

# The Sun, UV and You

Dr Anita Lasocki

MBBS(Hons), BMedSci, FACD

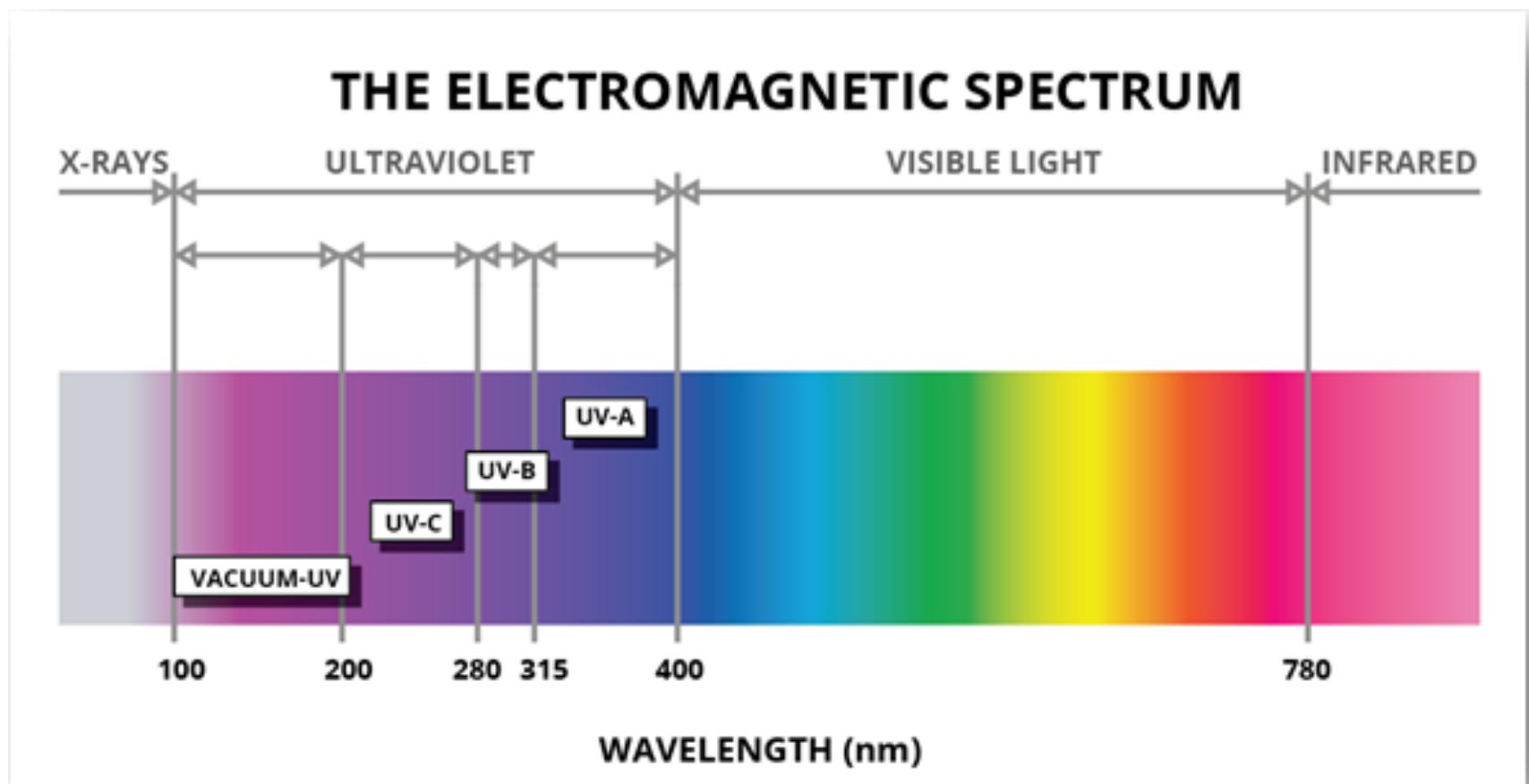
Dermatologist

# Outline

---

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

# A little bit of physics



# Ultraviolet (UV) light

---

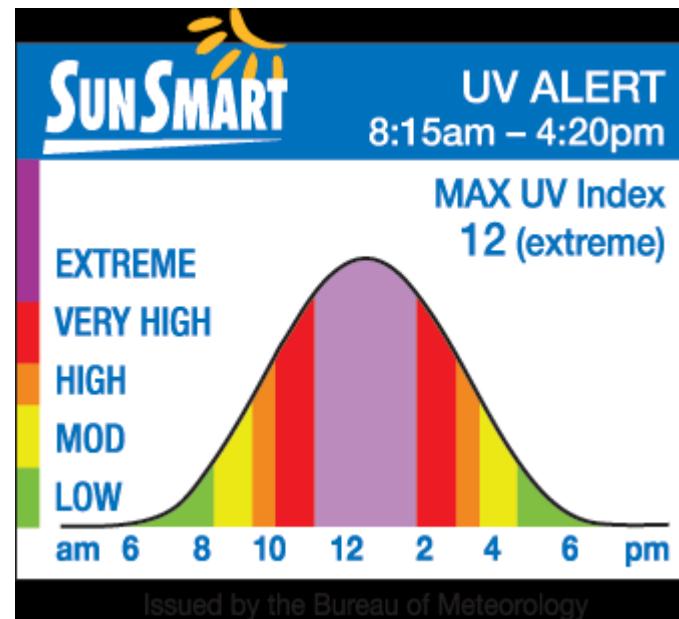
- Invisible!
- Emitted all year round
- UVA 90-95% of rays reaching us
  - Fairly constant throughout the year
  - Penetrates cloud and glass
  - wrinkles, sagging skin, cataracts, ?skin cancer
- UVB 5-10% of rays
  - skin cancer
- UVC – absorbed by the ozone layer





# 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!



Sunday 13 August



Min 9 Max 17

Mostly sunny.

Possible rainfall: 0 mm

Chance of any rain: 10% A green progress bar consisting of ten small squares, with the first two filled.

**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, D oxybenzone, Mexoryl SX, ensulizole, homosalate, octocrylene, octyl methoxycinnamate, octyl salicylate, oxybenzone, padimate O, sulisone benzene
- Most sunscreens are a combination of both

# Sunscreen allergy

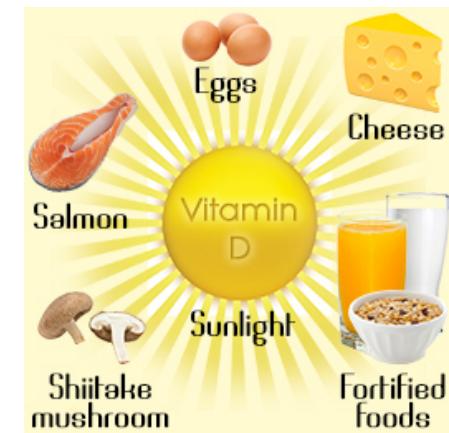
---

- 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

---

- 2/3<sup>rd</sup> 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

---

- 3<sup>rd</sup> 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



© Dr Ph Abimelec - dermatologue

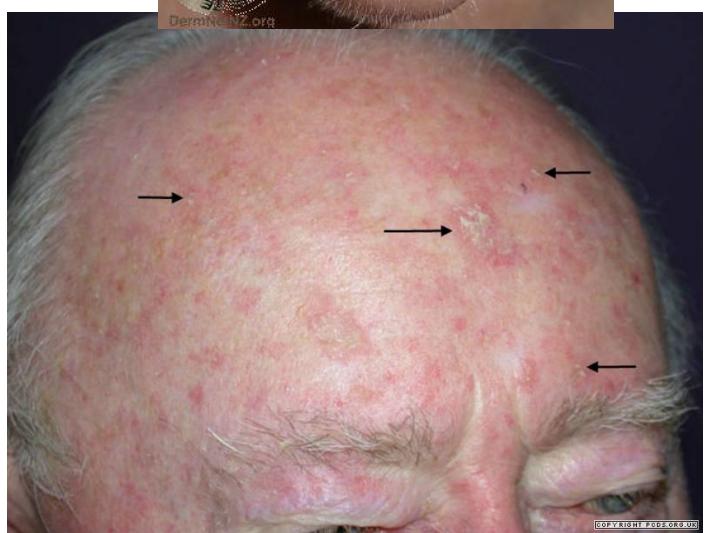
# Non-melanoma: what to look out for?

---

- 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!