

SKIN CANCER

CAUSES, PREVENTION,
AND TREATMENT



2024



R&R LOTION





IMPORTANCE OF SUNSCREEN

PREVENTS SKIN CANCER

Sunscreen significantly reduces the risk of developing skin cancer, particularly melanoma, which can be deadly. Regular use of sunscreen with an appropriate SPF can shield the skin from the types of radiation that contribute to skin cancer risk.

PROTECTS AGAINST SUNBURN

Sunburn is not only painful but also damages the skin in the short and long term. UVB rays cause sunburn, and applying sunscreen helps block these rays, thereby preventing sunburn and associated risks.

PROTECTS AGAINST SUNBURN

UV rays can penetrate clouds and even glass, meaning skin protection is necessary not just on sunny days, but every day, regardless of the weather or if you're staying indoors near windows.

WARDS OFF PREMATURE AGING

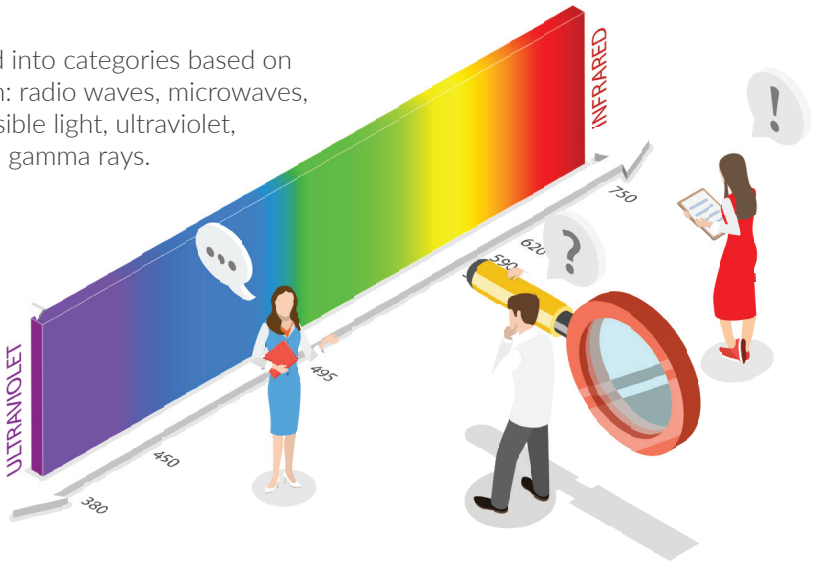
UV radiation is a primary contributor to premature aging, including wrinkles, leathery skin, and sunspots. Sunscreen helps protect the skin from these effects, preserving its elasticity and youthful appearance.

WHAT CAUSES CANCER?

ELECTROMAGNETIC SPECTRUM

The electromagnetic spectrum includes all types of electromagnetic radiation, ranging from radio waves with the longest wavelengths to gamma rays with the shortest.

It is divided into categories based on wavelength: radio waves, microwaves, infrared, visible light, ultraviolet, X-rays, and gamma rays.



IMPACT ON HUMAN HEALTH

Safe Radiation: Radio waves to visible light are generally safe and are used in communications, heating, and lighting.

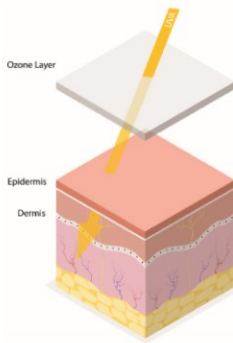
Harmful Radiation: Starting with ultraviolet light, radiation can be harmful. UV exposure can lead to skin damage, aging, cancer, and eye damage.

High-Energy Radiation: X-rays and gamma rays can penetrate tissues and are used in medical imaging and treatments but require careful handling due to the health risks associated with exposure.

TYPES OF UV RADIATION

UVA RADIATION

Wavelength: 320-400 nm, 95% reaches Earth, penetrates glass

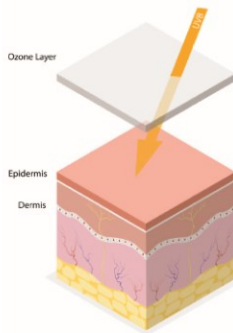


Skin Penetration: Reaches deep dermal layers.

Health Effects: Causes wrinkles, sunspots, minor role in skin cancer; increases cataract risk.

UVB RADIATION

Wavelength: 280-320 nm, 5% reaches Earth, does not penetrate glass

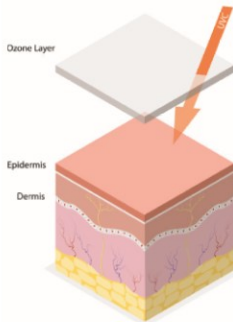


Skin Penetration: Affects the epidermis.

Health Effects: Main cause of sunburn, critical in skin cancer and vitamin D synthesis; can cause photokeratitis in eye; increases cataract risk.

UVC RADIATION

Wavelength: 100-280 nm, absorbed by the ozone, none reaches Earth.



Skin Penetration: Does not reach the skin naturally.

Health Effects: Potentially severe burns and cancer risk if exposed; highly damaging to eyes.

HOW DOES UV AFFECT YOUR BODY

UV radiation damages DNA
in skin cells, leading to
mutations and repair errors.

This persistent damage not
only increases the risk of skin
cancer but also accelerates
skin aging, contributing to
wrinkles and loss of elasticity.

Effective sun protection is
crucial to mitigate these
harmful effects.

Elastosis

Breakdown of collagen & elastin from
UV exposure, causing saggy, less elastic skin

Hyperpigmentation

Age spots & sun spots, mainly a cosmetic concern

Actinic Keratosis

Precancerous, rough patches that may turn into
squamous cell carcinoma

Premature Aging

Wrinkles, fine lines, and leathery skin from UV damage to
collagen and elastin

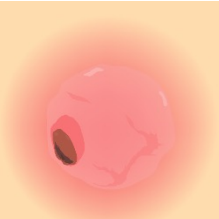
Immune Suppression

Weakened skin defense, affecting infection resistance &
vaccine efficacy

Cataracts

Clouding of the eye lens, potentially impairing vision

TYPES OF SKIN CANCER



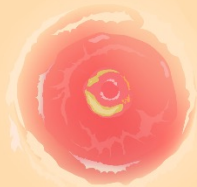
BASAL CELL CARCINOMA BCC

Rarely spreads to other parts of the body

Identification: Translucent, pearly pink bumps.

Prevalence: Most common skin cancer in the U.S., with 3.6 million cases annually.

Treatment: Mainly surgical removal; non-aggressive cases may use topical treatments or curettage.



SQUAMOUS CELL CARCINOMA SCC

Likely to develop in areas exposed to the sun

Identification: Scaly, red patches, open sores, or warts; may crust or bleed.

Prevalence: Second most common skin cancer with 1 million cases annually; more likely to spread.

Treatment: Surgical excision, Mohs surgery for serious cases.



MELANOMA

Develop in areas of the skin that aren't typically exposed

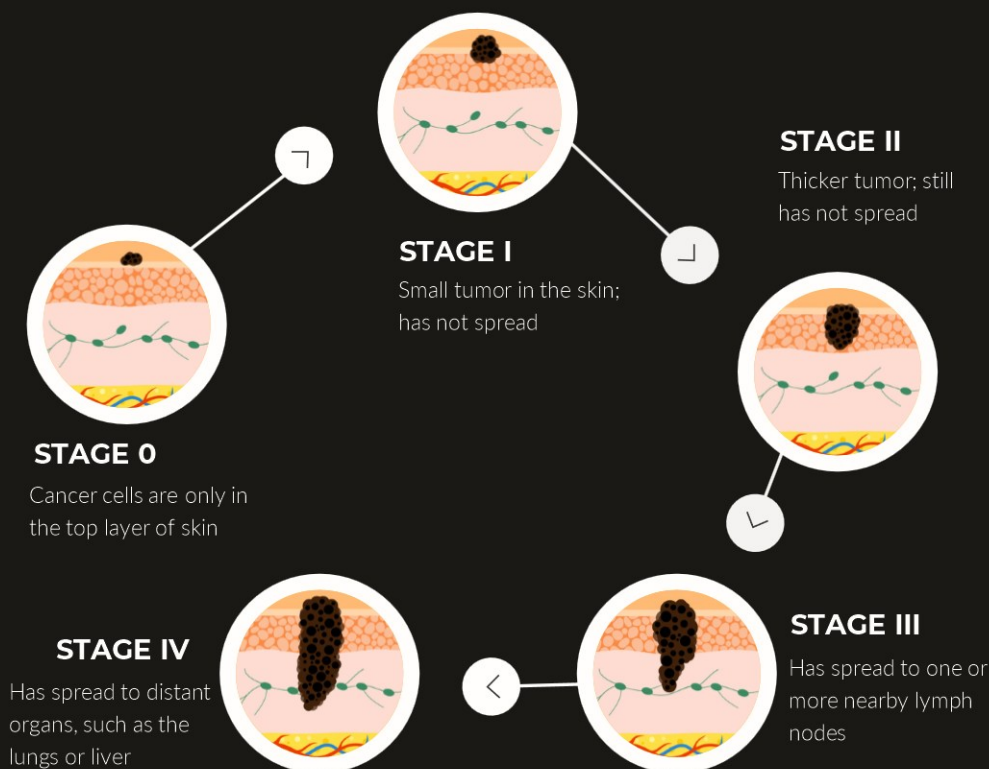
Identification: Can develop from moles or as new dark spots.

Prevalence: Over 100k cases annually; less common than BCC and SCC but more deadly.

Treatment: Requires aggressive surgery.

STAGES OF SKIN CANCER

Skin cancer, if not detected and treated early, can penetrate deeper into the skin and beyond, posing serious health risks. Early detection is paramount in managing and potentially curing skin cancer. It allows for timely intervention before the cancer advances to more dangerous stages, significantly improving the chances of successful treatment.



HOW TO CHECK A MOLE

Importance of Skin Monitoring

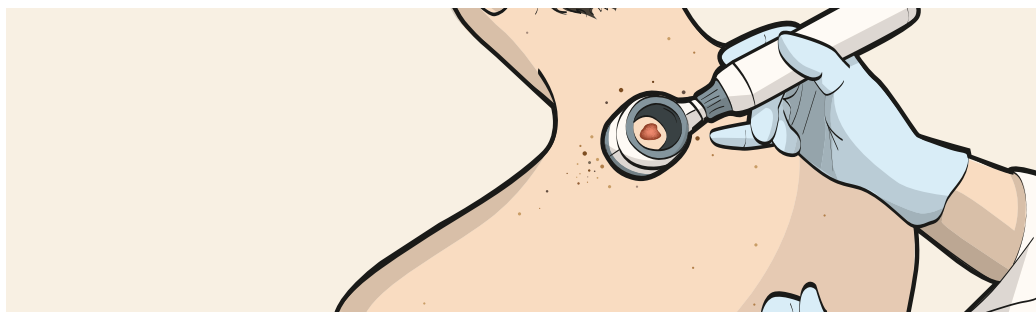
Regularly checking your skin for changes in moles and spots helps detect skin cancer early, especially melanoma.

Using the ABCDE Method

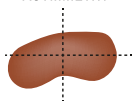
The ABCDE method highlights key signs in moles that may indicate skin cancer.

Regular Monitoring

Self-examinations using the ABCDE method help spot early changes. Consult a dermatologist for concerns, as early detection is crucial for effective treatment.

**A**

ASYMMETRY



Melanomas are frequently asymmetrical: the shape of one half does not match the other.

B

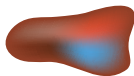
BORDER



Melanomas frequently have uneven or irregular borders (ragged or notched edges).

C

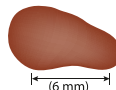
COLOR



Melanomas often have brown, black, or mixed shades of white, gray, blue, or red, and may show color loss in the mole or surrounding skin.

D

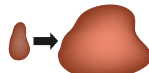
DIAMETER



Melanomas are often larger than 6 mm, but about 30% are detected when smaller than 6 mm due to increased awareness.

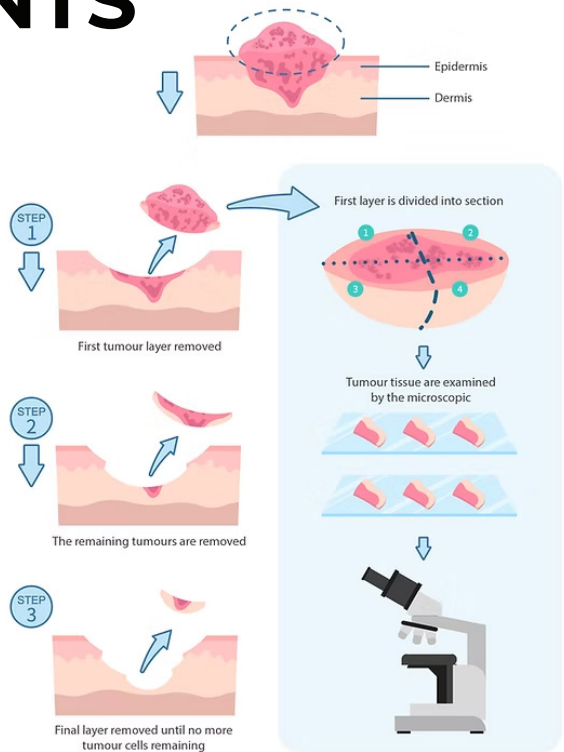
E

EVOLUTION



Melanomas typically have shown some evidence of change in the months prior to diagnosis. Look for any change.

TREATMENTS



Treatment depends on the cancer type and stage, including surgery, radiation, & topical treatments.

Early Stage Treatments

Mohs Surgery: Precise layer-by-layer removal for BCC and SCC.

Cryotherapy: Freezing cancerous cells with liquid nitrogen.

Photodynamic Therapy (PDT): Combines drugs and light to destroy cancer cells.

Topical Treatments: Applied directly for superficial cancers.

Advanced Treatments

Immunotherapy: Boosts the immune system to fight cancer.

Targeted Therapy: Targets specific genetic changes in melanoma cells.

Radiation Therapy: Used for metastatic melanoma or symptom relief.

SKIN CANCER PREVENTION



CLOTHING

Sunscreen: Use broad-spectrum SPF 30+ and reapply every 2 hours or after swimming/sweating.

Hat: Wear wide-brimmed hats to protect face, ears, and neck.

Clothing: Choose tightly woven long sleeves and pants for better protection.

Sunglasses: Wear UV-blocking sunglasses to protect your eyes.

SKIN MONITORING

Self-Examinations: Check your skin monthly for new moles or changes to existing ones.

Professional Check-ups: Have an annual skin examination by a dermatologist to catch any early signs of skin cancer.

BEHAVIORAL

Timing Outdoors: Avoid sun exposure from 10 AM to 4 PM when UV is strongest.

Seek Shade: Stay in shaded areas during peak sunlight hours.

UV Index: Check the UV index before heading outside.

UNDERSTANDING SUNSCREEN LABEL



“SUNSCREEN” NOT “SUNBLOCK”

Sunscreen vs. Sunblock: Labels must use “sunscreen” because it accurately describes the product’s function of filtering UV rays, not completely blocking them.

BROAD SPECTRUM

Meaning: Indicates protection against both UVA (aging) and UVB (burning) rays.

Regulation: Broad Spectrum SPF 15 or higher may claim to reduce the risk of skin cancer and early skin aging, used as directed with other sun protection measures. Others may only claim to help prevent sunburn.

SPF (SUN PROTECTION FACTOR)

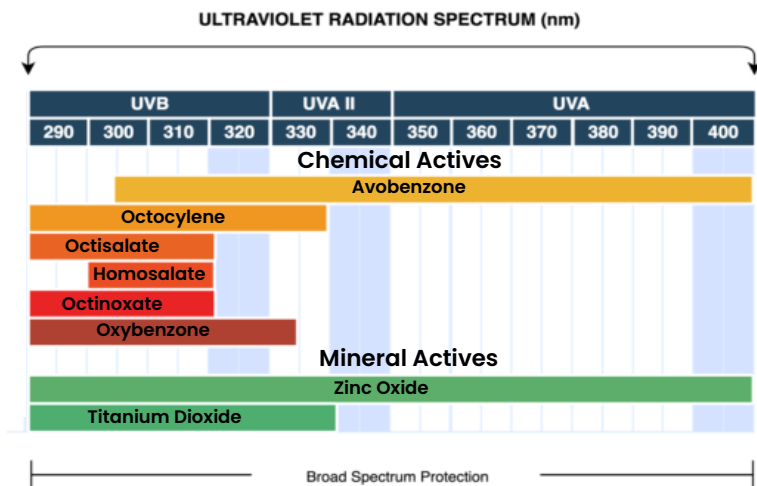
Definition: SPF stands for Sun Protection Factor. It is a measure of how much UV radiation is required to cause sunburn on protected skin.

In practice: SPF measures how well a sunscreen protects against sunburn (mainly UVB). SPF 30 filters about 97% of UVB. Whatever the SPF, reapply at least every 2 hours, and after 80 minutes of swimming or sweating.

WATER RESISTANCE

Definition: This indicates the duration the sunscreen remains effective while you are swimming or sweating.

Regulations: Available in 40 or 80 minutes of effective water resistance. Labels such as “waterproof” are not permitted.



INGREDIENTS



While most sunscreens use avobenzone due to its cost-effectiveness and broad protection, the choice of sunscreen should consider factors like skin type, exposure duration, and activity level. Always check the label for active ingredients and reapplication instructions to ensure optimal protection.

TYPES OF ACTIVE INGREDIENTS

Physical Ingredients: Zinc oxide and titanium dioxide provide broad-spectrum UV protection.

Chemical Ingredients: Avobenzone covers nearly the full UV spectrum but may need stabilization.

KEY EXAMPLES

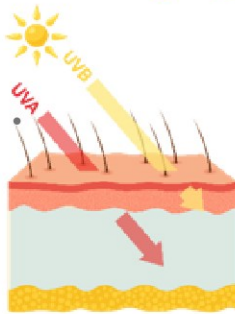
Zinc Oxide: Offers full-spectrum coverage (290–400 nm) and is ideal for mineral sunscreens, though it can be thick and pasty.

Avobenzone: Provides broad-spectrum protection but is unstable in sunlight, requiring reapplication every two hours.

TYPES OF FORMULATIONS

CHEMICAL SUNSCREEN

UV rays, converting them into heat through a chemical reaction



Active Ingredients

Avobenzone, Oxybenzone, Octinoxate, Homosalate, Octisalate

Benefits

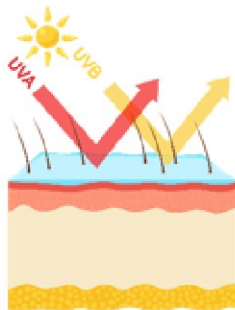
Light feel, clear application, ideal for daily use and under makeup

Drawbacks

Takes 15-20 minutes to become effective. May cause skin irritation and environmental concerns

PHYSICAL SUNSCREEN

Reflects and scatters UV radiation away from the skin



Active Ingredients

Zinc Oxide and Titanium Dioxide

Benefits

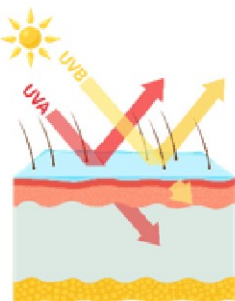
Immediate protection, ideal for sensitive skin, and less likely to irritate

Drawbacks

May leave a white cast, especially on darker skin, and thicker formulas can be harder to spread

HYBRID SUNSCREEN

Reflects and absorbs UV radiation



Typical Hybrid Actives (example)

Zinc Oxide, Titanium Dioxide, Octinoxate, Homosalate, Octisalate

Benefits

Broad-spectrum protection, less likely to leave a white residue, and suitable for sensitive skin

Drawbacks

Generally more expensive and requires careful application to ensure effectiveness

TYPES OF APPLICATIONS

SPRAY

Benefits

Quick and easy to apply, great for large or hard-to-reach areas, and ideal for children.

Drawbacks

Risk of inhalation, flammability, and difficulty ensuring even coverage; may need rubbing in.



STICKS

Benefits

Ideal for targeted application, convenient for travel and touch-ups.

Drawbacks

Drags on the skin, making even application harder, takes more time than sprays or lotions.



LOTIONS

Benefits

Easier to apply evenly, offers comprehensive sun protection, and moisturizes the skin.

Drawbacks

Takes longer to apply and can feel greasy or heavy if over-applied.



SUNSCREEN RECOMMENDATIONS

SPF LEVEL

Use sunscreen with at least SPF 30 for adequate protection against UVB rays, which cause sunburn and increase skin cancer risk.

COVERAGE

Choose broad-spectrum sunscreens to protect against both UVA (aging) and UVB (burning) rays, offering comprehensive skin damage protection.

FORMULATION

Prefer lotions for more even, controllable coverage over sprays or sticks.

WATER RESISTANCE

Opt for sunscreens with 80 minutes of water resistance to maintain protection during swimming or excessive sweating.

ACTIVE INGREDIENTS

Choose sunscreens with zinc oxide or hybrid formulas for broad-spectrum protection and less irritation.

Avoid sunscreens with avobenzone unless it's photostable, as its effectiveness decreases in sunlight.

I.C. Industrial Sunscreen SPF 36 contains no avobenzone.
Its UVA protection comes from non-nano zinc oxide.

I.C. INDUSTRIAL SUNSCREEN SPF 36

I.C. Industrial Sunscreen SPF 36 is a full broad-spectrum hybrid formula that reflects and absorbs UVA and UVB radiation. Non-nano zinc oxide and organic filters combine to help protect skin from the sun's UVA and UVB rays, and advanced shearing technology lets it rub in clear and hold through 80 minutes of sweat and water. Used as directed with other sun protection measures, broad-spectrum SPF 15+ sunscreen helps reduce the risk of skin cancer and early skin aging caused by the sun.



FEATURES & BENEFITS
Full Broad-Spectrum Protection for UVA + UVB
80-minute Sweat and Water Resistant
Hybrid Formula Physical Zinc Oxide with Organic Filters
Rubs in Clear with No White Residue
Non-Tacky and Non-Greasy
Non-Fragranced and Odorless Formula
Stay-put formula onto skin and will not run into eyes
Non-Nano Zinc Oxide (particles over 100 nm)
Protects Against Sunburn & Premature Aging
Long-Lasting Protection for Work Shifts
Bulk Sizes for Crew & Workplace Needs
Won't Clog Pores, Non-Comedogenic
No Avobenzone: UVA Protection from Zinc Oxide

THANK YOU

RRlotion.com