing calcium and phosphate in the digestive system and helps regulate blood flow to the skin, nourishing the skin and influencing color and softness. Good sources of Vitamin D include mushrooms, tuna fish, salmon, eggs, and cheese.

Vitamin E (tocopherol) helps protect the skin from wrinkling and oxidative damage and lubricates cell membranes. Good sources of Vitamin E include sunflower, safflower and wheat germ oil, almonds, spinach, other leafy greens (mustard, Swiss chard, turnip, collard), as well as papaya, nuts and bell peppers.

Look at the skin care products in the room and see if you can identify any of these vitamins in the ingredient list. You may want to have a sampler tray of foods containing these vitamins.

Special Skin problems & Skin Cancer

When skin is dry avoid taking hot showers or baths and use mild cleansers. Running a humidifier in the house can keep air moist. Treat **cracked skin** with antibiotic ointment to prevent infection. **Dry spots** that may be prone to ulcers need a thick moisturizing lotion.

People with limited mobility may develop a **bedsore**, also known as a **pressure ulcer**. When parts of the body are under pressure for long periods of time circulation can be limited and this causes damage to the skin and underlying tissue. Stage I bedsores are red, hot patches

that will heal quickly if the pressure is relieved. Stage IV bedsores are deep wounds that may penetrate to the bone and can cause life threatening infections.

Some people suffer from **prickly heat or miliaria**, a skin rash that looks like small red blisters. This usually occurs when sweat ducts on the skins surface are clogged. If skin is kept clean, cool and dry and sweating is limited this can reduce the irritation and itchiness. Air conditioning and powders that absorb moisture are helpful.

A **solar keratosis** is a dry spot that may be considered precancerous. It is usually pink or red, but may also be gray or brown in color. It may be irregular in shape or scaly, and have a hard, rough, or gritty texture. It can be removed by freezing with liquid nitrogen or scraping and then burning with *electrocautery*. Creams such as *fluorouracil* or *imiquimod* may be applied as chemotherapy to destroy precancerous growth.

Over one million new cases of skin cancer are diagnosed every year. There are **three types of skin cancers**, the first two, basal cell carcinoma and squamous cell carcinoma grow slowly and rarely spread to other parts of the body. Melanoma, the third type, can spread to other organs and cause death. You should check your skin once a month for changes that might indicate a skin cancer using the A, B, C, D, E checklist. Check moles and birthmarks for, *asymmetry*, *irregular borders*, *color* changes, *increased diameter*, and *evolving*-changes in size, shape, sensitivity, itchiness, bleeding, and variations in shades of color. If you find a lesion, mole or skin patch with any of the above qualities you should contact your doctor right away to schedule an evaluation.

Review Handout: "Detect Skin Cancer: The Body Mole Map."

Moisturizer Testing Activity

Participants apply three different types of moisturizers to their hands to explore the differences in light to heavy lotions as well as the terms associated with different products. Try a variety of oils, lanolin, or petrolatum.

Conclusion

Skin care doesn't have to be complicated or expensive but it does take daily time and attention. There are a lot of products and advertising available that may or may not help protect and enhance our skin. Knowing what to look for on labels as well as what we can reasonably fix or improve in our skin helps us be more informed consumers. We need to be our own advocates for skin care and monitoring. Having a routine for caring for our skin and monitoring for potential skin cancers is an essential part of our own preventive medicine.



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DETECT Skin Cancer: Body Mole Map

Follow these instructions regularly for a thorough skin-exam: **1.** Learn what to look for **2.** Examine your skin **3.** Record your spots so you can refer back during your next exam!

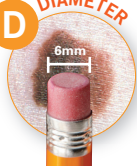
1 The ABCDEs of Melanoma What to Look for:



Skin cancer can develop anywhere on the skin and is one of the few cancers you can usually see with your own eyes. Ask someone for help when checking your skin, especially in hard to see places. If you notice a mole that is different from others, or that changes, itches or bleeds (even if it is small), you should see a dermatologist.

A ASYMMETRY
 One half unlike the other half.

B BORDER
 Irregular, scalloped or poorly defined border.


C COLOR
 Varied from one area to another; shades of tan and brown, black; sometimes white, red or blue.

D DIAMETER
 While melanomas are usually greater than 6mm (the size of a pencil eraser) when diagnosed, they can be smaller. See ruler below for a guide.

E EVOLVING
 A mole or skin lesion that looks different from the rest or is changing in size, shape or color.
Example:


2 Skin Cancer Self-Examination How to Check Your Spots:

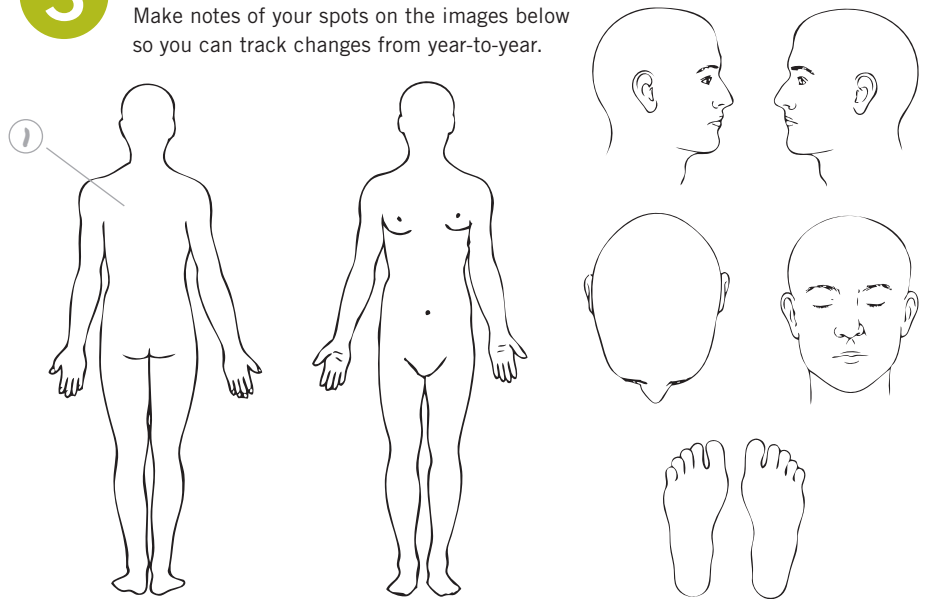
Checking your skin means taking note of all the spots on your body, from moles to freckles to age spots. Remember, some moles are black, red, or even blue. If you see any kind of change on one of your spots, you should have a dermatologist check it out.



- 1 Examine body front and back in mirror, then right and left sides, arms raised.
- 2 Bend elbows, look carefully at forearms, back of upper arms, and palms.
- 3 Look at backs of legs and feet, spaces between toes, and soles.
- 4 Examine back of neck and scalp with a hand mirror. Part hair and lift.
- 5 Finally, check back and buttocks with a hand mirror.

3 Record Your Spots

Make notes of your spots on the images below so you can track changes from year-to-year.



MOLE #	A Asymmetrical? Shape of Mole	B Type of Border?	C Color of mole	D Diameter/Size of Mole. Use ruler provided.	E How has mole changed?
1	OVAL, EVEN	JAGGED	PINK	1.5MM	YES, LARGER



PREVENT Skin Cancer: Protect Yourself From the Sun

Sun exposure is the most preventable risk factor for all skin cancers, including melanoma. You can have fun in the sun and decrease your risk of skin cancer.

Here's how to protect yourself from the sun:

- **Generously apply a broad-spectrum, water-resistant sunscreen** with a Sun Protection Factor (SPF) of 30 or more to all exposed skin. Broad-spectrum provides protection from both ultraviolet A (UVA) and ultraviolet B (UVB) rays. Re-apply approximately every two hours, even on cloudy days, and after swimming or sweating.
- **Wear protective clothing**, such as a long-sleeved shirt, pants, a wide-brimmed hat and sunglasses, when possible.
- **Seek shade** when appropriate, remembering that the sun's rays are strongest between 10 a.m. and 2 p.m. If your shadow is shorter than you are, seek shade.
- **Use extra caution near water, snow, and sand** as they reflect the damaging rays of the sun which can increase your chance of skin cancer.
- **Get vitamin D safely** through a healthy diet that may include vitamin supplements. Don't seek the sun.
- **Avoid tanning beds.** Ultraviolet light from the sun and tanning beds can cause skin cancer and wrinkling. If you want to look like you've been in the sun, consider using a sunless self-tanning product, but continue to use sunscreen with it.
- **Know your spots.** If you notice anything changing, growing, or bleeding on your skin, see a dermatologist. Skin cancer is very treatable when caught early.



If you have any doubt about a mole, find a dermatologist at www.SpotSkinCancer.org. The five-year survival rate for people whose melanoma is detected and treated before it spreads to the lymph nodes is 98%, so be sure to check your skin regularly.



These prevention and detection messages are brought to you by the American Academy of Dermatology's SPOT Skin Cancer™ campaign, dedicated to a world without skin cancer.
www.SpotSkinCancer.org • 1-888-462-DERM (3376)