

Skin Cancer

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NHS Foundation Trust



Outstanding care
every time

Topics covered

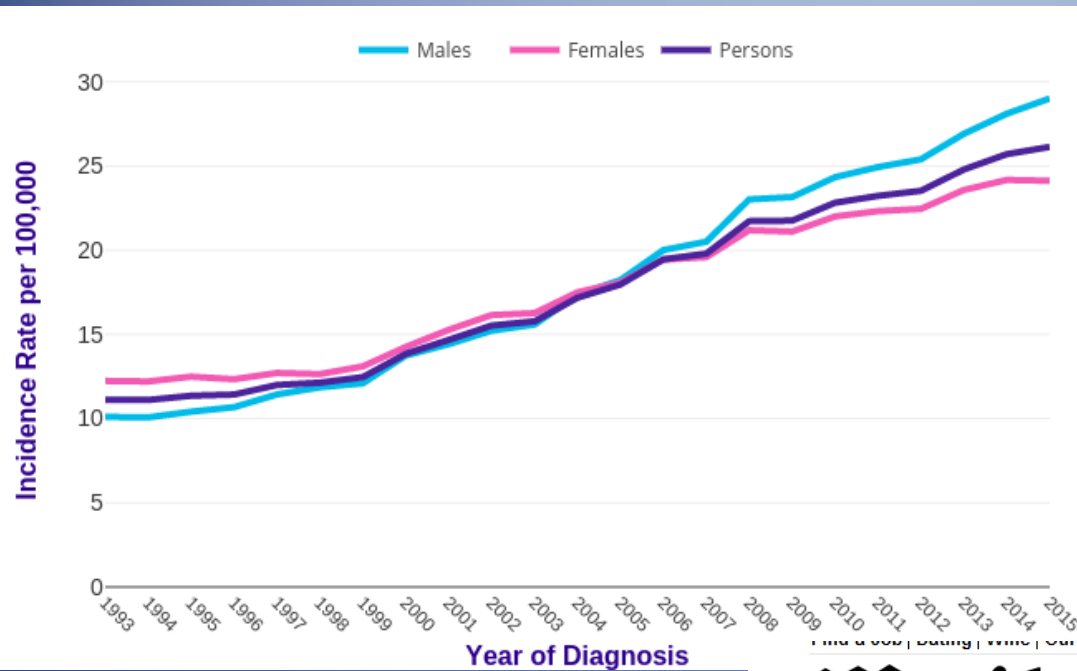
- Melanoma skin cancer
- Non-melanoma skin cancer
- Sun protection
- Vitamin D

Melanoma

What is melanoma?

- A cancer originating from melanocytes (cells that produce pigment) in the skin or eye or other pigmented tissue
- It is the deadliest form of skin cancer
- It is 5th most common cancer in the UK (2016 data). In US it is commonest form of cancer
- 16,000+ new cases recorded in 2017 in UK
- 128% increase in incidence since early 1990's (steepest increase in any common cancer)

Incidence rates melanoma



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Record 10,400 Britons hit by deadliest skin cancers

By DANIEL MARTIN

Last updated at 1:39 AM on 26th May 2009

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The number of people diagnosed with the deadliest form of skin cancer each year has topped 10,000.

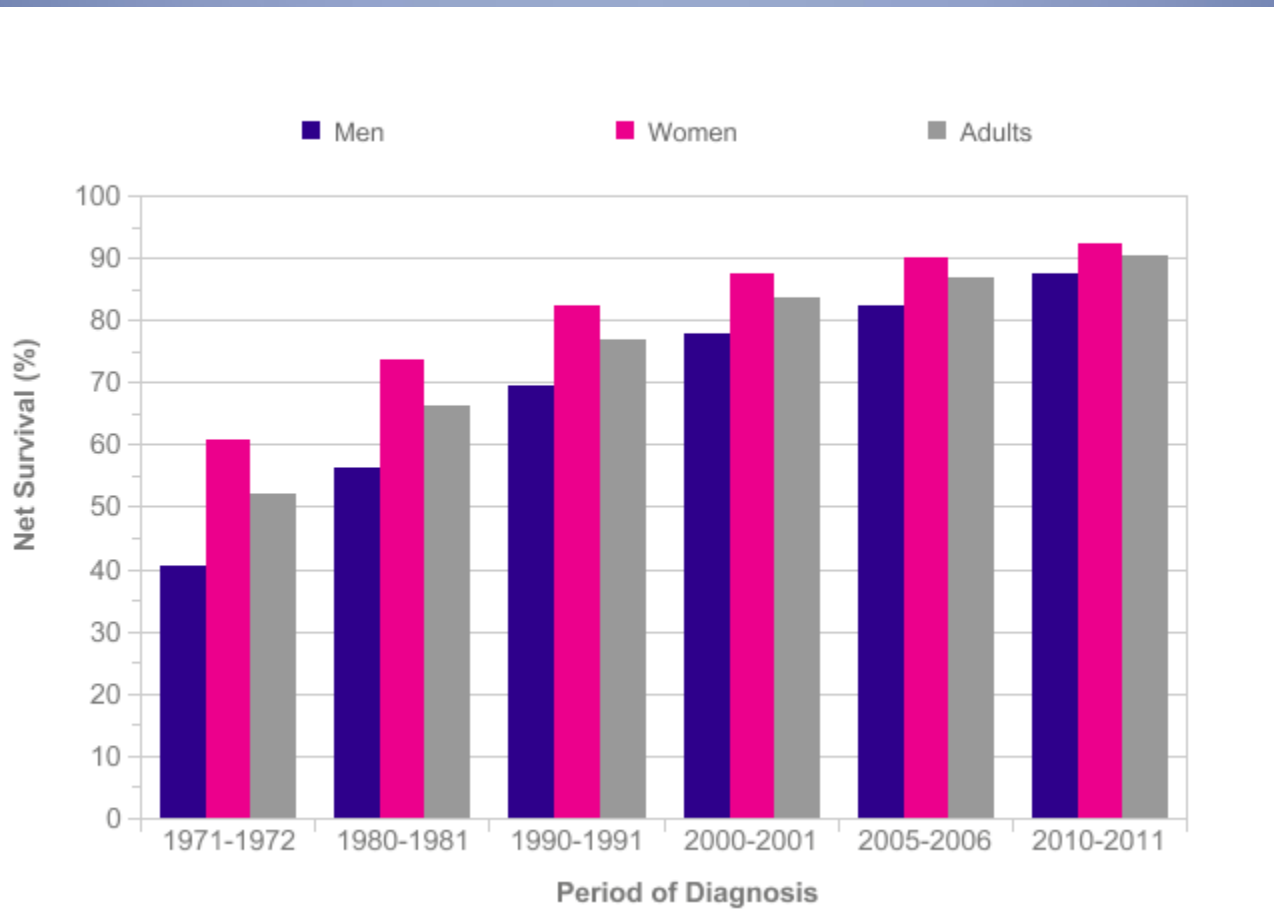
Binge tanning at home and on holiday abroad has contributed to the increase in malignant melanoma, according to figures issued by Cancer Research UK.

Cases overall have risen by more than 650 in one year, taking the total to 10,410 in 2006 - the most recent figure available.



True —
Part Exchange
could help
you move

Age standardised 5 year survival England and Wales



How can we explain the improved survival in the face of increased incidence?

- Earlier detection?
- Better treatment?
- Over-diagnosis?

Skin cancer risk factors

- Skin types I- II
- Chronic sun exposure eg outdoor occupation or recreation
- Age
- Repeated sunburn – x2 risk
- Previous skin cancer
- Immunosuppression
- Numerous and unusual moles
- Family history of melanoma
- Sunbed use, especially aged <35 years



Dysplastic naevus syndrome



Melanoma subtypes



Superficial Spreading Melanoma. This is the most common variety, which initially grows horizontally before becoming raised. Note the irregular edge, non-uniform pigmentation and large size



Acral melanoma: Afro-Caribbean people rarely get melanomas but when they do it is usually on their hand or sole of their foot

Subungual melanoma



Subungual haemorrhage

April



June



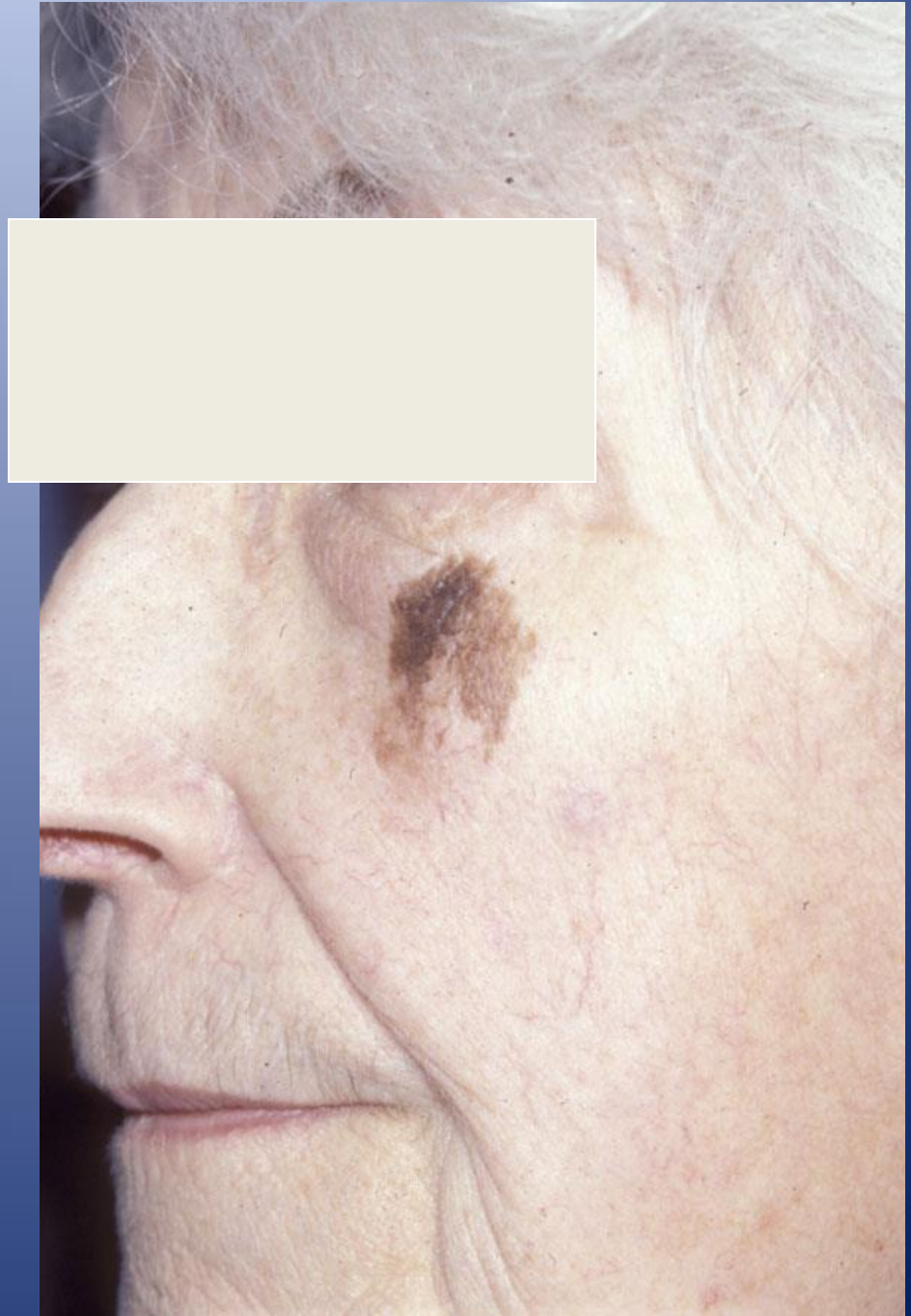
Nodular melanoma



- 10-15% Melanomas
- Rapidly growing over weeks to months
- Dome shaped
- Colour- uniform or variable (black, red or skin coloured)
- Surface- smooth, warty or crusty
- 1/3 of nodular melanomas – not pigmented

Lentigo maligna melanoma











- Arise from lentigo maligna (typically flat, brown, irregularly pigmented area)
- Elderly, sun-damaged face
- It spreads along the skin insidiously and the presence of nodules (raised and palpable areas) indicates invasion



Importance of public awareness

- 60% of melanomas are brought to the attention of dermatologists by the patient themselves (McGuire et al, Arch Dermatol 2011)
- Melanomas are more commonly detected by the dermatologist if:
 - Patients are older
 - Patients have had a previous skin cancer
 - Patients have thinner melanomas

Detection: ABCDE

NORMAL		CANCEROUS
	A: ASYMMETRY If you draw a line through the centre of the lesion, the two halves of a melanoma won't match.	
	B: BORDER IRREGULARITY The border of a melanoma is irregular, typically geographic: peninsulas, bays, islands.	
	C: COLOUR VARIEGATION Healthy moles are a uniform colour. A variety of different colours in the same lesion is suspicious.	
	D: DIAMETER > 6 MM Greater than 6 mm is suspicious, although melanomas can be smaller.	
	E: EVOLVING Recent change in size, shape or colour, or bleeding or scabbing are suspicious.	

ABCDE

Asymmetry

Border

Colour

Diameter

Evolving

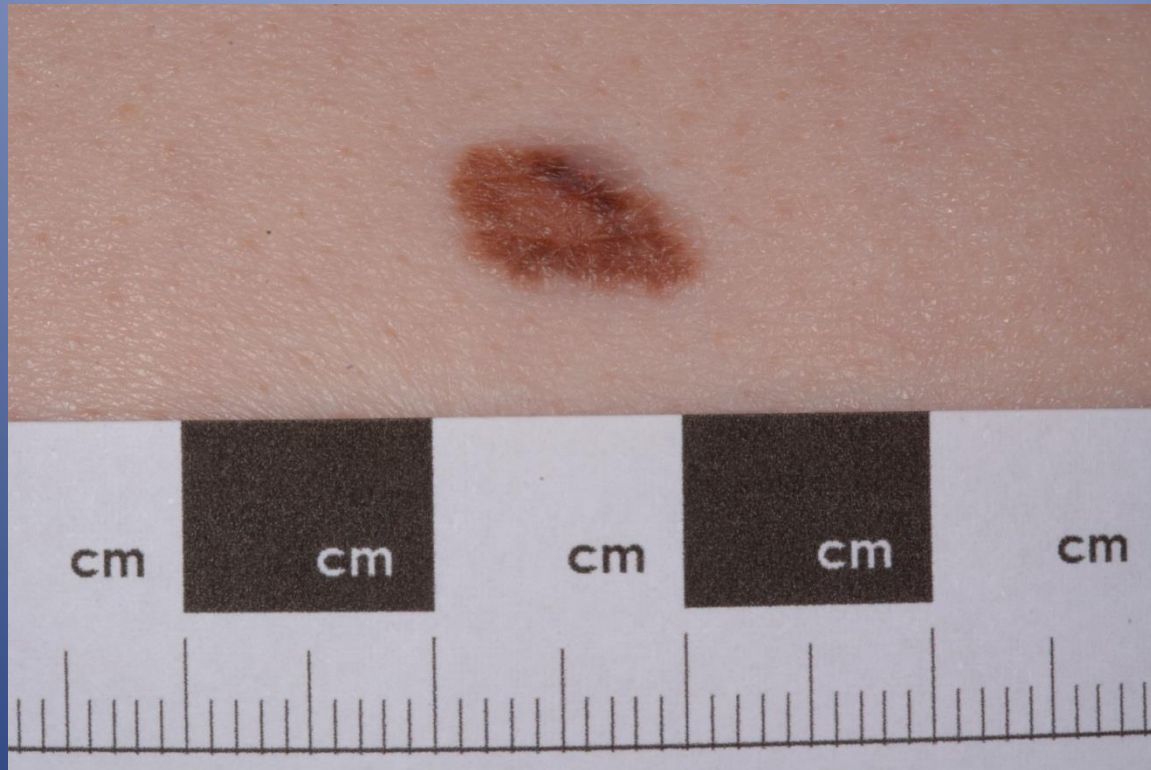
www.skincancer.org



Melanoma

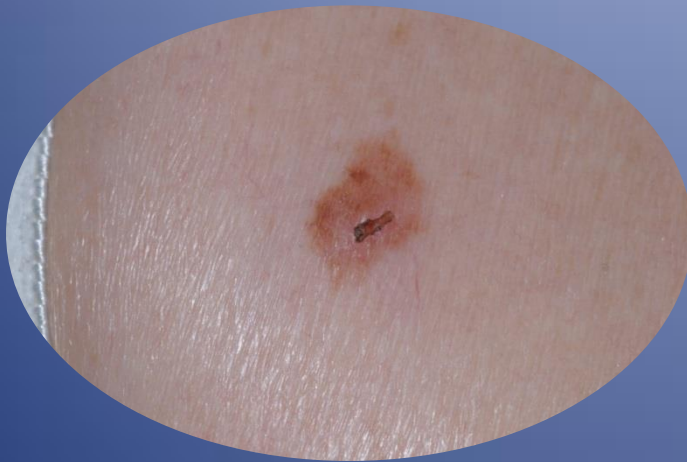


Melanoma

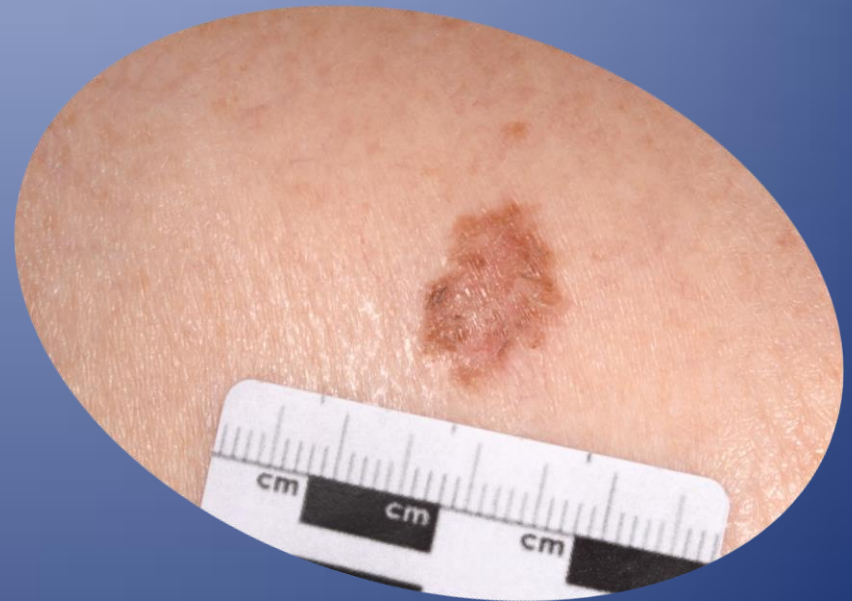


Evolving

2012



2018



EFG

- In addition, for nodular melanoma (which is on the increase):
- **E**levated
- **F**irm
- **G**rowing for over a month



Also consider ugly ducklings and very dark moles



Recognising benign lesions

Benign naevus



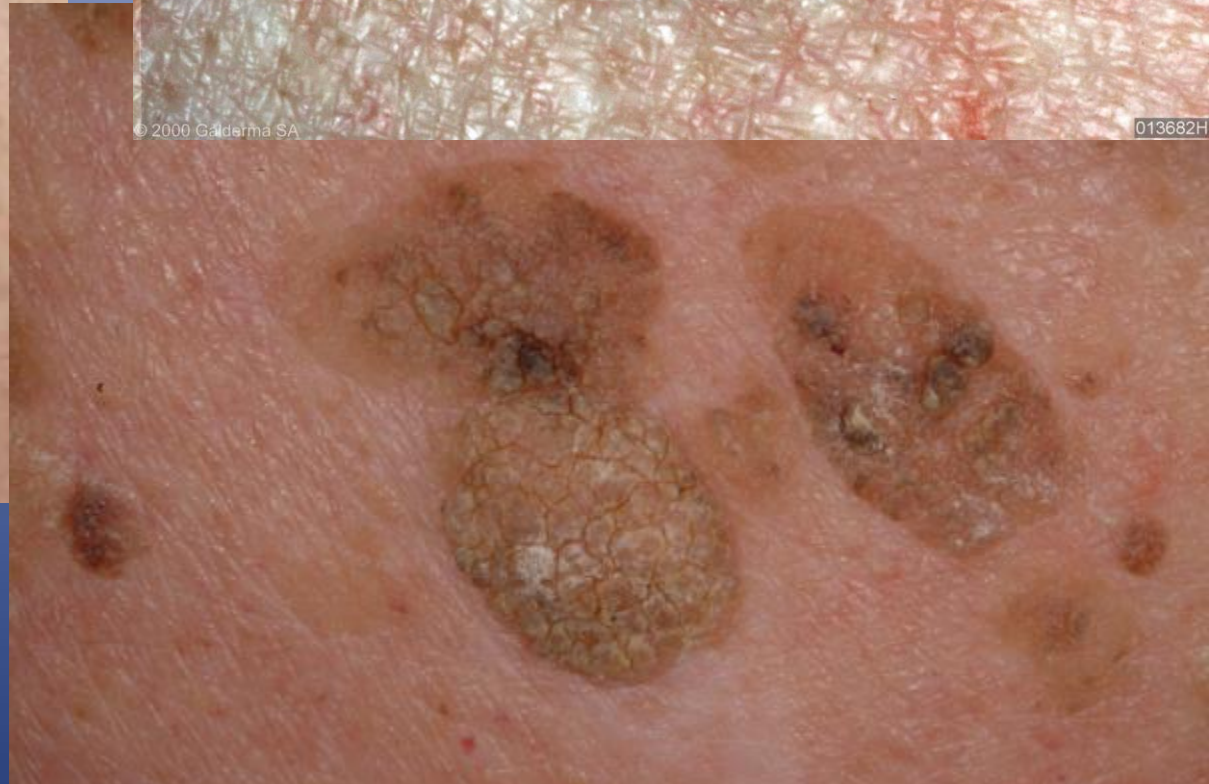
Benign naevus



Benign naevus



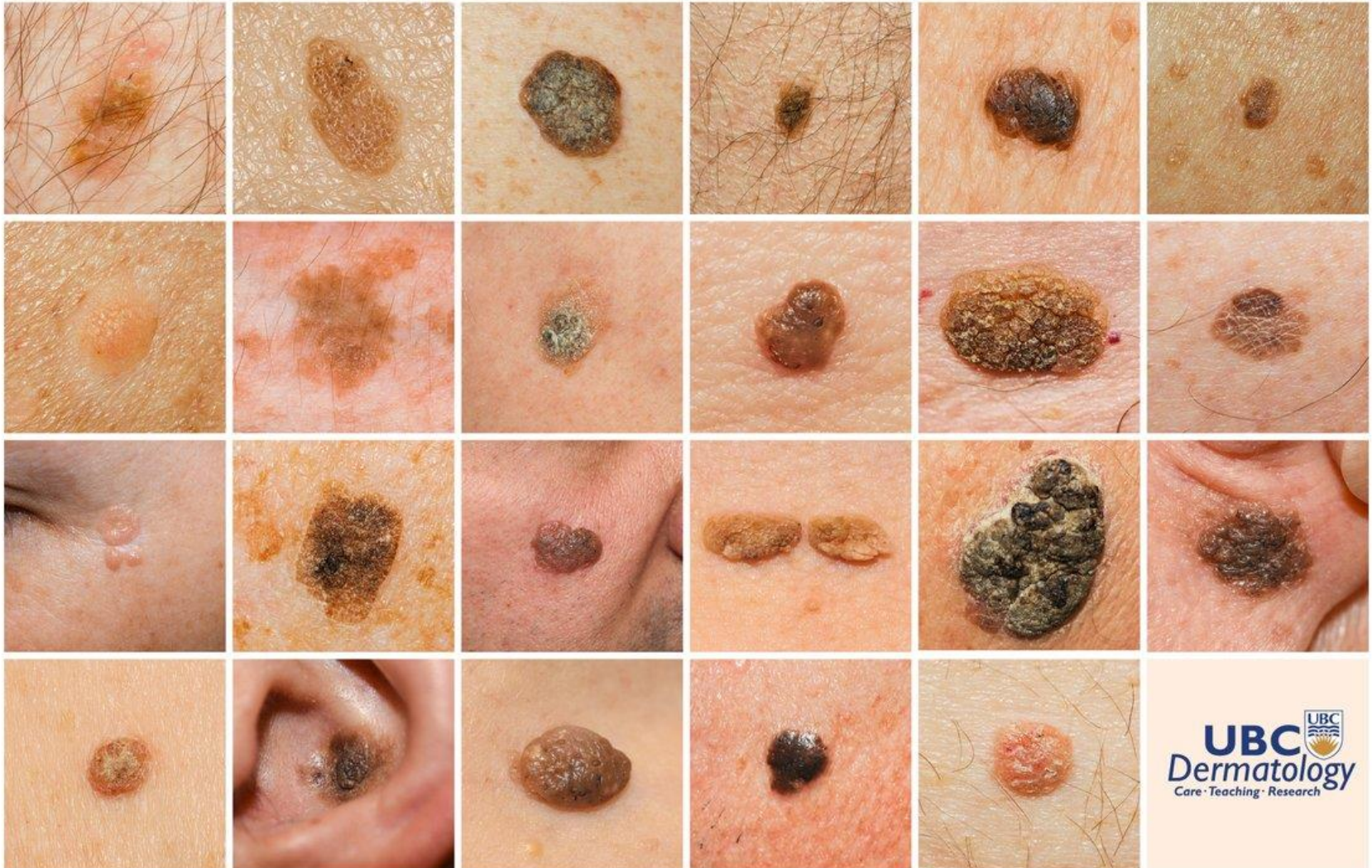
Seborrheic keratoses



Seborrheic keratosis

Seborrheic keratoses vary widely in appearance

© H Lui, UBCDerm





Dermoscopy



- Dermoscopy increases our ability to pick up true melanomas without increasing false positives. (Vestergaard *et al.*, *BJD* 2008).
- This decreases the number of excisions for benign lesions (by 42%).



Possible disadvantages of Teledermatology

Incidental melanomas

- 56% of melanomas diagnosed in a study involving 336 patients were incidental findings

(Aldridge RB, Naysmith L, Ooi ET, Murray CS, Rees JL. The importance of a full clinical examination: assessment of index lesions referred to a skin cancer clinic without a total body skin examination would miss one in three melanomas. *Acta Derm Venereol.* 2013;93(6):689–692.)

Ugly ducklings



Full skin check essential for:

- Dysplastic naevus syndrome
- Previous skin cancer
- Family history of skin cancer
- Immunosuppressed
- Actinic keratoses/ other evidence of severe sun damage
- Cancer syndromes



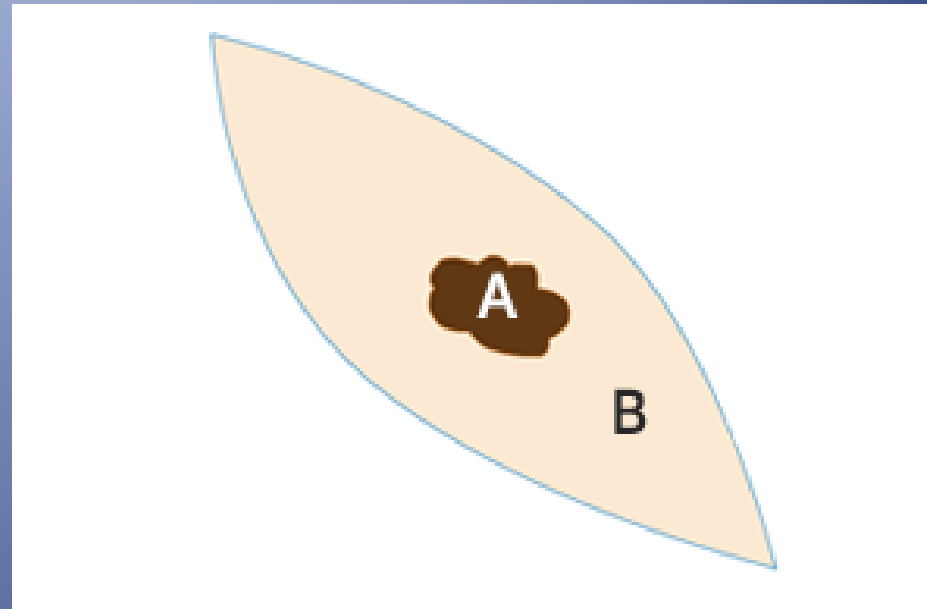
Prognostic factors

- Breslow thickness (the thickness of the melanoma under the microscope)
- Ulceration
- Lymph node involvement

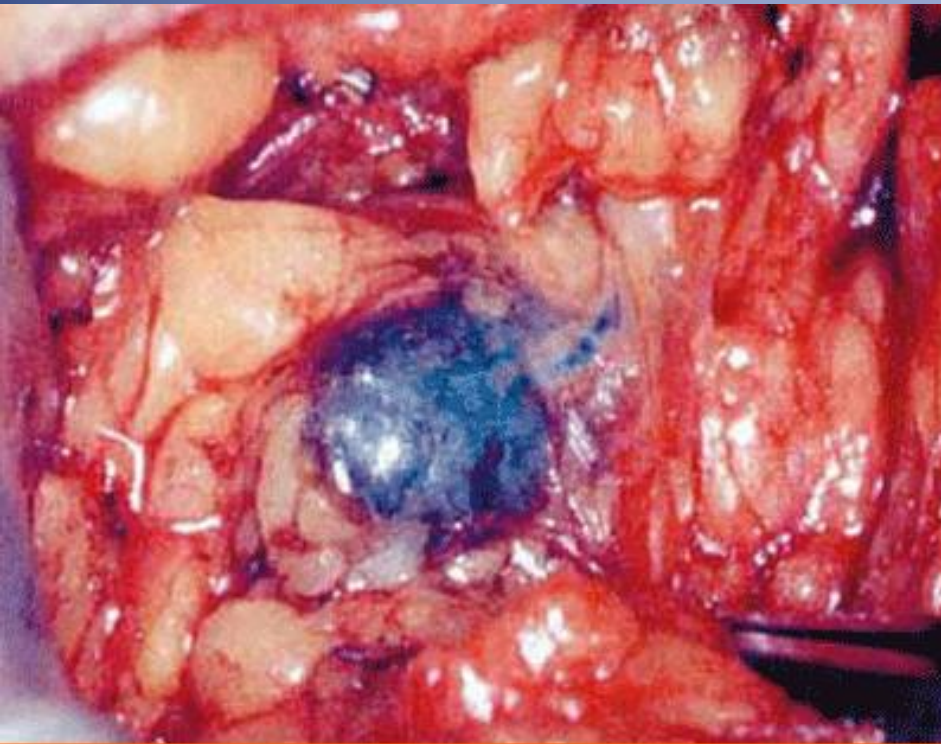
Treatment of melanoma

Treatment of early melanoma

- Suspected cancers are excised under local anaesthetic with a 2mm margin
- If melanoma is confirmed, then a wide local excision is carried out
- If the patient has a stage 1B-2B melanoma, they may be offered a sentinel node biopsy
- Patients with stage 2C melanoma are scanned (CT neck, chest abdomen and pelvis, MRI brain) prior to further treatment



Sentinel lymph node biopsy



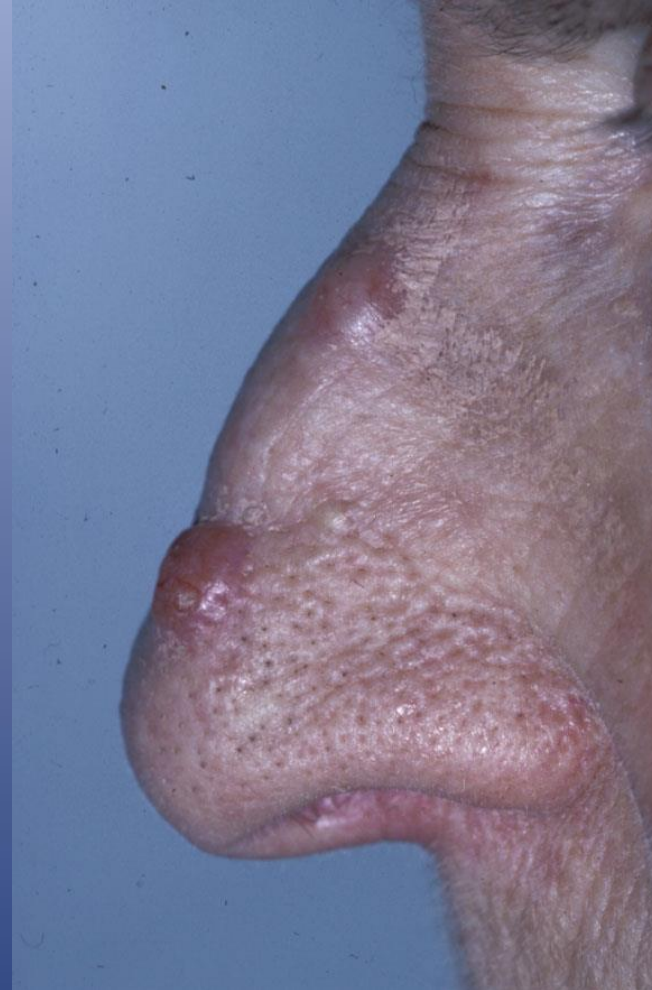
- Indications:
 - MM with Breslow $>0.8\text{mm}$
 - Ulceration
- 80% of patients will have negative SLNB
- Risks
 - Lymphoedema: $\sim 1.7\%$
 - Risks of GA
 - False negative ($<5\%$)
 - Anaphylaxis
- 5-Year survival:
 - Negative SLNB: 95%
 - Positive SLNB: 50-60%

Melanoma survival stats

Stage	5 Year Survival Rate	10 Year Survival Rate
IA	97%	95%
IB	92%	86%
IIA	81%	67%
IIB	70%	57%
IIC	53%	40%
IIIA	78%	68%*
IIIB	59%	43%
IIIC	40%	24%
IV	15-20%	10-15%

Non melanoma skin cancers

Basal cell carcinoma



Basal cell carcinoma



Pigmented BCC



Squamous Cell Carcinoma



SCC- high risk sites

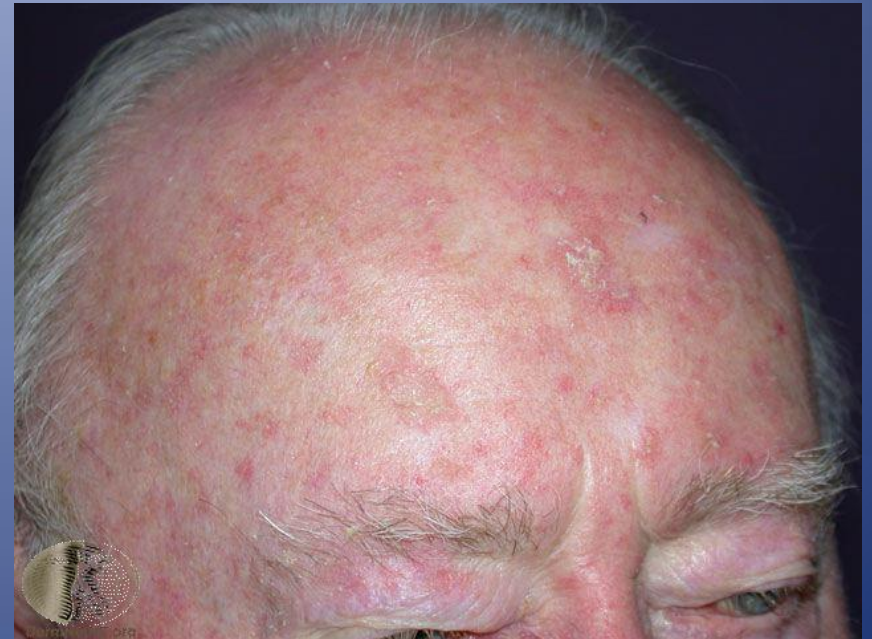


Radiotherapy scars



Prevention

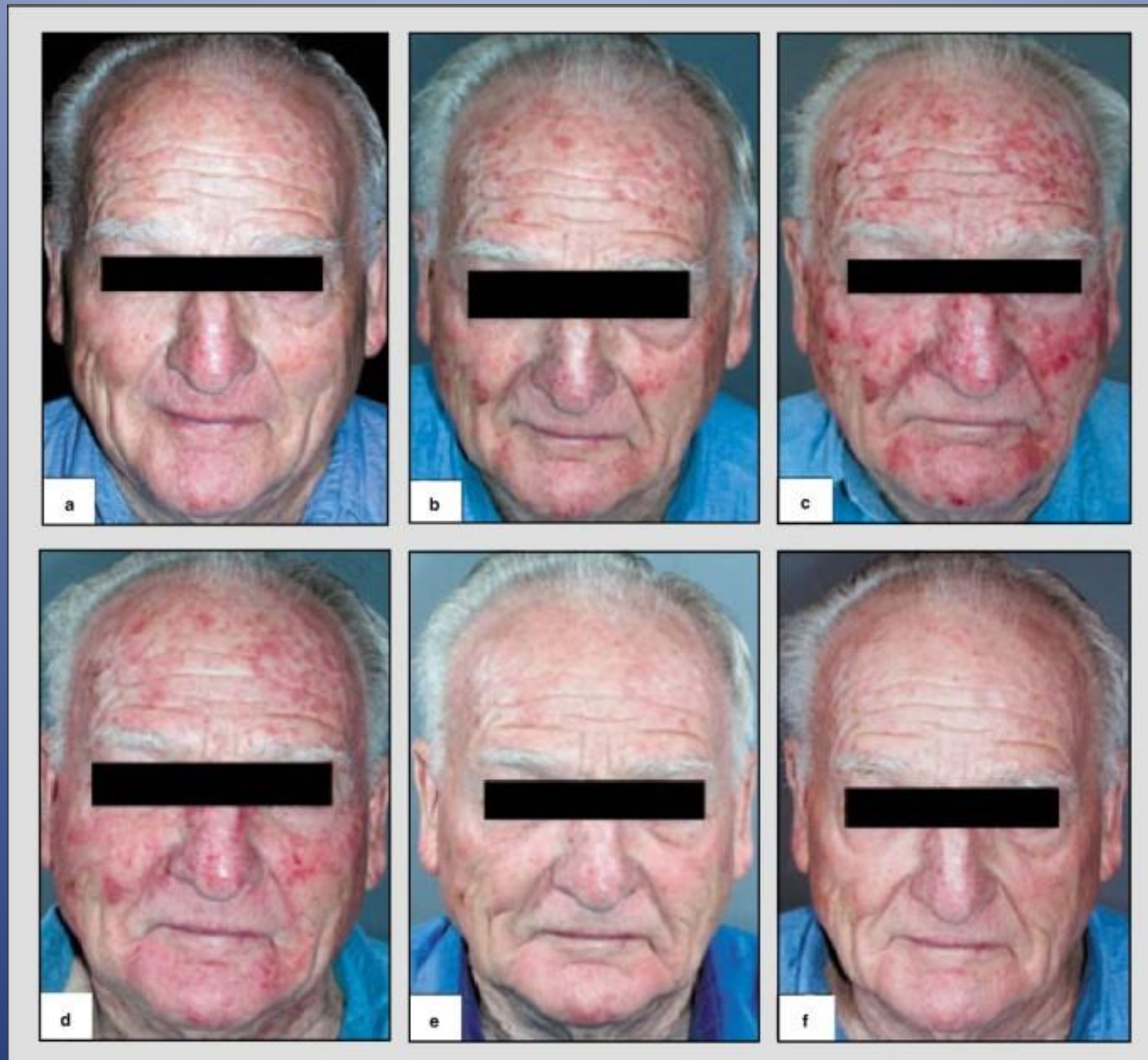
Precancerous lesions: actinic keratoses



Precancerous lesions: Bowen's disease



Treatment with efudix



Jeffes, E.W.B., Chen, J.T. New Approaches to the Treatment of Actinic Keratosis. *Am J Cancer* **2**, 151–168 (2003).

Regular Screening

- For organ transplant recipients- annual review recommended in specialist clinic
- Dysplastic naevus syndrome
- Patients with multiple melanomas or mutations in genes known to predispose to melanoma (CDKN2A, CDK4, BAP1)

SUNBEDS CAUSE CANCER

Sunbeds pose a **risk** for all people. The most vulnerable are **young** and **fair-skin** people.

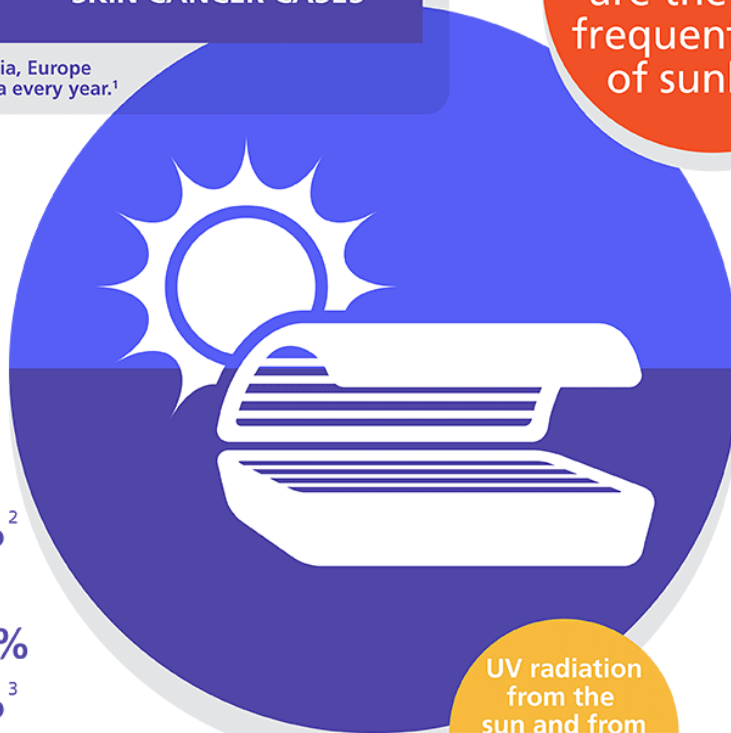
10,000 + 450,000
MELANOMA CASES NON-MELANOMA SKIN CANCER CASES

are due to sunbed use in Australia, Europe and the United States of America every year.¹

The **younger** you start using sunbeds, the higher the risk of skin cancer

Sunbed use:


- **BEFORE AGE 35**
melanoma risk ↑ **60%**²
- **BEFORE AGE 25**
squamous cell cancer risk ↑ **102%**
basal cell cancer risk ↑ **40%**³




Young women are the most frequent users of sunbeds




Other health effects of sunbed use:

cataracts 

immune suppression 

sunburn 

premature skin ageing 

UV radiation from the sun and from sunbeds causes skin cancer

1 Wehner MR, et al. International prevalence of indoor tanning: a systematic review and meta-analysis. JAMA Dermatol. 2014; 150(4):390-400.

2 Boniol M, et al. Cutaneous melanoma attributable to sunbed use: systematic review and meta-analysis. BMJ 2012; 345:e4757.

3 Wehner MR, et al. Indoor tanning and non-melanoma skin cancer: systematic review and meta-analysis. BMJ. 2012; 345:e5909.



World Health Organization

Sunscreens

- Reuse every 2 hours
- 1 shot glass for the body and face (30ml) per application
- Apply even in shade- surfaces reflect light
- Don't forget lips and ears
- Use hats that cover neck and ears
- Sunglasses- eye protection factor of 10 (1-10)
- UV index of 3 or more
- Vitamin D supplementation

Which sunscreen?

- **Mineral** (containing zinc oxide and titanium dioxide particles) vs **chemical**
- Sensitive skin: mineral sunscreens less irritant
- Darker skin: chemical sunscreens have less of a 'ghosting' effect
- Acne/ rosacea: Avoid oxybenzone and PABA
- Cost
- Environmental considerations

Sunscreen safety

- Oxybenzones- ? Endocrine effects- further research required. No conclusive studies on effects on humans
- Oxybenzone and octinoxate restricted in Hawaii due to effects on coral reefs
- Non-nano mineral sunscreens considered more environmentally friendly
- Rarely oxybenzone can cause contact and photocontact allergies

Clothing

- UV protective clothing
 - High UPF: Merino wool, polyester, nylon. Darker colours. Chemical treatments
 - Low UPF: Cotton, acrylic, silk. Lighter colours. Stretched fabrics, wet fabrics
- UPF- ultraviolet protection factor- an indicator of how much light penetrates fabric. Eg UPF of 50 means 1/50 of rays penetrate fabric
- Sun guard- add to wash, lasts 20 washes



Vitamin D

- Increasing evidence for immune and antitumour benefits
- ~ 36% adults are deficient
- Sources:
 - UVB
 - Diet: Oily fish, Egg yolks, Fortified cereals
- Normal range 25 hydroxyvitamin D: > 30 ng/ml ?? . < 10 ng/ml is deficient

Recommendations

- CRUK consensus statement:
 - Evidence of non-musculoskeletal benefits inconclusive
 - 400 IU (10 µg)/d if at risk of low sun exposure
 - 13 minutes of midday sun exposure 3 x/ week in summer with limbs exposed is enough to maintain normal levels
- Intake of 1000IU/d (25 µg/d) required to maintain normal serum levels
- Toxicity only occurs with doses > 10,000IU/day

Questions?