All About Sunscreens: Barriers and Enablers for Daily Sunscreen Use

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Main Points

Today's presentation will include:

- What is a sunscreen?
- How does sunscreen actually work?
- Do I ***really*** need sunscreen?
- How do we know which sunscreen is safe/good to use?
- SPF 30, 50, 50+: what does it all mean?
- Who should apply sunscreen?
- How should we apply sunscreen and how much do we need?
- When should we apply or reapply sunscreen?

Background Information

The SunSmart's key guidance regarding sunscreens are:

- Sunscreens should be labelled SPF30, SPF50 or SPF50+ and be broad-spectrum and water-resistant. For all children over 6 months, apply sunscreen to any skin not protected by clothing 20 minutes before going outdoors and reapply every two hours or after water activities. Make sure it has an Australian Licence (Aust L) number and monitor the expiry date. Store sunscreen below 30 degrees Celsius and out of direct sun. Cancer Council recommends a usage test before applying a new sunscreen. The widespread use of sunscreen on babies under 6 months old is not recommended.

- To help develop independent skills ready for school, children from three years of age should be encouraged and given opportunities to apply their own sunscreen under supervision of staff.
- Sunscreen should be stored in a supervised, cool place, out of the sun. The expiry date should be monitored.
- Where children have allergies or sensitivities to sunscreens, parents should be asked to provide an alternative sunscreen or children encouraged to play in the shade.

- School messages include:
- Strategies are in place to remind and encourage students to apply sunscreen before going outdoors (e.g., reminder notices, sunscreen monitors, sunscreen buddies) with time for this scheduled into the daily routine.
- The school community is educated about the correct use of sunscreen and the level of protection it provides (apply 20 minutes before going outdoors and reapply every 2 hours, or more frequently if sweating or swimming e.g. towel dry and then re-apply)

Do we really need sunscreens?

- The sun emits harmful ultraviolet radiation that can significantly impact our way of life if we do not protect our skin
- UVA and UVB radiation from the sun directly contributes to skin cancer
- The Southern Hemisphere receives around 15% higher solar UVR levels than the Northern one
- Regular sunscreen use has been proven to reduce the chance of getting common non-melanoma skin cancers and melanoma, as well
- Sunscreens are not a suit of armor, but rather a coating on the skin

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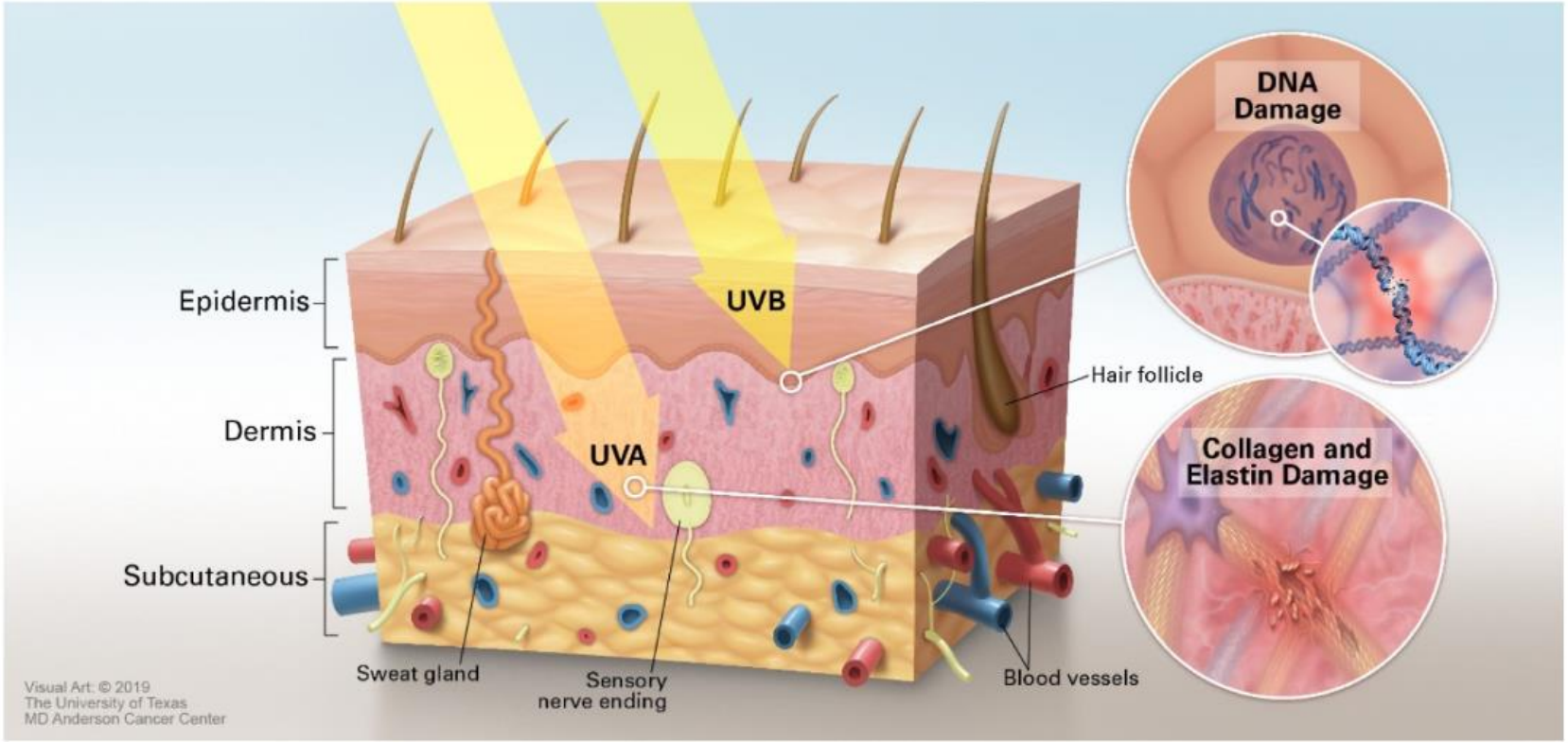
UVB vs UVA



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Why do people not use sunscreens?

- Having skin that doesn’t burn easily and forms a ‘protective’ tan
- Takes too long to apply, and feel too greasy/oily
- Expensive
- Forget

- We don’t want lack of confidence in sunscreen efficacy to become one of the reasons

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How do we know which sunscreen is safe/good to use?

- All sunscreens need to use pre-approved ingredients
- Many beneficial ingredients are included: vitamins, moisturisers, emollients, etc…
- No medicine is completely safe, but listed medicines are low risk
- Depending on the claims, some sunscreens are suitable for sensitive skin, children, dry skin, etc…
- All listed sunscreens go through the same degree of rigor and compliance before being marketed

- Look for claims such as “dermatologically tested”, “suitable for sensitive/dry skin”, and “suitable for use with children” if sensitivity is an issue

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All Sunscreens with SPF > 15 are listed medicines

- Only selected active ingredients and excipients can be used
- All claims must be supported by official certificates from independent and accredited laboratories
- The composition is listed on the Australian Register of Therapeutic Goods (ARTG) with a unique ID number.
- Active ingredient concentrations are reported on the listing. The listing summary is public and can be accessed via the ARTG's webpage
- The ID number has to be clearly displayed on the front of the primary packaging and is preceded by AUST L
- Efficacy, safety and stability have to be tested before the product is released for sale
- The product periodically is tested over 26 weeks at different temperatures in the actual packaging to make sure the product is adequately preserved, free of contamination, at the right pH and with the right consistency
- Every manufactured batch is tested for the content of the active filters and crosschecked against the listed composition on the ARTG

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Are all active ingredients the same?

- Active ingredients such as Diethylamino Hydroxybenzoyl Hexyl Benzoate are UVA active, a chemical absorber
- Active ingredients such as Ethylhexyl Triazone and Octocrylene are UVB actives, both chemical absorbers
- Active ingredients such as Bemotrizinol and Titanium Dioxide are UVB and UVA active, the former a chemical absorber and the latter a physical blocker

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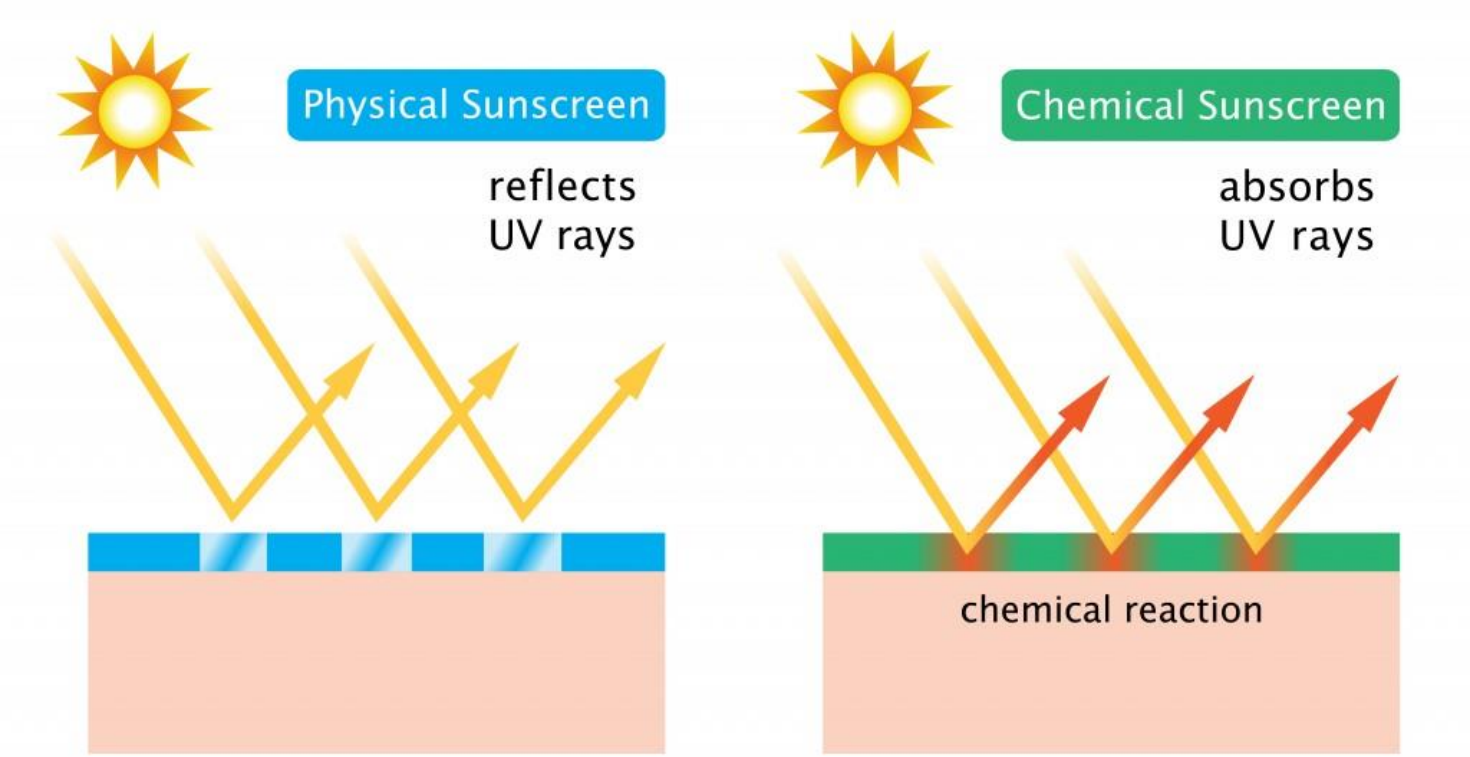
Chemical actives vs Physical actives



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What does SPF mean?

- Sun Protection Factor is measurement of the time needed to cause an erythemal response (redness) in protected skin vs unprotected skin
- The longer it takes to cause an erythemal response, the higher the protection factor is
- The testing method is standardized by ISO (24444:2019) and adopted in the Australian Standard/New Zealand Standard 2604
- It is a test carried out on human subjects (*in-vivo*), at least 10 for a listed sunscreen
- The AS/NZS is being updated in January 2024 with the adoption of new ISO methods for SPF, Broad Spectrum, and water resistance testing

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What does Broad Spectrum mean?

- The testing method is standardized by ISO (24443:2021) and adopted in the Australia Standard/New Zealand Standard 2604
- It is a test carried out on plastic plates (*in-vitro*) and via a UV spectrophotometer, and it is anchored in the SPF results
- The test covers UVA protection, which is more harmful than UVB
- To pass, a sunscreen must have at least 1/3 of the SPF value as UVA-Protection Factor
- For an SPF 30 sunscreen, the UVA-PF must be at least 10
- It provides reassurance that adequate protection across the UVB and UVA ranges is provided

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What about water resistance?

- The testing method is standardized by ISO (16217:2020) and adopted in the Australia Standard/New Zealand Standard 2604
- It follows the method for UVB and UVA testing (ISO 24444 and 24443, respectively)
- It specifies the type of water, the volume of the pool/spa, and the sequence of immersion/drying steps of the subjects involved in the study
- The SPF claimed on pack for water resistant sunscreens is the one POST immersion, as well as the broad spectrum claim

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Who should apply sunscreens?

- Everyone above 6 months of age when exposed to UV light
- 20 minutes prior to exposure
- In addition to other protective elements, such as sunglasses, wide brim hats, long sleeves shirts and long pants, if possible
- Every 2 hours and after bathing/swimming, exercising, towel drying

- UV damage is cumulative: the visible signs of damage in your 40's, 50's or 60's come from damage in your teens and 20's

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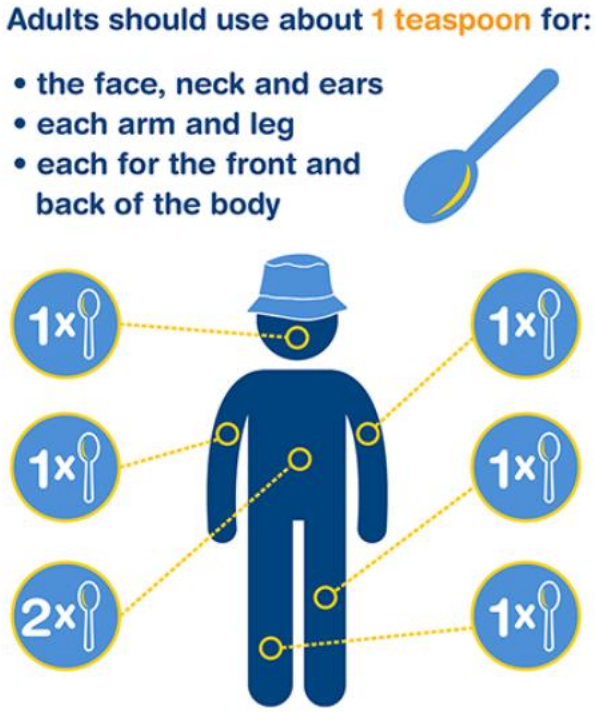
How much should we apply?

- The ISO method applies a standard 2mg/cm^2
- What does that mean? ~37g of product for the entire body per application
- What does that mean?



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Thank you

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