



Sunscreens

How they work and how to use them

This handout explains the 2 types of sunscreens and how they work. It also tells how to use them so they are the most effective.

What do sunscreens do?

Sunscreens are chemicals that protect your skin from the sun's rays. They either block or absorb ultraviolet (UV) light so that it does not burn your skin.

There are 2 types of UV light: UVA and UVB. UVA causes *photoaging* (wrinkling and permanent pigment changes). It is present anytime the sun is up. UVB causes most sunburns, and it is strongest from 10 a.m. to 2 p.m. Both UVA and UVB can cause skin cancer.

What is SPF?

SPF, or "sunburn protection factor," tells how long the skin with sunscreen can be exposed to sun before burning, compared with skin that does not have sunscreen. SPF15 means that if your bare skin would typically burn in 10 minutes, it would take 150 minutes (15 times longer) to burn if you have applied sunscreen properly.

SPF only measures UVB protection. Sunscreen makers are not yet required to indicate a standard measure of UVA protection. SPF is measured using a certain amount of sunscreen in the lab, but most people actually use much less than this. So, it is best to use a sunscreen with a higher SPF (30 or more) most of the time. Also, most sunscreens need to be applied 30 minutes before sun exposure to be most effective.

What is the best type of sunscreen?

There are 2 general types of sunscreen agents: physical blockers and chemical blockers.

Physical blockers work well against both UVA and UVB. Two of them are zinc oxide and titanium dioxide. People with sensitive skin usually tolerate these better than chemical blockers. But, they can leave a white residue.

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns. UWMC clinic staff are also available to help.

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Chemical blockers usually only work against either UVA or UVB, not both. So, most sunscreens are mixes of different chemical blockers that together block UVA and UVB at the same time. Examples of UVA blockers are Avobenzone (Parsol 1789) and Ecamsule (Mexoryl). Ecamsule is a newer UVA sunscreen that is more stable, and it does not break down as quickly in the sun. Examples of UVB blockers are Oxybenzone, Octinoxate, and cinnamates.

Water-resistant sunscreens are made to last 40 minutes in the water. Very water-resistant or waterproof sunscreens are made to last 80 minutes in the water.

How much sunscreen should I apply?

An adult full-body application of sunscreen uses more than 1 ounce. It should be applied 30 minutes before exposure to the sun. Because most sunscreens break down in the sun, they need to be reapplied every 2 hours. Sunscreen should also be reapplied after sweating heavily or swimming.

Adults should use an entire 4-ounce bottle of sunscreen in an 8-hour day at the beach if they are using enough to cover their full body.

Wearing special clothing that blocks UV light is another way to protect your skin from the sun. These clothes have an ultraviolet protective factor (UPF) label showing that they have been tested to block UV light. For example, many are rated “UPF-50,” which is similar to the SPF rating of sunscreens. These types of clothes may be more convenient and cost less than applying sunscreen every 2 hours. Hats with wide brims can also protect your face and neck from the sun.

Websites to Learn More

- Skin Cancer Foundation: www.skincancer.org/Sunscreens-Explained.html
- American Academy of Dermatology: www.aad.org/public/publications/pamphlets/sun_sunscreens.html

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