SKIN CANCER

EDUCATION MANUAL

St. George's University
SCHOOL OF MEDICINE
Grenada, West Indies

CONTENTS

THE AUTHORS

Lira Camille "Kim" Roman, MBS, is pursuing her Doctor of Medicine degree at St. George's University (SGU) School of Medicine in Grenada. She holds a Master's in Biomedical Sciences from Rutgers University and a Bachelor of Science in Neuroscience from the University of Rochester. Kim has over 14 years of research experience, including eight years in oncology clinical research at the Herbert Irving Comprehensive Cancer Center in New York City, where she focused on first-in-human clinical trials and cancer prevention and care delivery. Her public health interests align with her research, as she aims to enhance healthcare by emphasizing preventative care, starting with increased health literacy. Kim's dedication extends beyond her professional career; she actively volunteers in community health initiatives and educational programs throughout Grenada.

Mariah Monroe is a current student at St. George's University working towards a Doctor of Medicine degree. She obtained her Bachelor of Science from the University of South Florida in Integrative Biology and an Emergency Medical Technician license from Santa Fe College. Her passion for public health education has come from her four years of experience in interacting with her home community, as well as the Grenadian community, by working on the ambulance. She was able to see firsthand the disparities and hardships patients face in regards to healthcare and the needs that could be fulfilled. While she has previous research experience in Paleontology with the University of Florida, she is excited to contribute to the medical world through the Caribbean Cancer Portal.

Aarabhi (Nammu) Srinath, MS is currently a Term 3 student at St. George's University pursuing a Doctor of Medicine degree. She received her Bachelor of Science degree from The University of Texas at Austin in Psychology. Additionally, she has obtained her Master's of Science degree at Boston University Medical School in Medical Sciences. She completed her thesis during her research internship with Boston Children's Hospital at Harvard Medical School. Her thesis focused on the association between pain-related functioning and psychological disorders in pediatric racial/ethnic minorities with chronic pain. She has been passionate about public health and equal access to healthcare ever since she has seen firsthand how her family, friends, and community back in India experience significant disparities every day. She hopes to extend this passion in her professional career as a doctor and help disadvantaged communities around the world receive the healthcare they deserve.

Kim, Mariah, and Nammu are SGU's Public Health Student's Association members.

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WHAT IS SKIN CANCER?

A

Skin cancer is the abnormal growth of skin cells. It can be caused by exposure to too much ultraviolet radiation from the sun, otherwise known as UV light. Each type of skin cancer affects a different layer of the skin. There are three major layers of the skin: the *Epidermis*, the *Dermis*, and the *Subcutaneous tissue*[8]. The illustration on the next page represents which layer of skin is mostly affected by which type of skin cancer.

TYPES OF CANCERS AND SYSTEMS AFFECTED

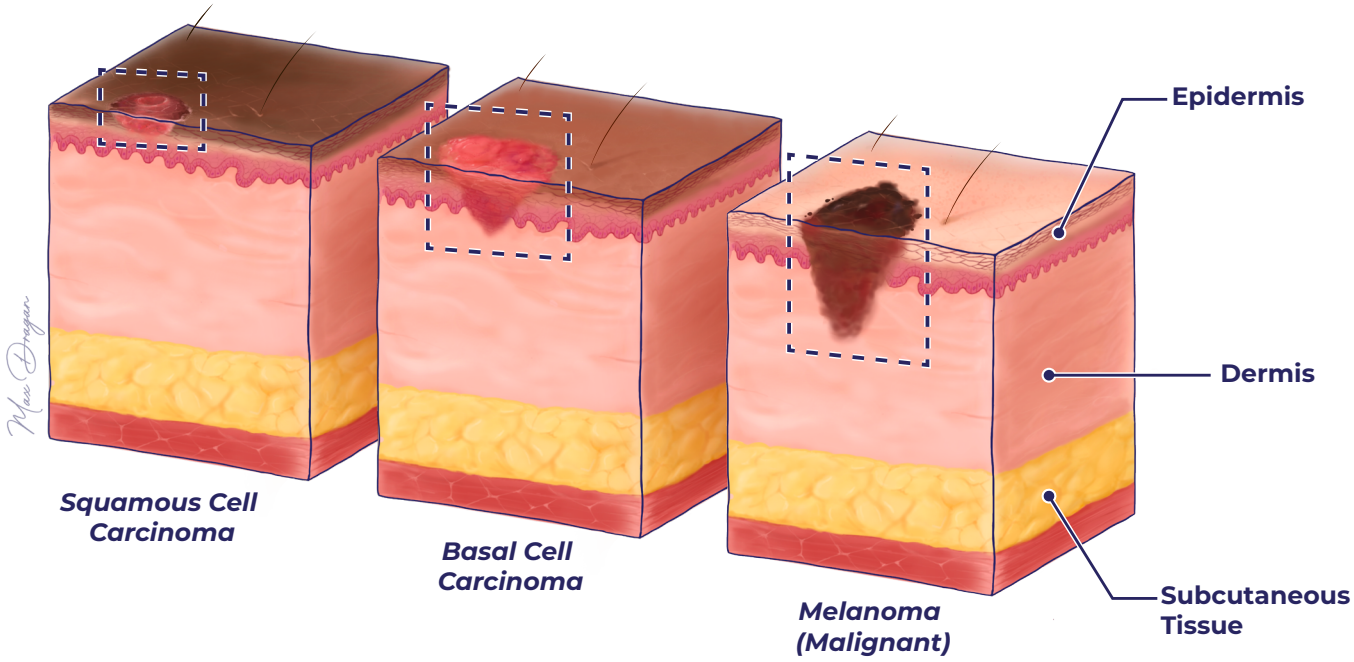
There are three major types of skin cancer:

Squamous cell carcinoma: Squamous cell carcinoma initially grows in the top layer of the epidermis. This cancer involves specific types of cells of the skin, called squamous cells. This cancer can then spread deeper into the epidermis. This is typically found in people who sunburn easily[3].

Basal cell carcinoma: Basal cell carcinoma initially affects the lower layer of the epidermis and then spreads into the dermis. It mostly affects areas of the skin that are exposed to the sun, such as in the head and neck[3].

Melanoma: Melanoma starts in melanocyes which are located in the deep layers of the epidermis and can eventually spread deep into the bottom layer of the dermis. Melanocytes are cells that make a pigment that gives your skin color. This type of cancer mostly affects areas of the skin that are exposed to the sun, however, it can also spread to the eyes[3].

Skin cancer can be invasive and destructive to other parts of your body. When cancer cells spread from the skin to other parts of the body, it is called *metastasis*. If untreated, skin cancer can metastasize to the muscles, nerves, lymph nodes, lungs, liver, bone, and the brain[9].



CAUSES

WHAT CAUSES SKIN CANCER?

A| The main cause of skin cancer is exposure to *UV radiation*, better known as sun rays[5]. Other causes include artificial UV rays from tanning beds, regardless of how much time is spent tanning[5].

RISK FACTORS [2,14]

Risk factors are anything that *increases* the chance of getting a disease.

Some common risk factors for skin cancer are:

1. Extended exposure to sun rays, especially for people who work outside (fishers, farmers, construction workers, athletes, bus and truck drivers)
2. Having fair (light) skin, especially skin that freckles or burns easily, skin that does not tan or does not tan well
3. Having blue, green, or light-colored eyes
4. Having red or blond hair

Additional risk factors are:

1. History of sunburns
2. Family history of skin cancers, skin diseases, or unusual moles
3. Certain genetic diseases that are linked to skin cancer
4. Skin inflammation that prolongs for extended periods
5. Weak immune system
6. Preexisting viruses, such as Human Papilloma Virus (HPV)
7. Exposure to arsenic
8. Previous radiation treatment
9. Older age, which is a leading risk factor for most cancers

Understanding your risk factors is *key*. This applies to everyone, regardless of race or ethnicity, as skin cancer can affect people of all skin types and backgrounds. Protecting yourself from skin cancer should be a *priority*, regardless of whether you believe you have any risk factors.

If you need further information or have concerns about your risk of skin cancer, you should *consult your doctor*.

Additional Facts: In people of color, skin cancer is often diagnosed when it is already in its later stages. Treatment for skin cancer is more difficult in the later stages but not impossible. This is why it is important to not only take preventative measures but also check your skin since an early skin cancer diagnosis can be easily treated.

SIGNS AND SYMPTOMS

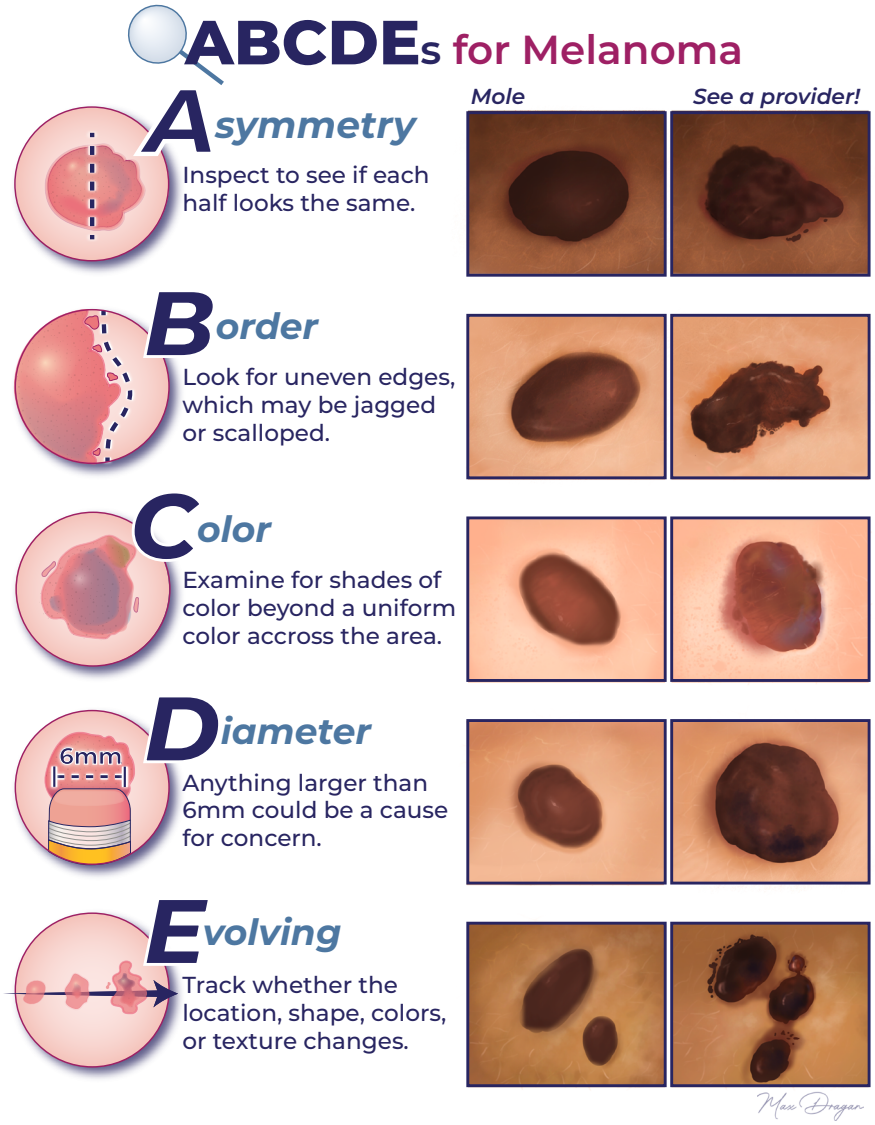
In paler skinned people, the main type of skin cancer developed is *Melanoma*[6]. In darker skinned people, Melanoma is the most *fatal* type of skin cancer[4]. The symptoms of Melanoma appear as a skin lesion, or spot, usually of a brown or black color and can sometimes be red or white as well.

In Caucasians, the major areas on the body where these spots occur are the trunk of the body or the legs[6]. In Blacks or Hispanics, the lesions regularly occur in the palms of the hands, soles of the feet and under the nails[4]. These areas are not exposed to a lot of sunlight; however, an additional risk factor is preexisting moles.

Regardless of racial background, having a pale tone of skin is an important risk factor, in addition to increased and prolonged exposure to sun. Lesions can be mistaken as a mole or wart, and it is important to follow the *ABCDE*s of Melanoma for an early diagnosis.

Squamous cell carcinoma is most prevalent in Black people and can look like a firm wart that may scale and bleed[4]. These types of warts are usually found on areas most exposed to the sun like scalp, ears, and arms[4].

Basal cell carcinoma is the most common type of skin cancer found in Hispanics and Latinos[4]. On darker skin, it can look like a dark brown bump with a rolled border while on paler skin the bump can be a scaly-looking plaque with pearly white borders[4]. Basal cell carcinoma usually appears on the head, neck, and face[4].



PREVENTION [2,14]

Skin Cancer Prevention

Because anyone can get skin cancer, *everyone* should protect themselves!

Here's how you can do it:

1. Avoid prolonged exposure to sun rays. While sunlight has benefits, the UV rays can cause many types of skin cancer.

2. Protect yourself from sun rays by staying in the shade or using an umbrella when walking or working in the sun.

3. Wear clothing to protect your skin from the sun. This includes:
   - A hat to cover your face and neck
   - Sunglasses with ultraviolet-absorbing lenses
   - Long sleeves and long pants
   - Shoes that cover the entire foot

4. Wear sunscreen
   - The sunscreen you use should have the following on its label for maximum protection:
     - Broad-spectrum protection
     - SPF 30 or higher
     - Water resistant
   - Use proper sunscreen technique
     - Apply only on dry skin
     - Apply 15-30 minutes before going outside/before exposing yourself to the sun
     - Reapply every 2 hours when you are outside or after sweating or going for a swim

4. Avoid tanning beds or sunlamps. These emit the same harmful UV rays as the sun and can cause the same types of skin cancer.

5. Perform monthly self-skin examinations.

SCREENING (13)

Q WHAT IS SKIN CANCER SCREENING?

A | Screening is looking for signs of skin cancer on your skin before experiencing any symptoms.

Self-Screening for Skin Cancer
This is a full body check of your skin, something you can do *on your own!*

Q WHAT DO YOU NEED ?

A | A full-length mirror, a hand-held mirror, or a partner.

HOW OFTEN SHOULD YOU CHECK YOUR SKIN FOR SKIN CANCER?

A | *Once a month*
Doing monthly checks will help you find any changes in your skin. Early detection is key for curable treatment.

What am I looking for?

1. Dark spots, growth, or dark patch of skin that is growing, bleeding or changing
2. Sores that won't heal or healed but then reoccurred
3. Sores that take a long time to heal, especially if the sore is on a scar or skin that was injured before
4. Patch of skin that feels rough of dry
5. Dark lines under or around your fingernail or toenail

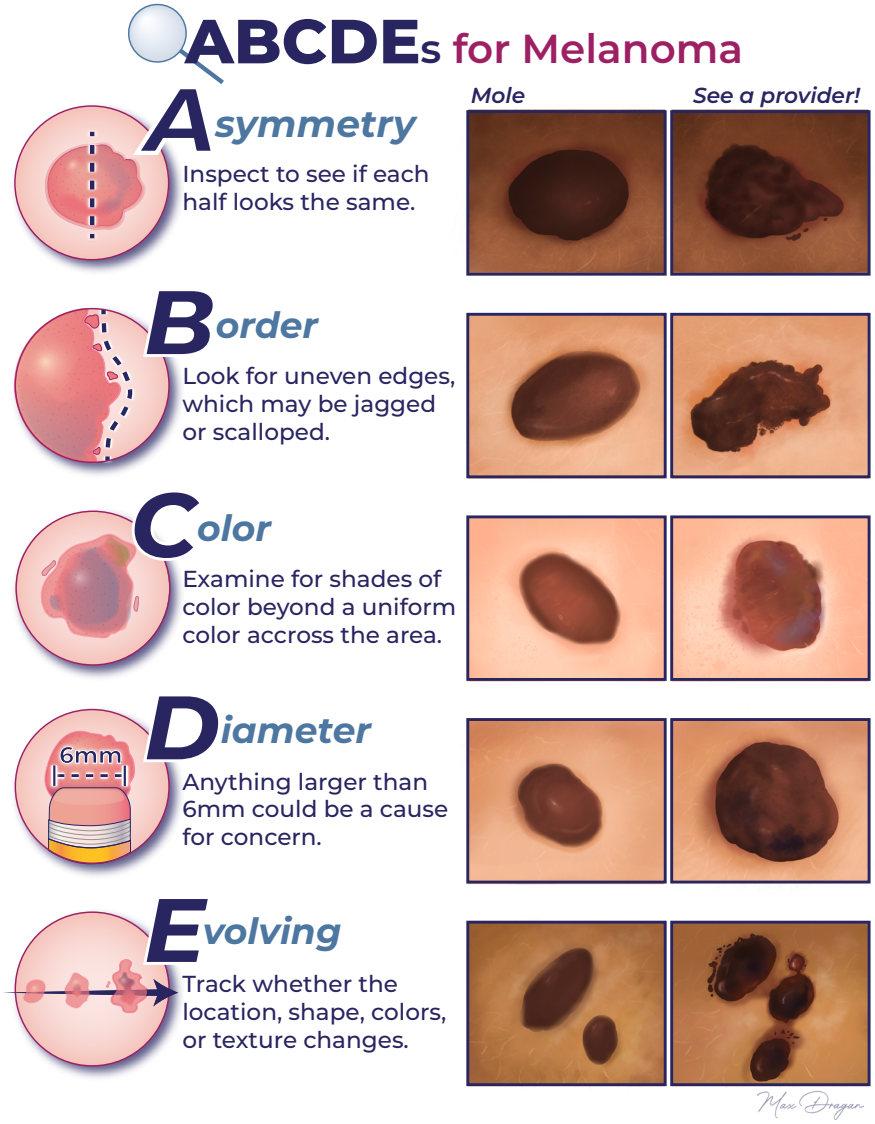
How do I check my skin?

1. Look at your skin from head to toe
2. Make sure to check areas that are harder to see such as:
   - The top of your head
   - Back
3. Check places that don’t get exposed to the sun too much:
   - The bottom of your feet, between the toes, toenails, lower legs, groin, buttocks
4. Make sure to check inside your mouth

5. Check moles using the *ABCDE*s of Skin Cancer:

- *A* – Asymmetry
  - This is when one half of the mole is different from the other
- *B* – Border
  - This is when the spot has an irregular, scalloped, or poorly defined border
- *C* – Color
  - This is when the spot has different colors from one area to the next, such as different shades of tan, brown or black or areas of white, red, or blue
- *D* – Diameter
  - Note changes in size. Skin cancers, specifically melanomas, are usually more than 6mm, some are smaller.
- *E* – Evolution
  - Make note if the spot looks different from the rest or is changing in size, shape or color.

Skin Cancer can look *different* on different types of skin and depending on your race[1,2,16].



Below are some common ways in which skin cancer is detected across different races:

Black
For Black people, skin cancer often develops in body parts that get less sun, such as the *bottom of the foot*, *lower leg*, and *palms*.

Hispanic
For Hispanics, skin cancer appears in many ways, such as a growth that gets bigger, a patch of *scaly skin*, or a *dark streak* under or around a nail.

Asian
For Asians, skin cancer is often *roundish*, *raised brown*, or a *black growth*.

Caucasian
In lighter skin tones, skin cancer can develop as growth over the skin with different colors, such as *red*, *brown*, or *black*, making them much more noticeable.

The list above does not cover *all* signs and symptoms of skin cancer. Individuals of different races or ethnicities may exhibit signs more commonly associated with another racial or ethnic group. For instance, someone of African descent with a lighter skin tone may display signs typically seen in Caucasians.

Skin cancer affects everyone *regardless* of race, ethnicity, or gender. Both dark-skinned and light-skinned individuals can develop skin cancer, especially with prolonged sun exposure.

Everyone should regularly examine their skin and use appropriate sun protection measures.

Additional Tip: Ask your hairdresser or barber to check your scalp! Do you have any new or different, odd-looking growth on your scalp? Ask them to tell you!

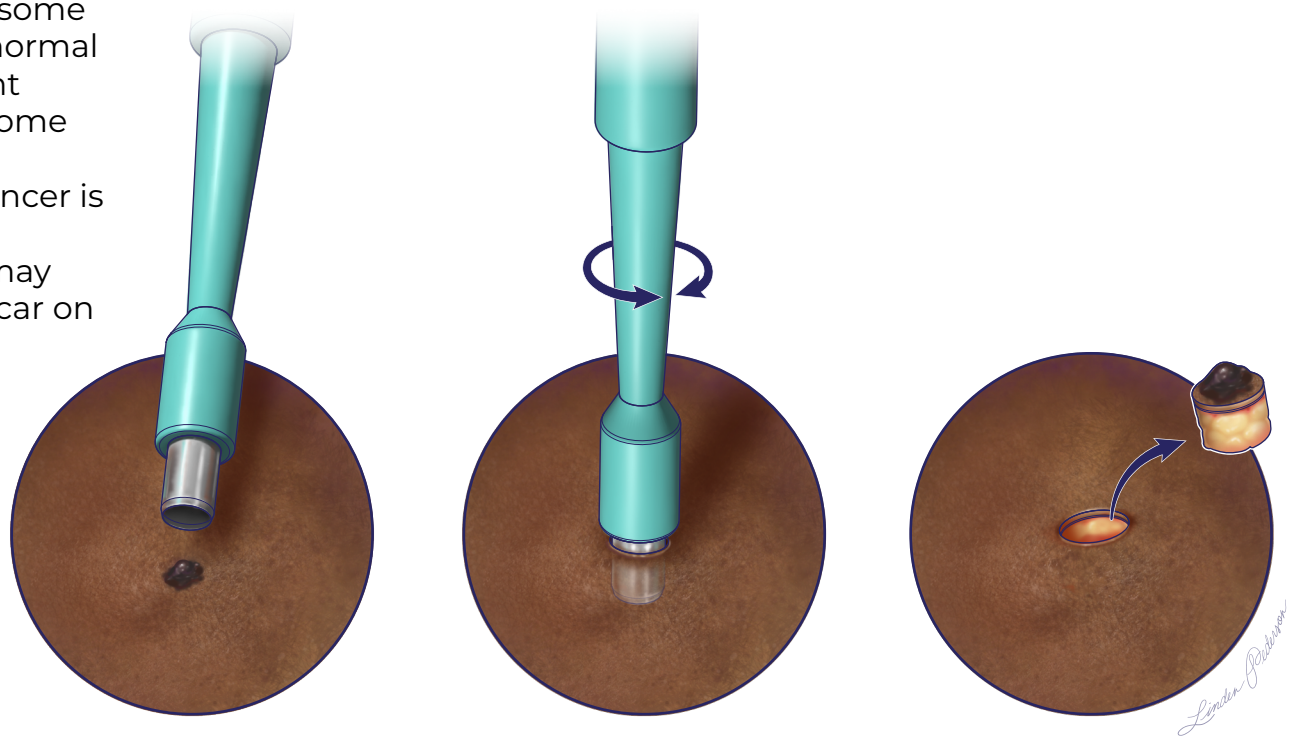
Screening with your Doctor [14]

Additional screening with your doctor is usually done when an area of the skin looks abnormal.

This additional screening includes:

1. Skin Examination
   - This is similar to your self-screening skin examination but is done by a nurse or a doctor and normally more thorough.
2. Skin Biopsy
   - A part of the abnormal skin is removed and viewed under a microscope by a pathologist to check for signs of cancer.
   - This is the main test to diagnose skin cancer.
   - Risks of Skin Biopsies:
     - *False-negative tests* – some tests may come back normal even if cancer is present
     - *False-positive tests* – some tests may come back abnormal even if no cancer is present
     - *Scarring* – the biopsy may leave a small mark of scar on the skin

Despite these risks, the *benefits* of screening for skin cancer far outweigh any risk.



TREATMENT [14]

There are many treatment options for skin cancer. The type of treatment given is dependent on the specific type of skin cancer.

Below are the most common types of treatment for skin cancer:

1. Surgery
2. Radiation therapy
3. Chemotherapy
4. Photodynamic therapy
5. Immunotherapy
6. Targeted therapy
7. Chemical peel
8. Other drug therapy

IF YOU ARE DIAGNOSED WITH SKIN CANCER, TALK TO YOUR HEALTH CARE PROVIDER ABOUT WHICH TREATMENT OPTION IS BEST FOR **YOU**

TEST YOUR KNOWLEDGE

RESTART

1. **What is a leading risk factor of cancer in Caucasians and people of color alike?**

   A Swimming

   B Using sunscreen

   C Sun rays

2. **Only doctors can check for skin cancer.**

   T True

   F False

3. **Skin cancer can be treated.**

   T True

   F False

4. **Skin cancer typically looks the same in all skin types (e.g. Dark-skinned, light-skinned).**

   T True

   F False

5. **What is an early sign of skin cancer?**

   A Mole changing size, shape, and color over time

   B Mole on the skin from childhood

   C Mole appearing on the skin in adulthood

6. **What is the easy way to remember how to check my skin for melanoma?**

   A Check for wrinkles in the skin

   B Check for sores on the skin

   C ABCDEs

7. **Skin cancer typically looks the same across all races and ethnicities.**

   T True

   F False

MORE RESOURCES

THE SKIN CANCER FOUNDATION, ABCDES OF MELANOMA

https://www.skincancer.org/skin-cancer-information/melanoma/melanoma-warning-signs-and-images/

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