

The Sun, UV and You

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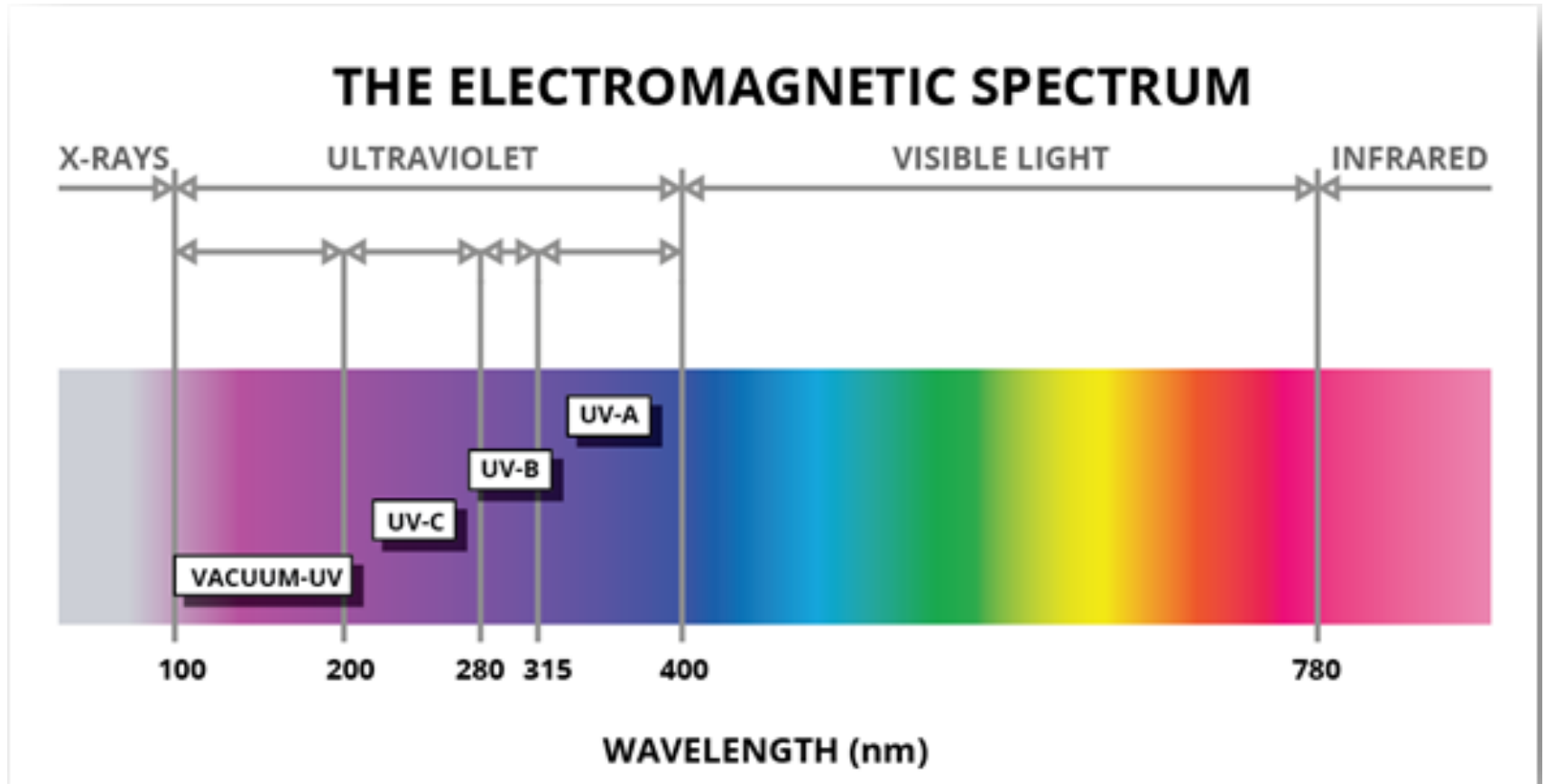
Dermatologist



Outline

- What is UV?
- Sunscreens and sunscreen allergy
- Vitamin D
- Skin cancers

A little bit of physics



Ultraviolet (UV) light

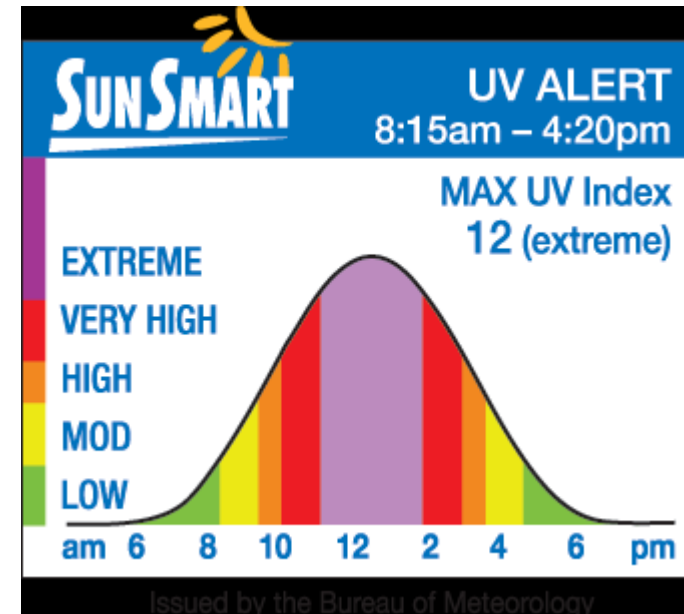
- Invisible!
- Emitted all year round
- UVA 90-95% of rays reaching us
 - Fairly constant throughout the year
 - Penetrates cloud and glass
 - wrinkles, sagging skin, cataracts, ?skin cancer
- UVB 5-10% of rays
 - skin cancer
- UVC – absorbed by the ozone layer






UV index

- The level of solar ultraviolet radiation at the Earth's surface
- Range from 1- 11+
- Sun protect when $UVI \geq 3$
- Not related to temperature!
- Increased by reflection (water, sand, snow), altitude, time of day



Get the app!






**SUN PROTECTION
NOT REQUIRED**

Unless:

- Near highly reflective surfaces e.g. snow.
- Outside for extended periods

MAX UV
2

**UV IS
NOW**
0

 **11 AUGUST**
Possible shower.

Melbourne ▾ **11°** **16°**
MIN MAX

Sunday 13 August



Min **9** Max **17**

Mostly sunny.

Possible rainfall: **0 mm**

Chance of any rain: **10%** ■■■■■■■■

Melbourne area

Mostly sunny. Winds northwesterly 15 to 25 km/h tending northerly early in the morning then increasing to 25 to 35 km/h in the morning.

Sun protection not recommended, UV Index predicted to reach 2 [Low]

Sun protection – you’ve heard this before

- Avoid direct sun
- Seek shade
- Broad-brimmed hats
- Sunglasses
 - Australian/New Zealand Standard AS/NZS 1067:2003
 - Lens category 3 or 4 ideally
- Broad-spectrum sunscreen SPF 30+
 - Apply generously
 - Re-apply – more often than you think!
- Fabric is your best friend
 - Tightly woven so that light can’t shine through

Sunscreens



What is SPF?

- Australian sunscreens should all be broad-spectrum
 - Protect against UVB and UVA rays
- SPF is a measure of UVB radiation blockage
- SPF 15 blocks 93%
- SPF 30 blocks nearly 97%
- SPF 50 blocks 98%
 - The difference is negligible
 - Sometimes you need a lot more sunscreen actives to get the SPF higher

Sunscreens

- No sunscreen is waterproof...but may be water-resistant
- Don't use if expired
- Don't use if the product has been kept in a hot place e.g. glovebox
- Issues
 - Are you applying generously enough?
 - Are you re-applying often enough?
 - Is it giving you a false sense of security?

Sunscreen ingredients...it's bamboozling

- Physical sunscreens reflect rays
 - Zinc oxide
 - Titanium Dioxide
- Chemical sunscreens absorb rays before they reach the skin's surface
 - Aminobenzoic acid, Avobenzone, Cinoxate, Dioxybenzone, Mexoryl SX, ensulizole, homosalate, octocrylene, octyl methoxycinnamate, octyl salicylate, oxybenzone, padimate O, sulisone benzene
- Most sunscreens are a combination of both

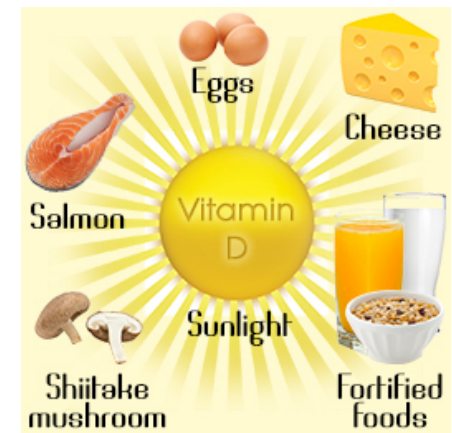
Sunscreen allergy

- Who's the culprit?
 - An active ingredient? Which one?
 - A preservative?
 - A base ingredient or fragrance?
- It's hard to pinpoint!
 - PATCH testing at The Skin and Cancer Foundation, Carlton (Dermatologist referral required)
 - Breaks it down into individual ingredients
 - DIY patch test

Options for sensitive skin



Vitamin D



- Important for bone health, immune function
- Food sources: egg yolk, fatty fish, butter, cod liver oil, liver, dairy
- Sunlight: UVB rays trigger active Vitamin D3 to be made in the skin then sent to the liver then to the kidneys
- People with Albinism are at risk of deficiency if strictly sun protecting
- Discuss with your GP regarding supplementation, especially over winter months ~1000-2000iu/daily

Skin cancers

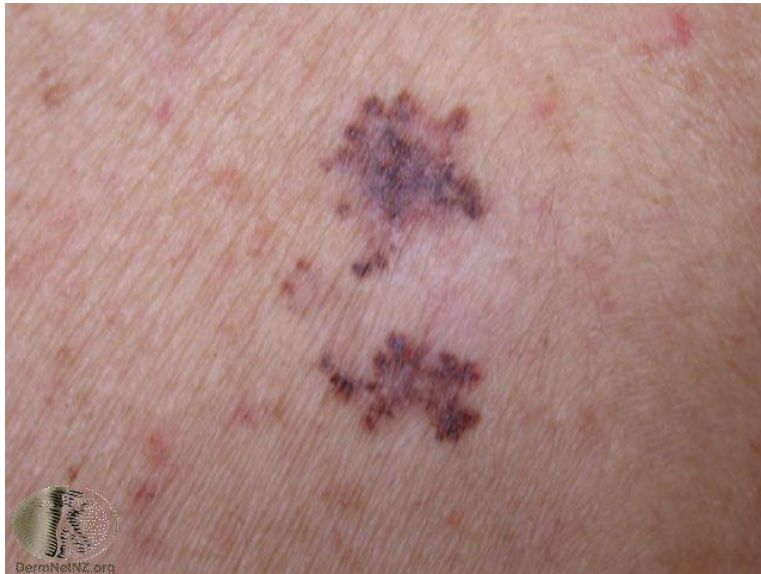
- 2/3rd of fair skinned Australians
- Two subtypes
 - Melanoma
 - Non-melanoma
 - Basal Cell Carcinoma (BCC)
 - Squamous Cell Carcinoma (SCC)
 - Others
- The ugly duckling sign
- Don't wait for something to be lumpy, sore, itchy or bleeding...

Reassuring features

- Stability over time
 - The longer you've had a spot, provided it hasn't visually changed, the less likely it is to be the culprit
- Strength in numbers
 - Lots of spots that look like each other
- But....trust your instincts!

Melanoma: What to look out for

- 3rd most common cancer
- 1/15 Australians
- Multiple shades of brown or black
- Irregular outline
- Changing visually
 - Beware the pink melanoma (amelanotic)
 - A growing pink nodule



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Non-melanoma: what to look out for?

- The scabby scab
- The crusty crust
- The sore that doesn't heal
- The 'pimple' that doesn't behave like a pimple
- The pink patch
- A pink or flesh-colored nodule

Actinic keratoses = advanced sun damage



Basal Cell Carcinoma



Squamous Cell Carcinoma



Thank you!