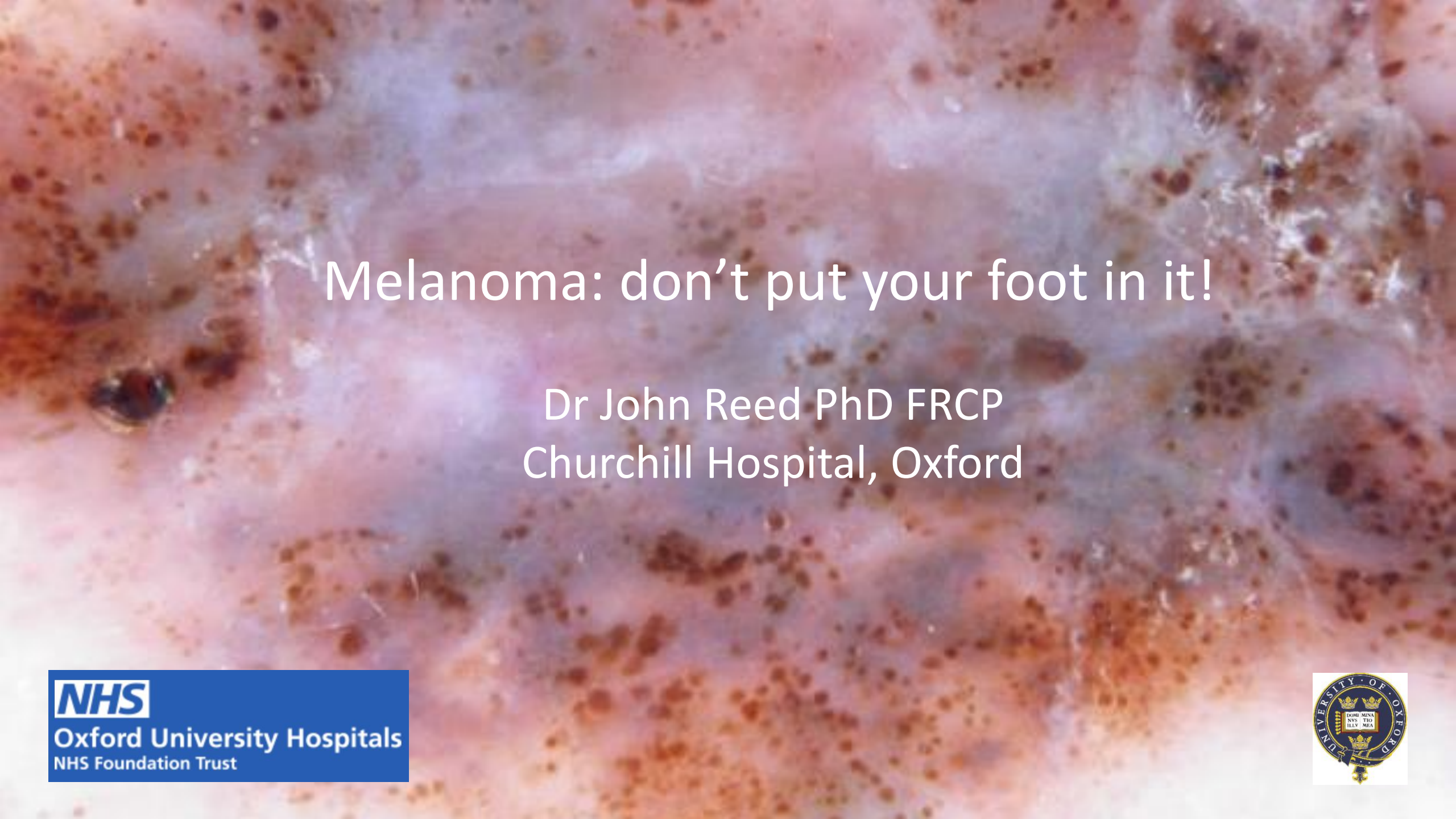


Melanoma: don’t put your foot in it!

Dr John Reed PhD FRCP
Churchill Hospital, Oxford

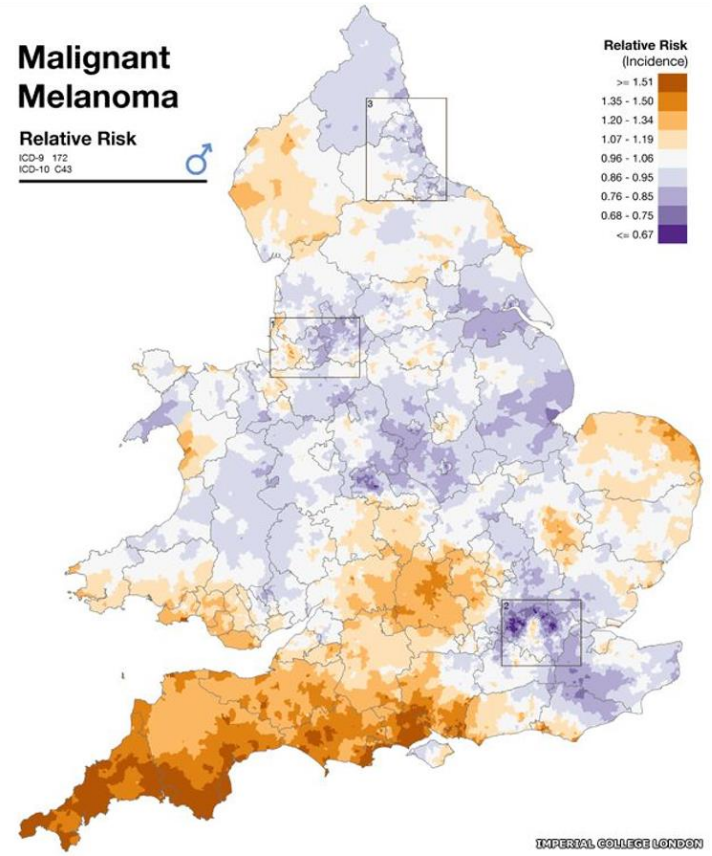
NHS
Oxford University Hospitals
NHS Foundation Trust

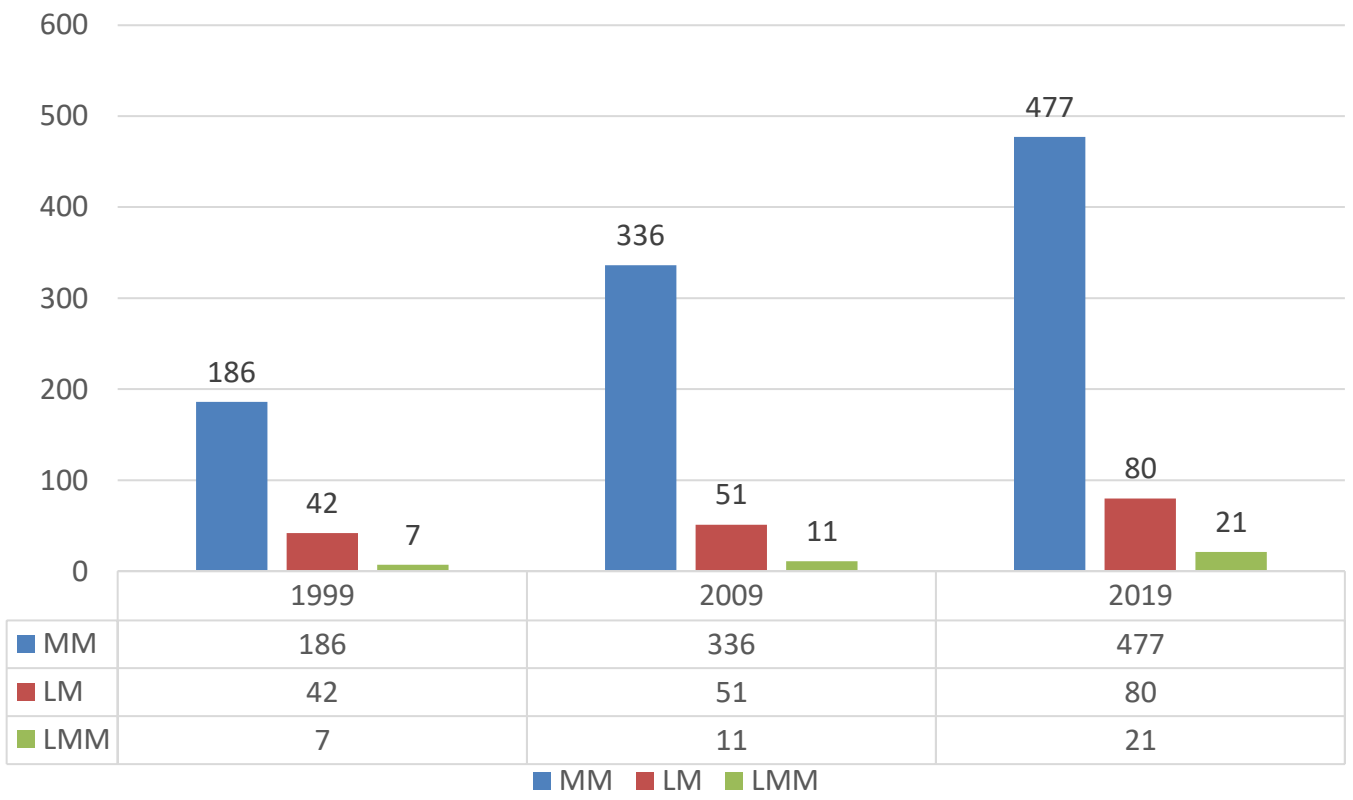
Melanoma sub-types

- Morphological / histopathological classification:
  - Superficial spreading 70%
  - Nodular 15-30%
  - Lentigo maligna melanoma 10-15%
  - Acral lentiginous 5%
  - Amelanotic 2-10%

- WHO 2018 classification
  - Superficial spreading
  - Lentigo maligna melanoma
  - Desmoplastic
  - Spitzoid
  - Acral
  - Mucosal
  - Melanoma arising in a congenital mole
  - Melanoma arising in a blue naevus
  - Uveal melanoma

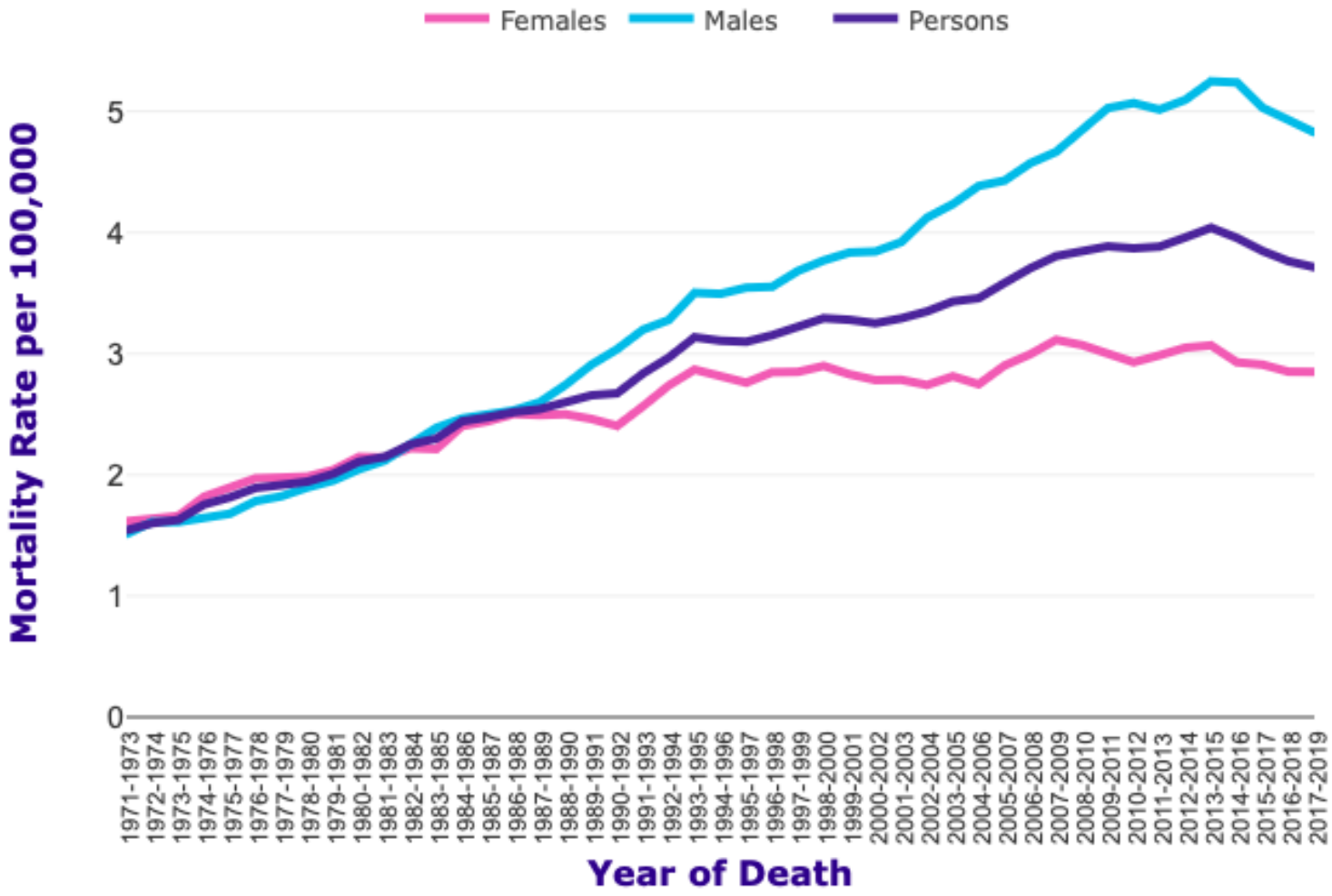
Incidence of melanoma, lentigo maligna and latigna maligna melanoma in OUH (as per SNOMED pathology database)





	1999	2009	2019
MM	186	336	477
LM	42	51	80
LMM	7	11	21

Melanoma Skin Cancer (C43), European Age-Standardised Mortality Rates per 100,000 Persons Population, UK, 1971-2019



www.cancerresearchuk.org/health-professional/cancer-statistics

Risk factors for melanoma

Lancet 2023; 402: 485–502

	Relative risk measure
Ultraviolet radiation overexposure	
Natural sunlight	
Total sun exposure*[18]	1·3
History of sunburn[18]	2·0
First episode of sunburn in childhood (age <13 years)[19]	2·3
Severe sunburns (ten or more burns)[20]	2·4
Indoor tanning beds[21]	
Any use (one or more sessions)	1·3
Early exposure (age ≤20 years)	1·5
High frequency use (ten or more sessions per year)	1·5
Non-modifiable	
Male sex[20]	1·7
High naevus count (>100)†[22]	6·9
Atypical naevi[22]	10·1
First-degree relative with melanoma[23]	1·7
Previous melanoma[24]	10·4
Previous non-melanoma skin cancer[25]	2·7
Red hair colour[26]	2·4
Blue eye colour[26]	1·6
Immunosuppression[27]	2·1–3·4
Xeroderma pigmentosum[28]	193

Most studies were conducted in White populations. *History of any kind of sun exposure, including intermittent exposure, chronic exposure, or sunburns. †Compared with patients with fewer than 15 naevi.

Table 1: **Risk factors for cutaneous melanoma**

Rate of growth in melanoma

• Superficial spreading MM	0.12 mm/month
• Lentigo maligna melanoma	0.13 mm/month
• Acral melanoma	0.4 mm/month
• Nodular melanoma	0.49 mm/month

Arch Dermatol 2006 Dec;142(12):1551-8

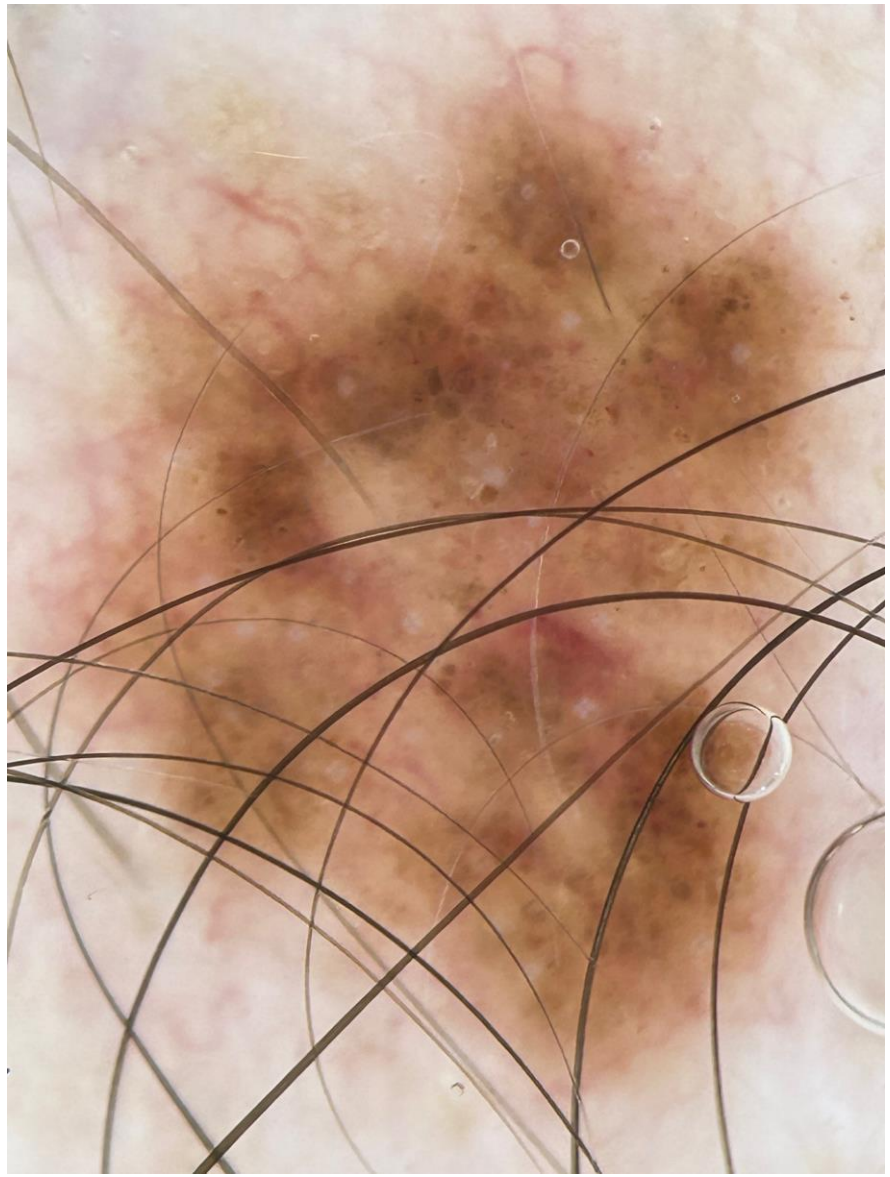
The ‘ABCDE’

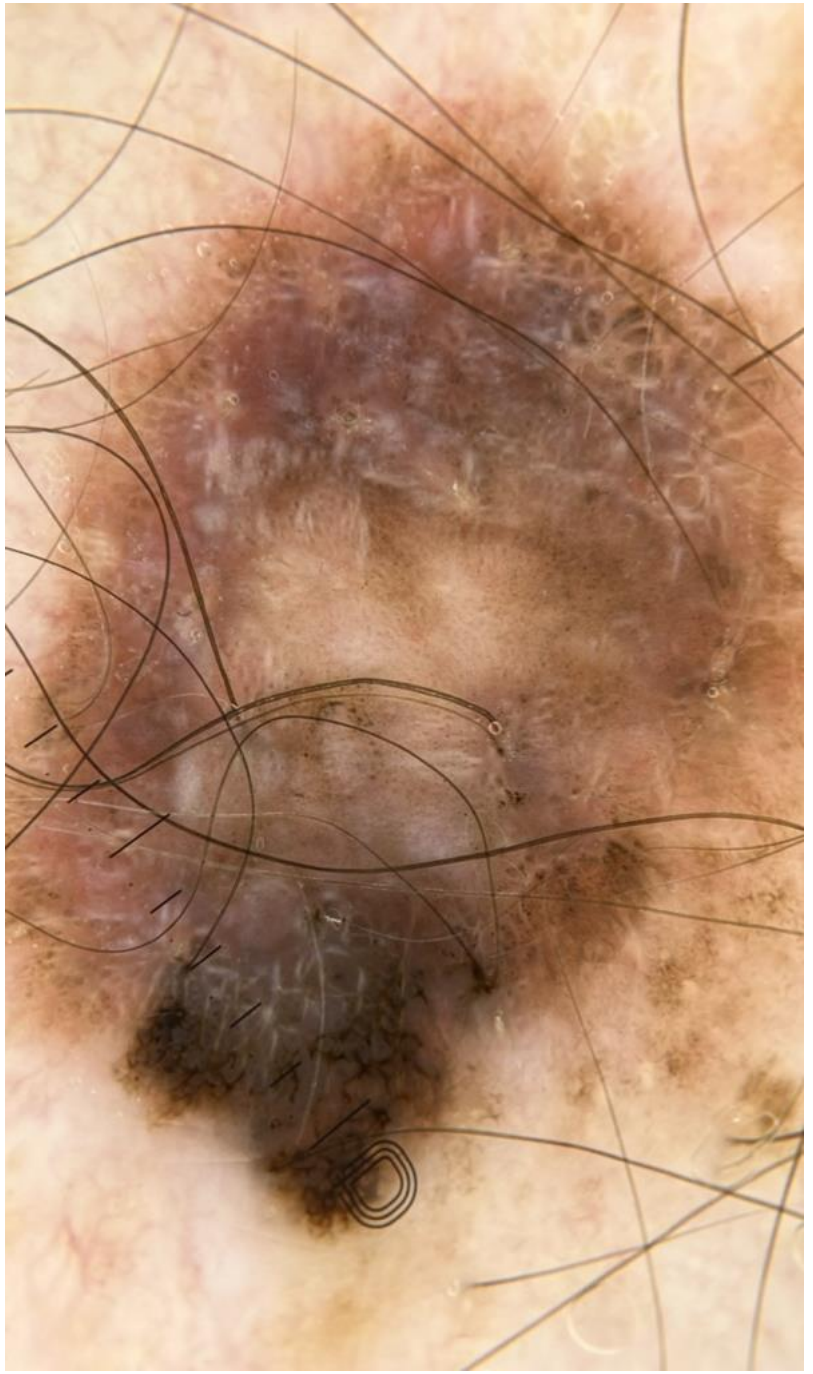
- A – Asymmetry
- B – Border
- C – Colour
- D – Diameter >6mm / different
- E – Evolution / enlarging / elevated

- F – Firm
- G - Growing

- Glasgow 7-point checklist
  - Major features
    - Change in size
    - Irregular shape
    - Irregular colour
  - Minor features
    - Diameter >7 mm
    - Inflammation
    - Oozing
    - Change in sensation

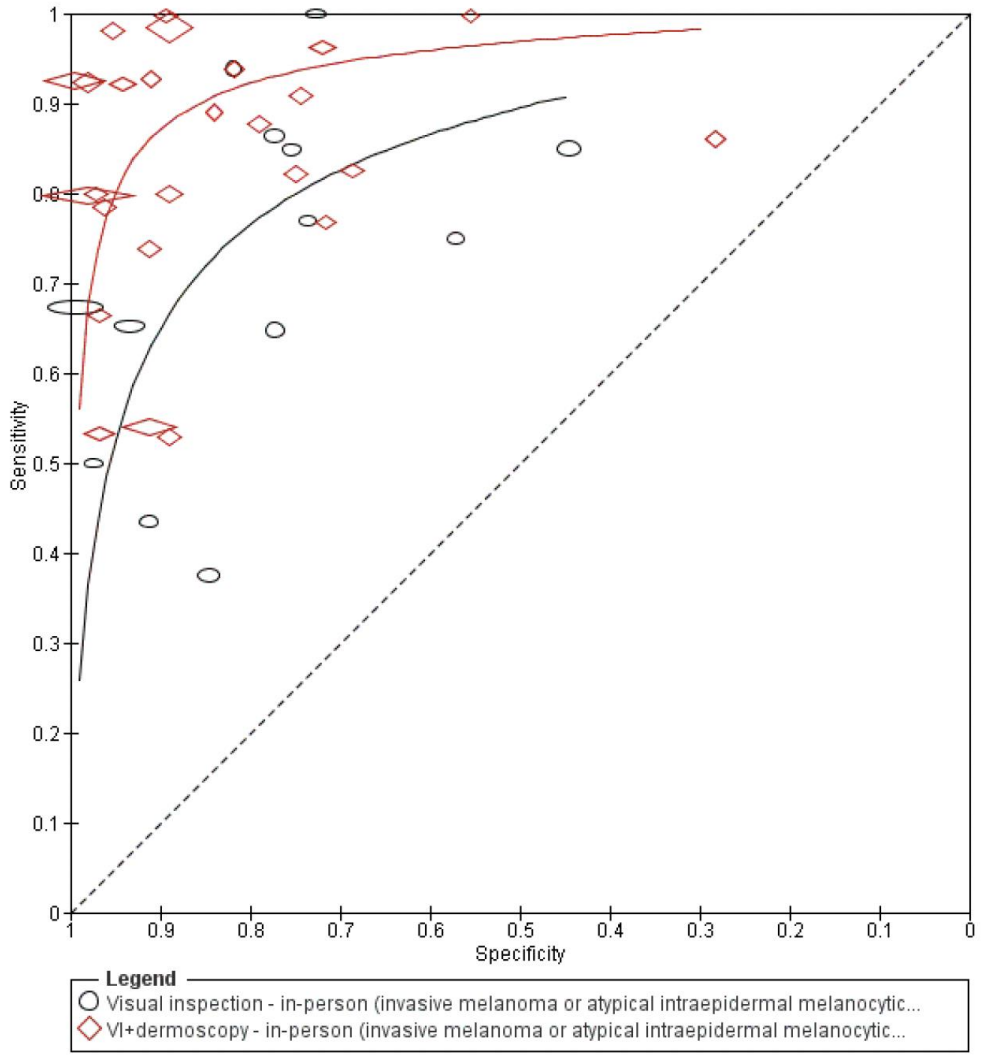
Ugly duckling / black sheep rule





Dermoscopy increases diagnostic accuracy and reduces unnecessary treatment

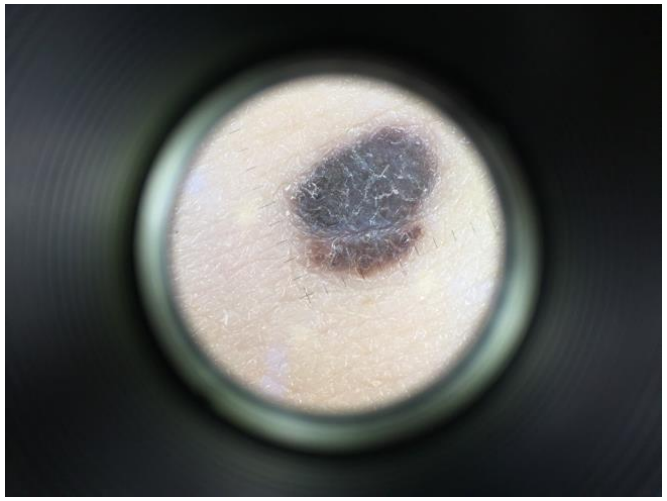
Dermoscopy is better at diagnosing melanoma compared to inspection of a suspicious skin lesion using the naked eye alone

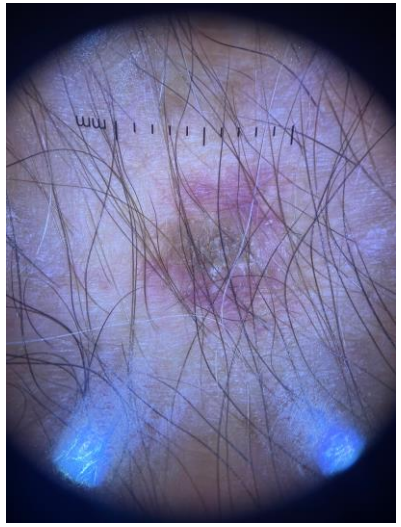


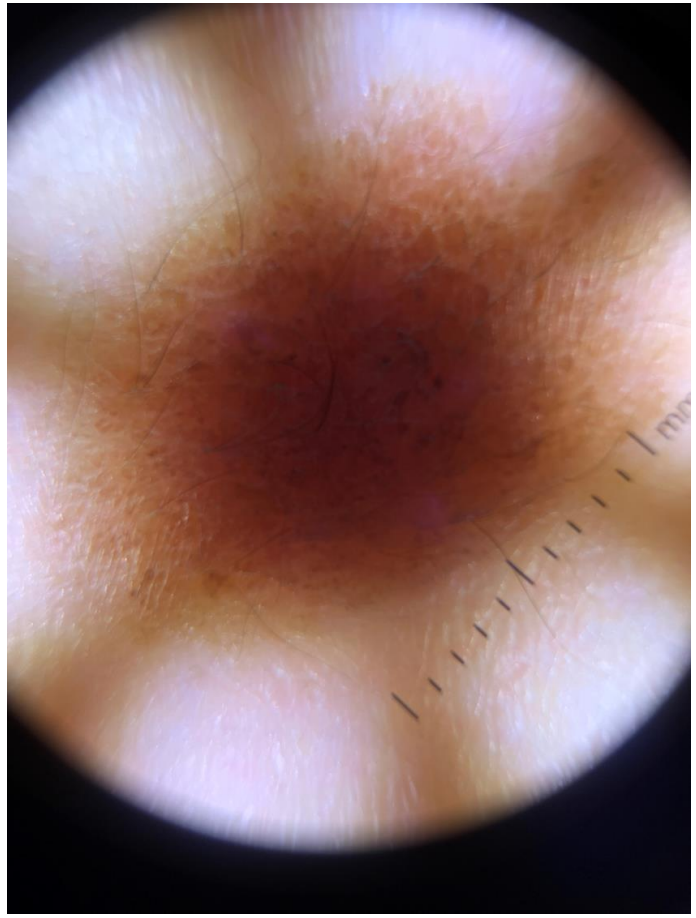
Dermoscopy, with and without visual inspection, for diagnosing melanoma in adults. *Cochrane Database Syst Rev* 2018; **12:** CD011902

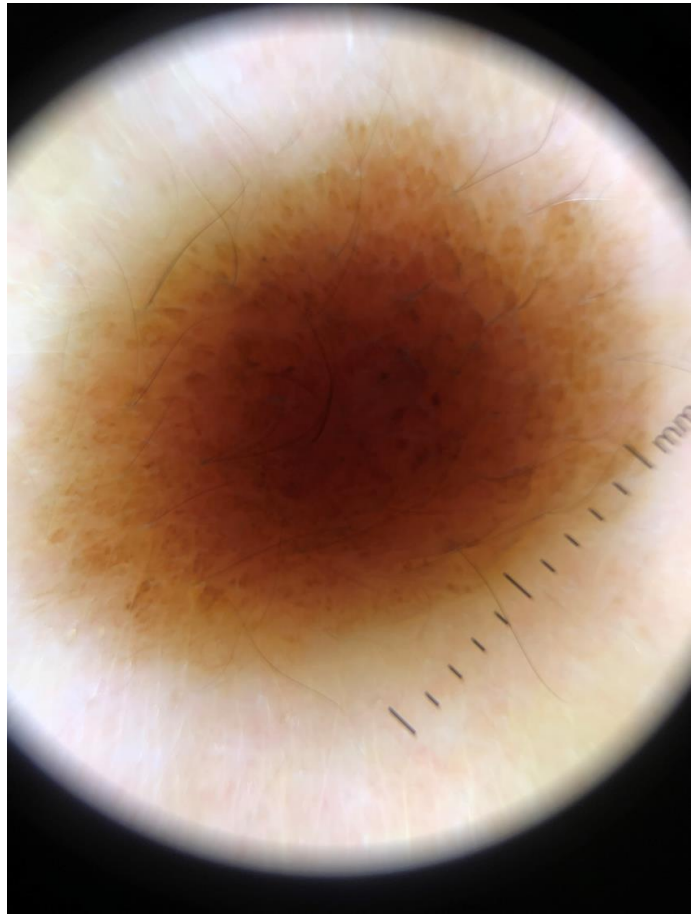
2022;**11**:e001789

Clin Exp Dermatol 2021; **46**: 173-4



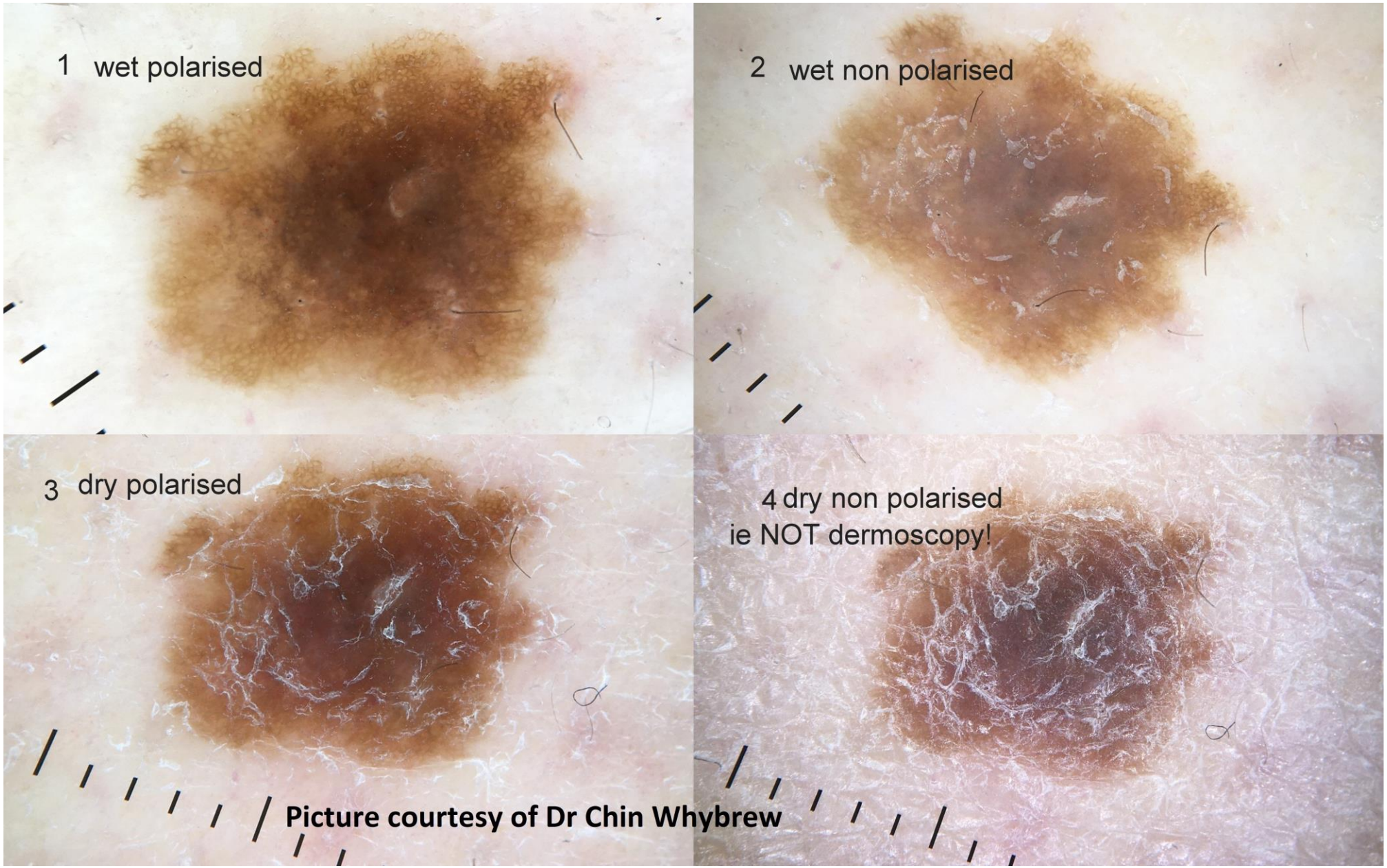




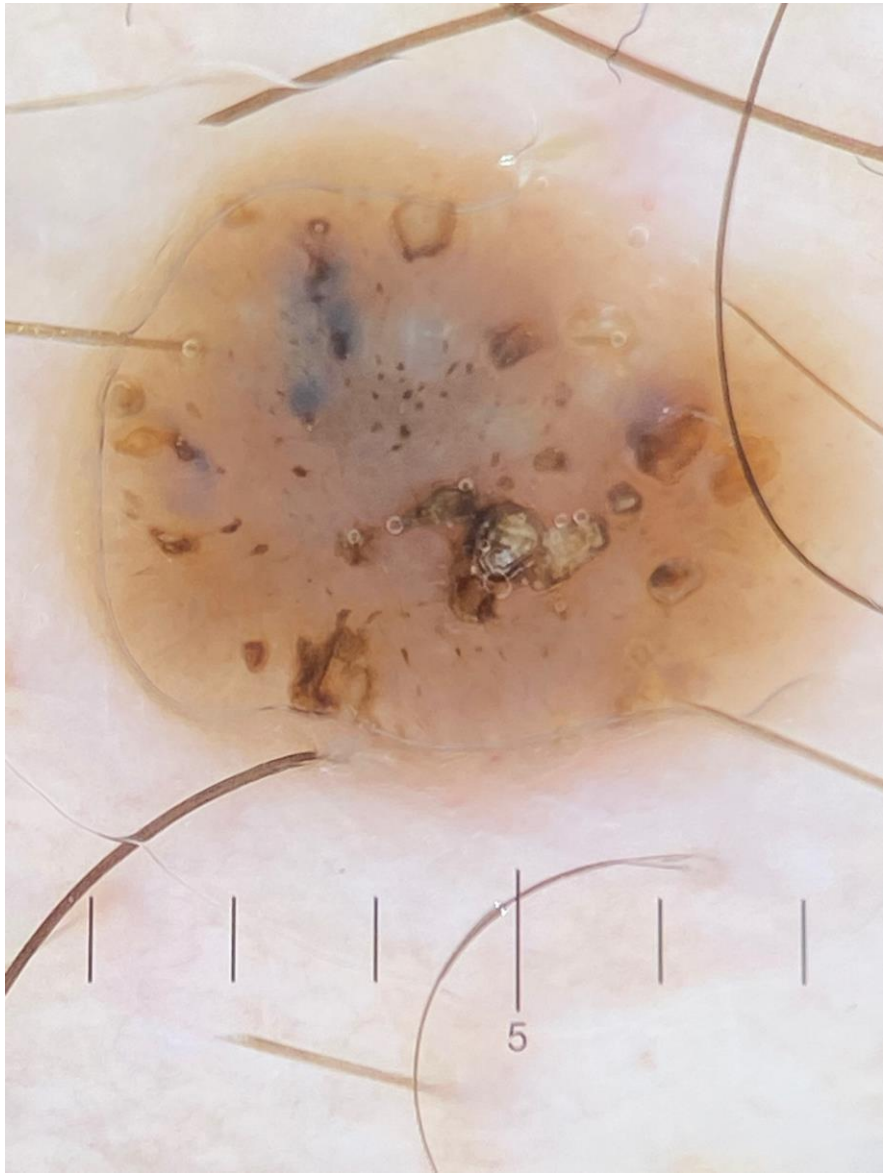



POLARISATION
DELTA 20 PLUS


POLARISATION
DELTA 20 Plus
CAMERA



https://www.pcds.org.uk/dermoscopy-an-overview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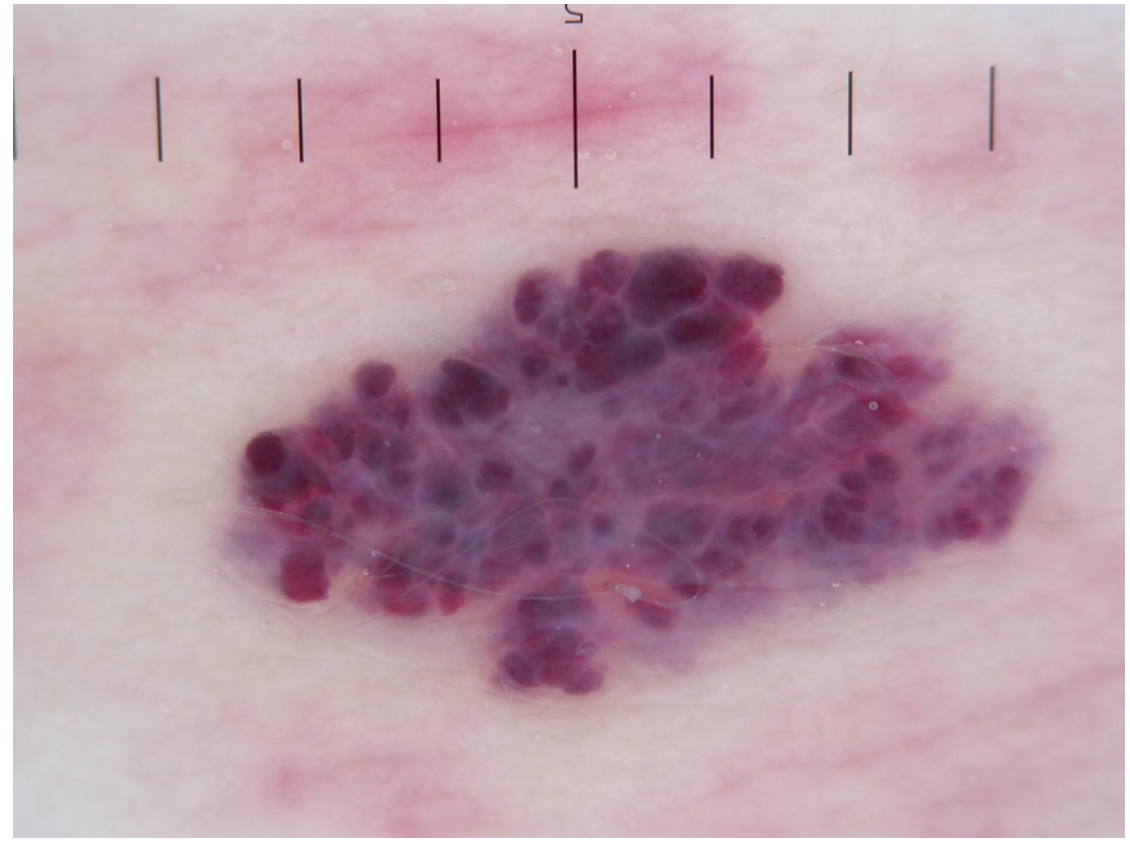
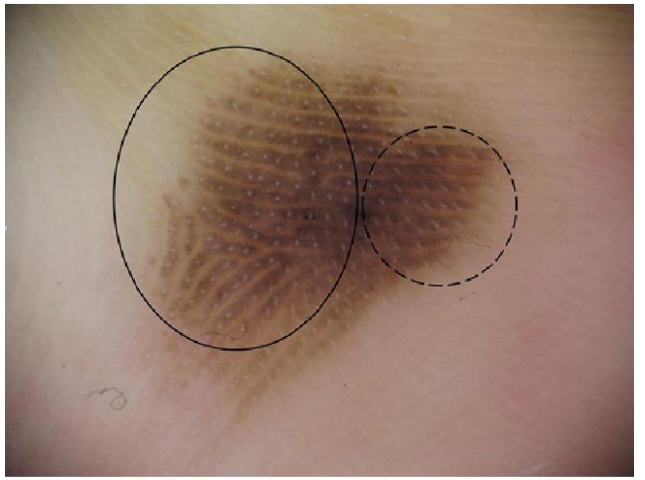


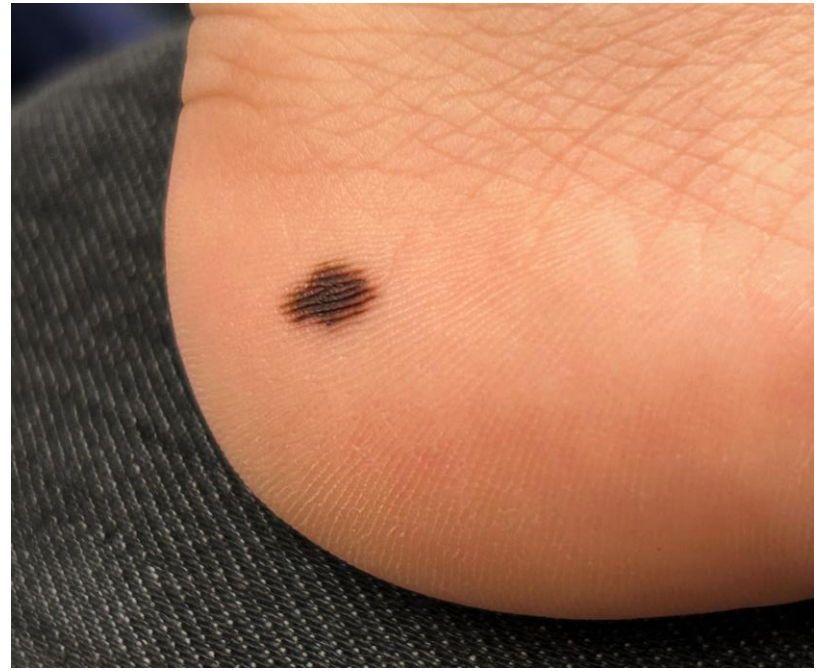
- Acral naevi:
  - Common; 28-36% with darker skin colour
  - More likely non-wt bearing sites e.g. arch
  - <6mm
  - Symmetric, well defined
  - Dermoscopy:
    - Parallel furrow
    - Lattice (arch)
    - Fibrillar (wt bearing)

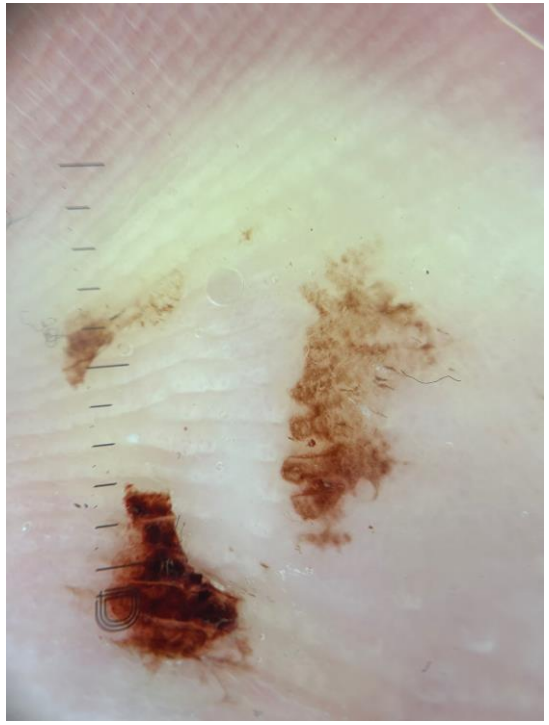
- Acral melanoma
  - Age >50
  - Plantar foot > palms; wt bearing esp heels
  - >7mm
  - Irreg macule, asymmetric pigment variation
  - Dermoscopy
    - Parallel ridge pattern
    - Irregular diffuse pattern
      - Structureless areas with brown to black pigment in an asymmetric distribution



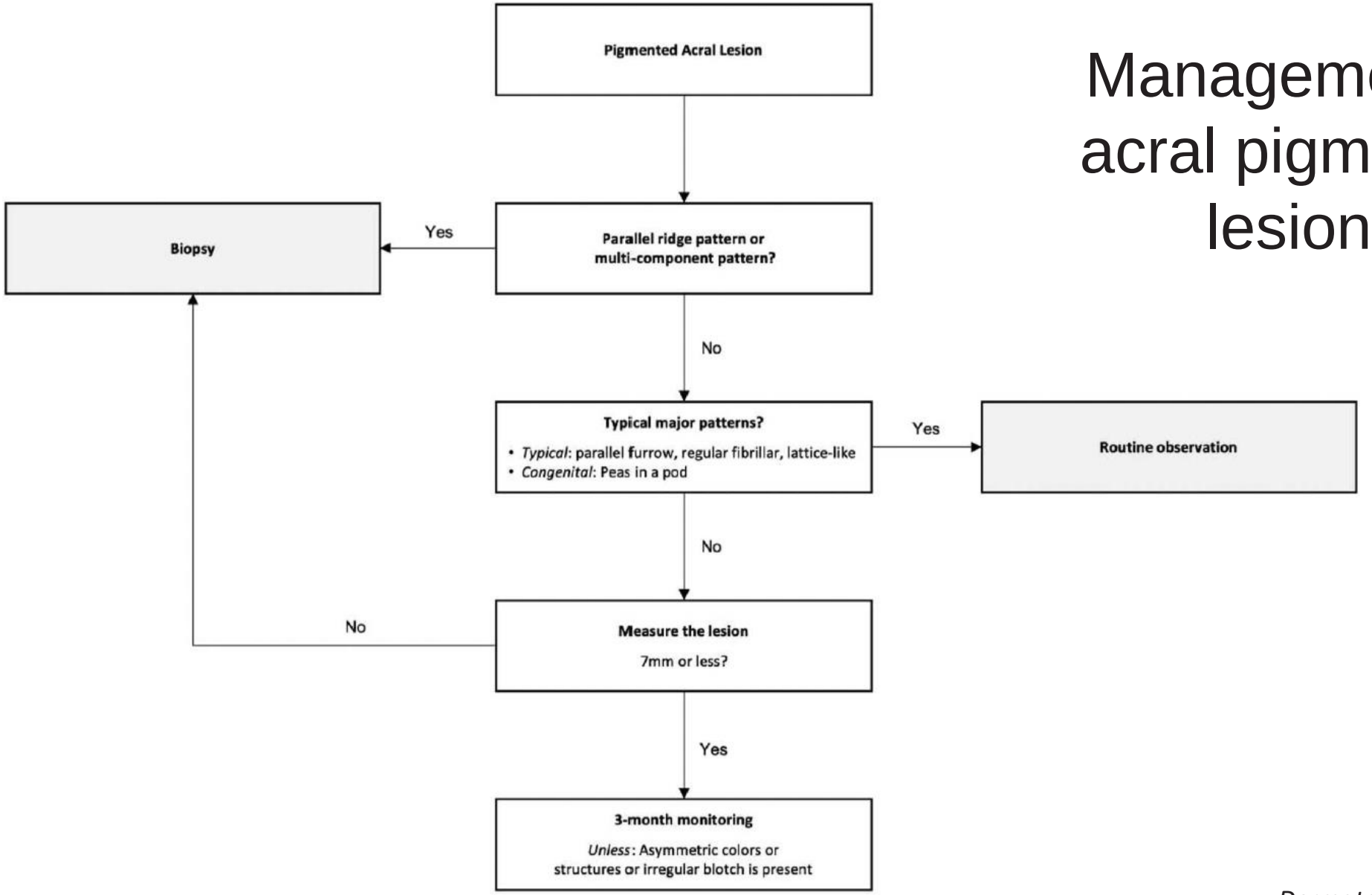
Dermatol Pract Concept. 2014;4(4):8


5





Management of acral pigmented lesions



Dermatol Surg 2023;49:926–931

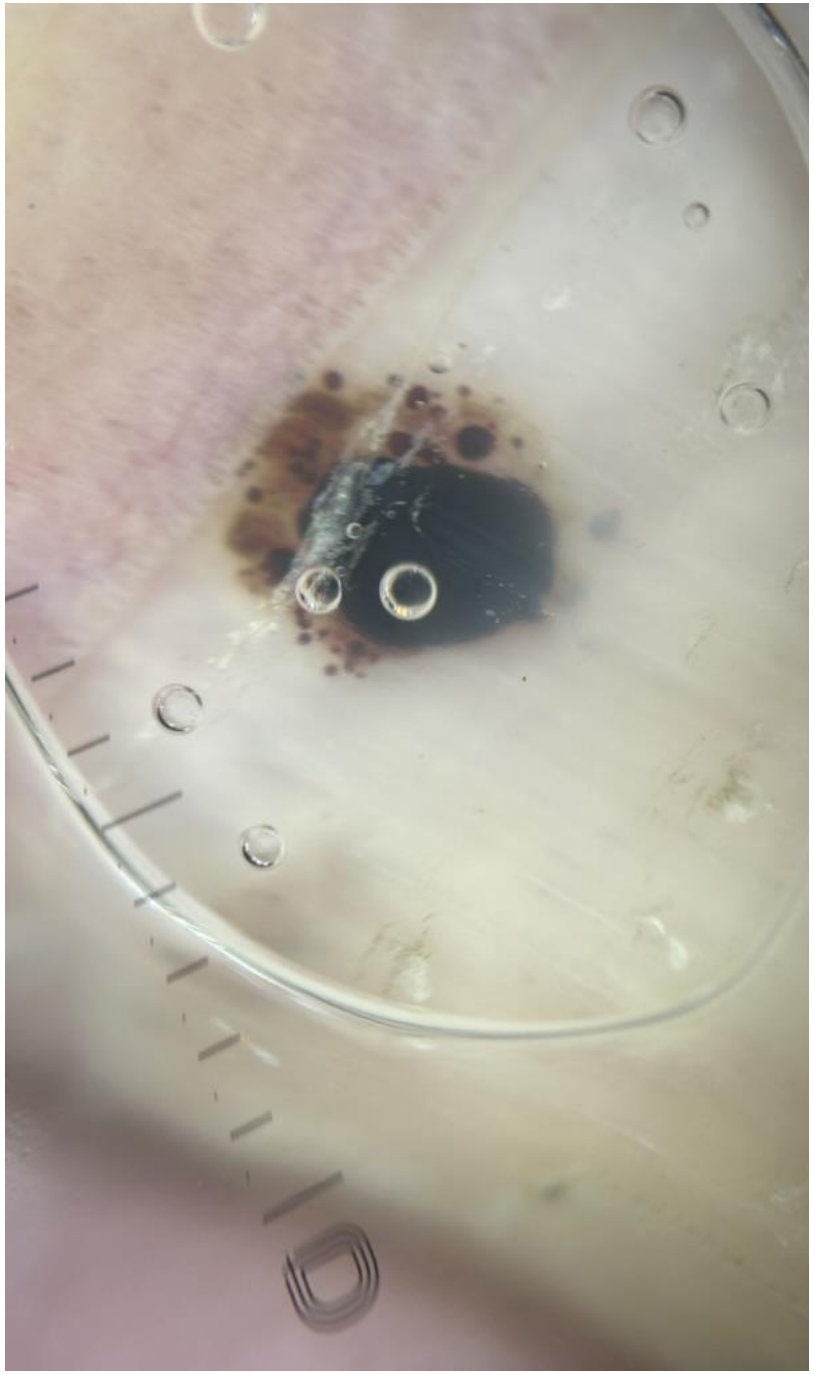
Linear Melanonychia

- Racial
- Pregnancy
- Traumatic eg nail biting, friction
- Inflammatory dermatosis
  - LP, psoriasis, amyloidosis
- Infection:
  - Pseudomonas, klebsiella, t rubrum
- Drugs
  - Anti-malarials
  - Chemotherapy
- Exogenous:
  - Tobacco, dyes, potassium permanganate, silver nitrate
- Systemic disease
  - Addison's, Cushing's, hyperthyroidism, haemochromatosis, PCT, HIV
- Iatrogenic: phototherapy, DXT
- Syndrome
  - Peutz-Jeghers, Laugier-Hunziker
- Non-melanocytic
  - Bowen's, BCC, viral wart
- Melanocyitic

Linear melanonychia

- A Age >50-70, Asian, African, (Native) American
- B Breadth >3mm, brown / black, border variation
- C Changing melanonychia or nail plate
- D Digit (thumb, hallux, index finger), diameter >3mm
- E Extension of pigment into nail fold(s)
- F Family history

J. Clin. Med. 2023, 12, 2203




Theresa
Oxford University Hospitals NHS Foundation Trust
Kerrie Doyle
Specialist Nurse
NHS
Oxford University Hospitals NHS Foundation Trust
Cathy
Skin Cancer Specialist Nurse

Melanoma staging

Tumour Size

T1a <0.8 mm without ulceration
T1b <0.8mm with ulceration or 0.8-1mm without ulceration
T2a >1-2mm without ulceration
T2b >1-2mm with ulceration
T3a >2-4cm without ulceration
T3b >2-4cm with ulceration
T4a >4 cm without ulceration
T4b >4 cm with ulceration

Nodes

N0 No regional nodes

N1a 1 clinically occult node (detected by SLNBx)
N1b 1 clinically detected node
N1c In-transit, microsatellite or satellite with no regional node disease

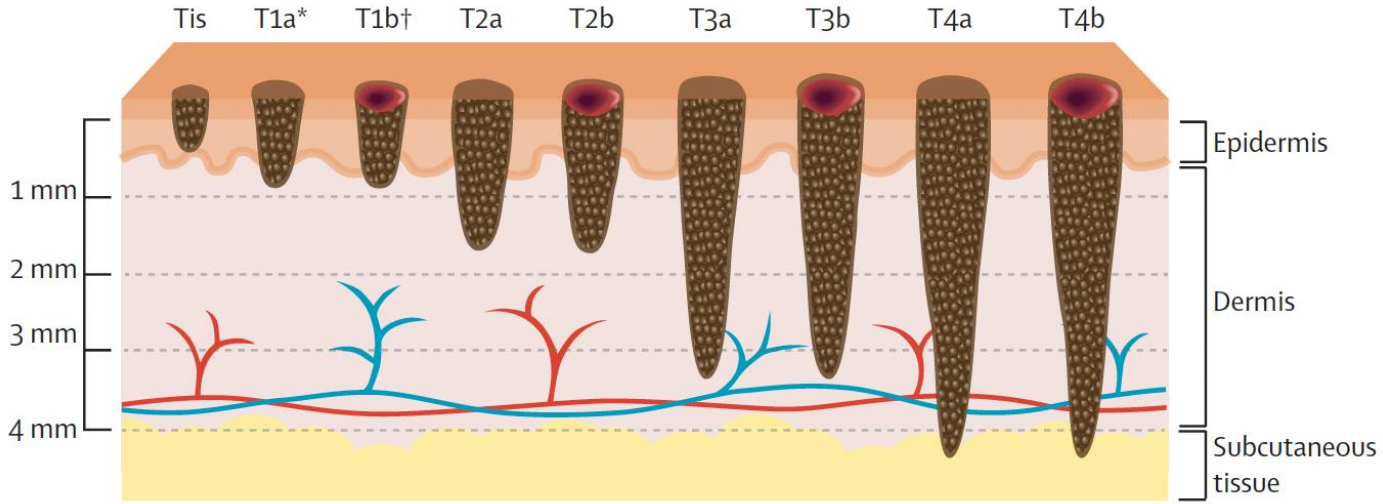
N2a 2 or 3 clinically occult node (detected by SLNBx)
N2b 2 or 3 nodes, 1 clinically detected node
N2c 1node and in-transit, microsatellite or satellite

N3a 4 or more clinically occult node (detected by SLNBx)
N3b 4 ore more, 1 clinically detected, or matted nodes
N3c 2 or more or any matted nodes + in-transit, microsatellite or satellite

Metastasis

M0 No distant metastasis
M1a Skin, soft tissue including muscles, and/or nonregional lymph node
M1b Lung with or without M1a sites of disease
M1c Non-CNS visceral sites with or without M1a or M1b sites of disease
M1d CNS with or without M1a, M1b, or M1c sites of disease

There is a sub-classification if LDH is elevated. example M1a(1)



Stage	Characteristics
IA	Tumor ≤ 1.0 mm *without* ulceration; no lymph node involvement; no distant metastases
IB	Tumor ≤ 1.0 mm *with* ulceration or Clark level IV or V; tumor 1.01-2.0 mm without ulceration; no lymph node involvement; no distant metastases
IIA	Tumor 1.01-2.0 mm *with* ulceration; tumor 2.01-4.0 mm without ulceration; no lymph node involvement; no distant metastases
IIB	Tumor 2.01-4.0 mm *with* ulceration
IIB	Tumor > 4.0 mm *without* ulceration; no lymph node involvement; no distant metastases
IIC	Tumor > 4.0 mm *with* ulceration; no nodal involvement; no distant metastases
IIIA	Tumor of any thickness *without* ulceration with 1 positive lymph node
IIIB	Tumor of any thickness *without* ulceration with 2-3 positive lymph nodes
IIIC	Tumor of any thickness and 4 more metastatic lymph nodes *OR* matted nodes *OR* in-transit met(s)/satellite(s) *without* metastatic lymph nodes, or combinations of in-transit met(s)/satellite(s), *OR* ulcerated melanoma *and metastatic* lymph node(s)
IV	Tumor of any thickness with any nodes and any distant metastases

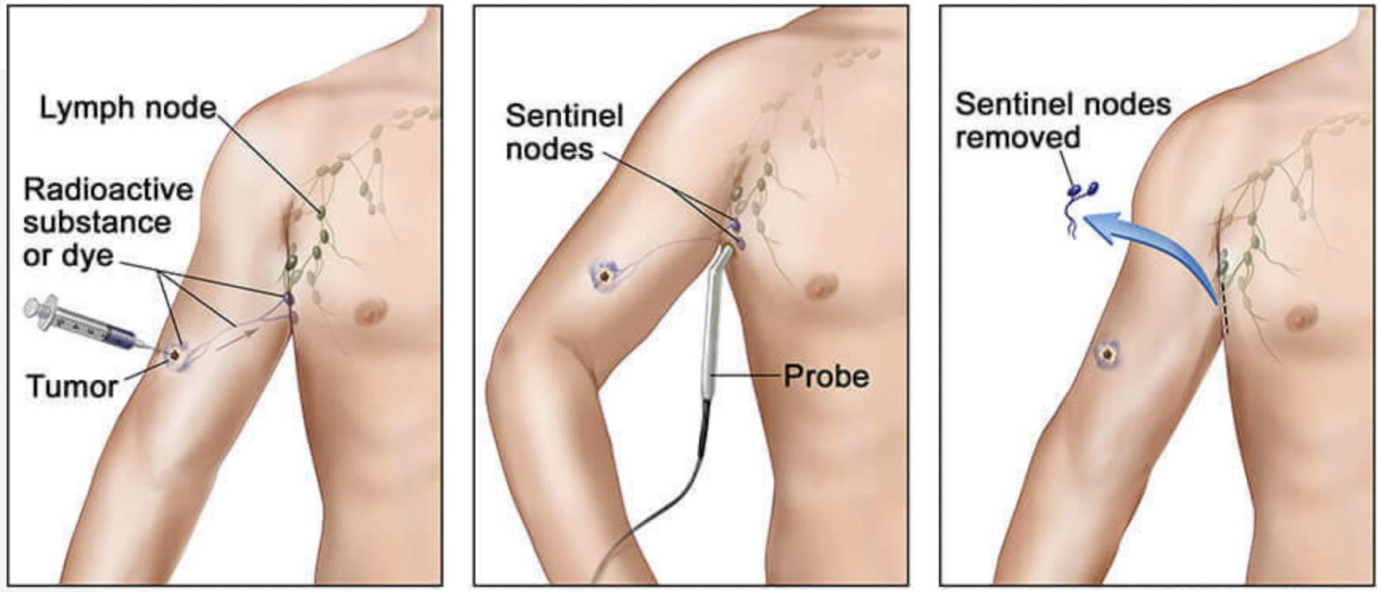
Wide local excision

• Stage 0 / MMis	5mm
• Stage I	10mm
• Stage II	20mm (unless unacceptable disfigurement or morbidity - 10mm)

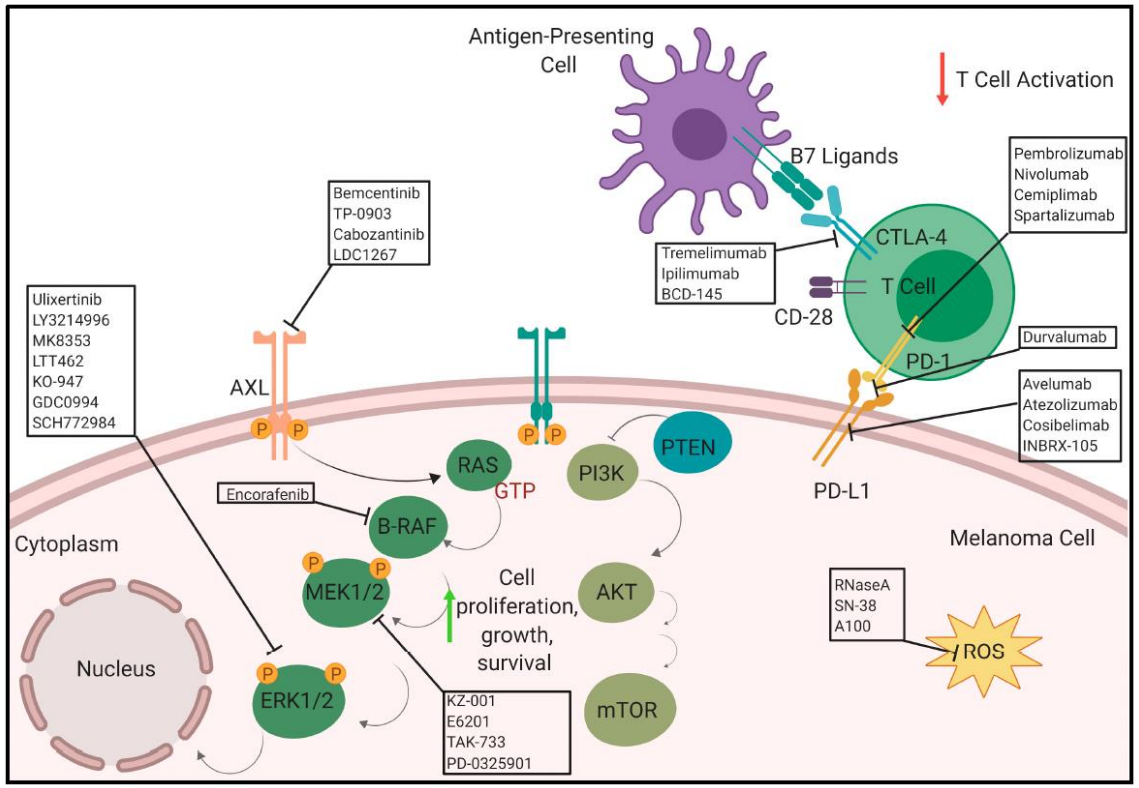
- The clinical margin should be around the histological biopsy scar and take into account the primary excision margin

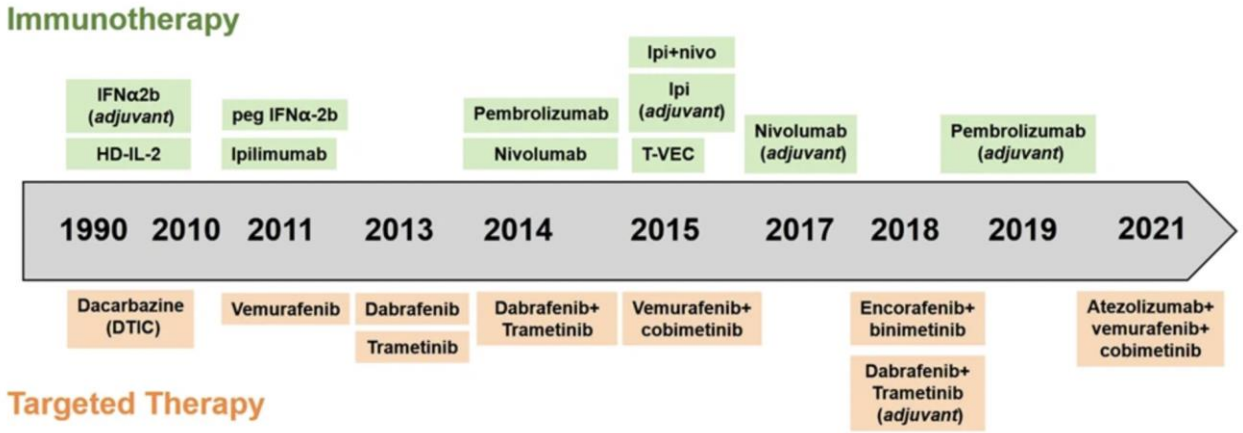
Sentinel lymph node biopsy

- Offered if:
  - >1.0mm thick
  - 0.8-1.0mm if there is:
    - Ulceration
    - Mitotic index of 2 or more
    - Lymphovascular invasion
- Staging imaging offered if:
  - >stage IIB
    - 2.0-4.0 with ulceration
    - >4.0
  - Usually contrast enhanced CAP plus brain; occasionally MRI:
    - <24 years, pregnancy
    - Brain MRI if:
      - Mitotic index >5
      - 1y scalp MM



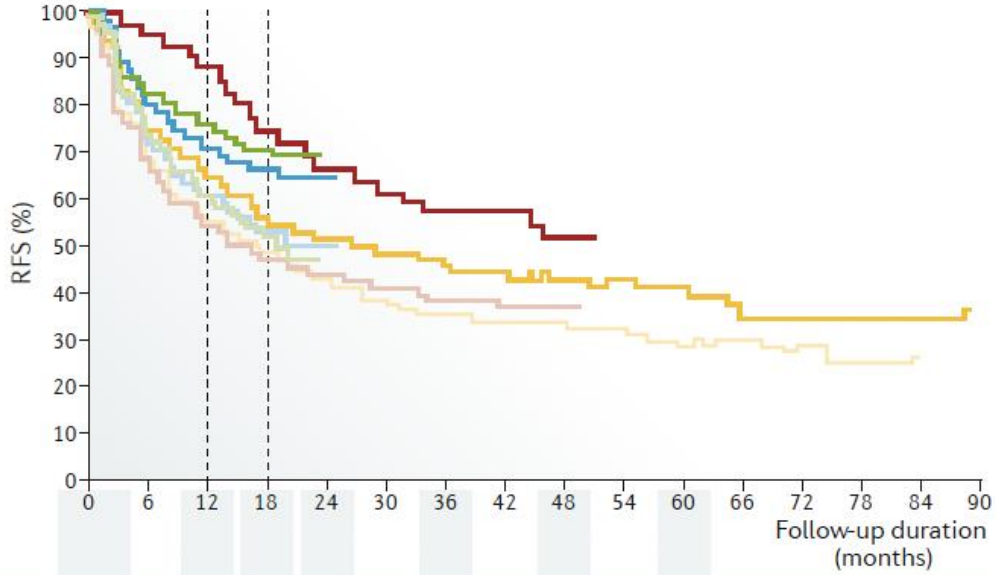
Melanoma adjuvant therapy





Cancers **2020**, *12*(2), 482

Kaplan–Meier curves of estimated recurrence free survival in key trials of adjuvant therapies for melanoma

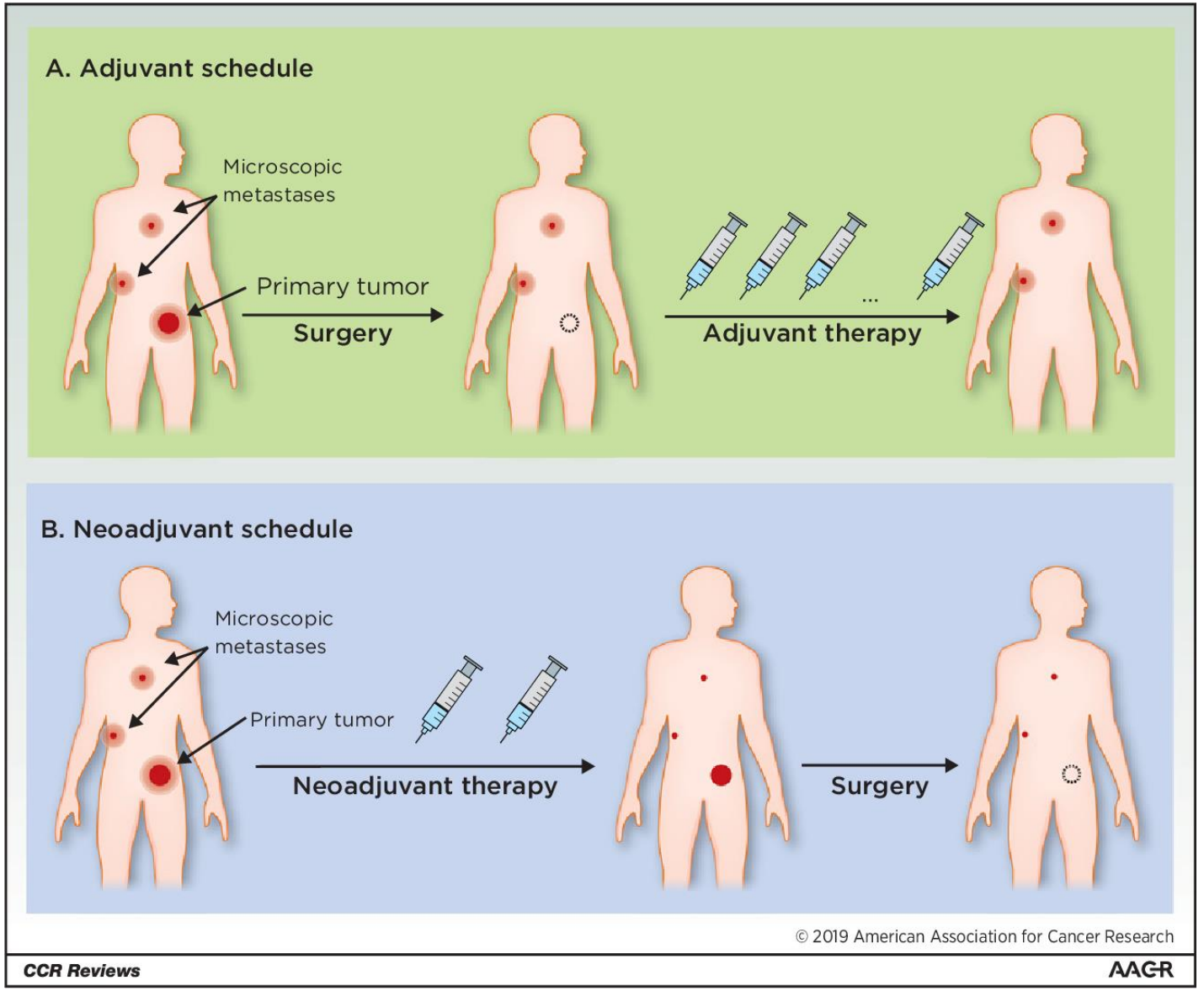


Placebo (EORTC 18071)	100%	56%	49%	–	–	–	30%	HR 0.76, 95% CI 0.64–0.89
Ipilimumab (EORTC 18071)	100%	65%	57%	–	–	–	41%	
Placebo (COMBI-AD)	100%	56%	49%	44%	39%	–	–	HR 0.47, 95% CI 0.39–0.58
Dabrafenib + trametinib (COMBI-AD)	100%	88%	73%	67%	58%	–	–	
Ipilimumab (CheckMate 238)	100%	61%	53%	–	–	–	–	HR 0.65, 97.6% CI 0.51–0.83
Nivolumab (CheckMate 238)	100%	71%	66%	–	–	–	–	
Placebo (KEYNOTE-054)	100%	61%	53%	–	–	–	–	HR 0.57, 98.4% CI 0.43–0.74
Pembrolizumab (KEYNOTE-054)	100%	75%	71%	–	–	–	–	

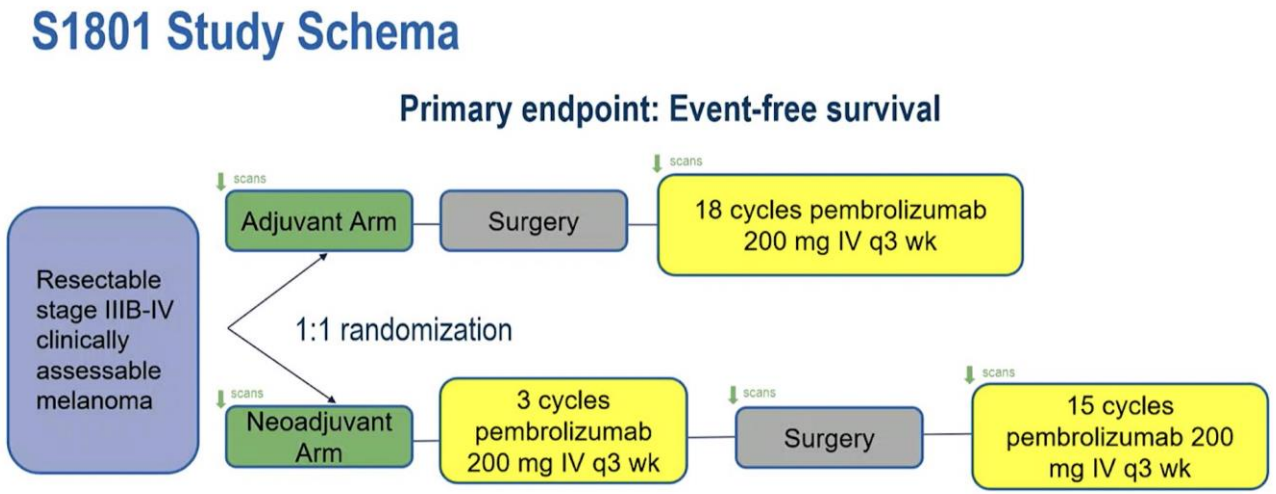
Nat Rev Clin Oncol **15**, 535–536 (2018)

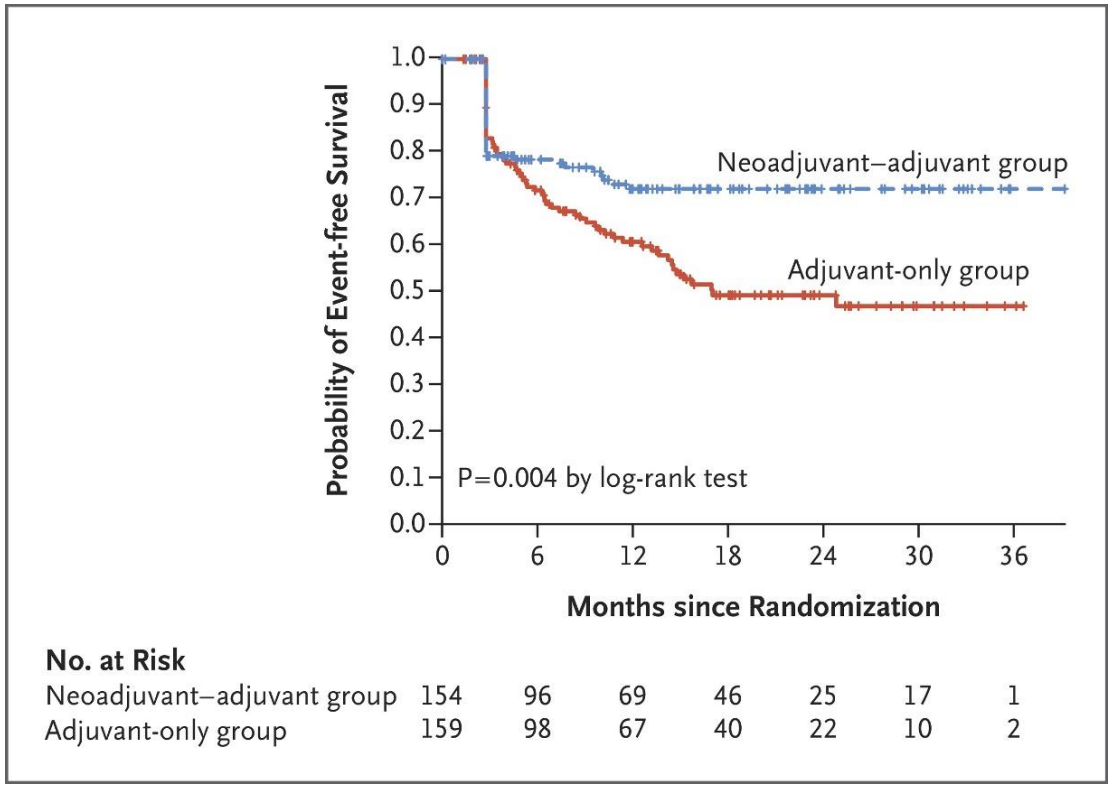
Neoadjuvant treatment

- Hypothesis: Most anti-tumour T cells are at located at disease sites – neoadjuvant therapy is intended to activate and expand more anti-tumour cells

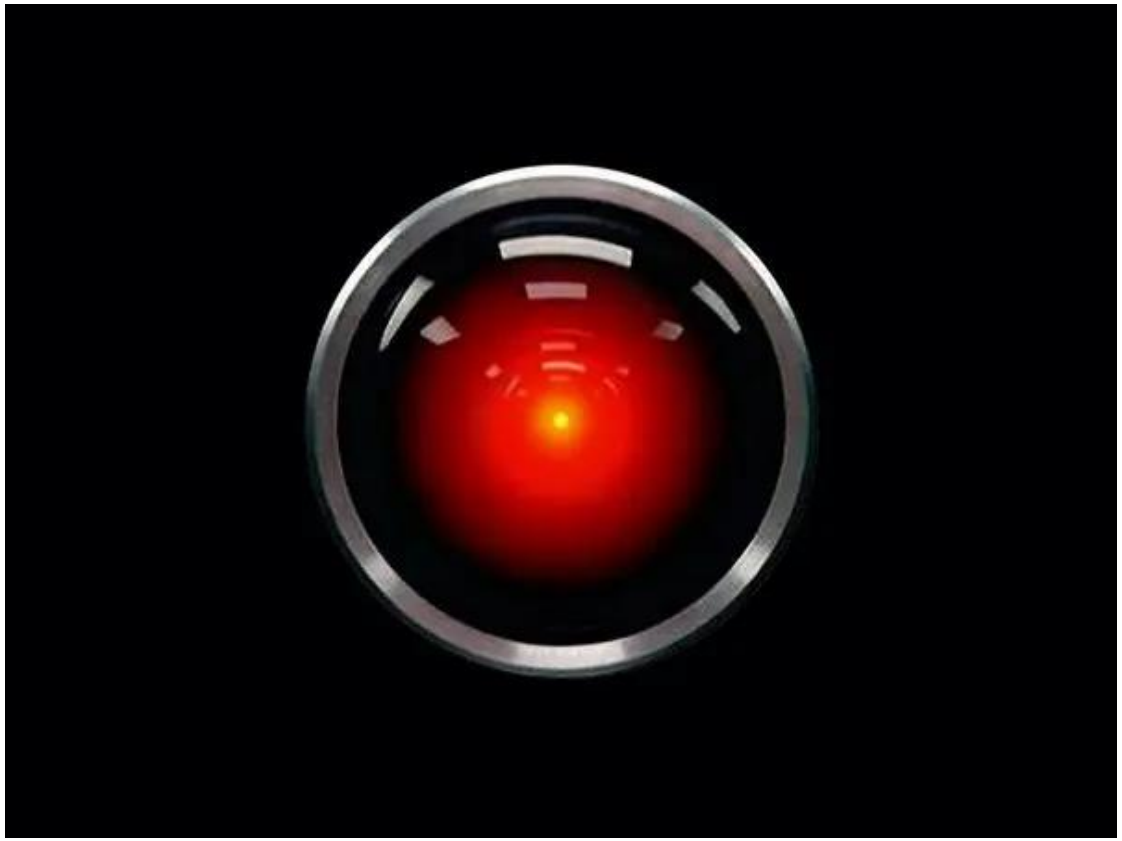


Neoadjuvant ICI showed significantly longer event-free survival than adjuvant ICI



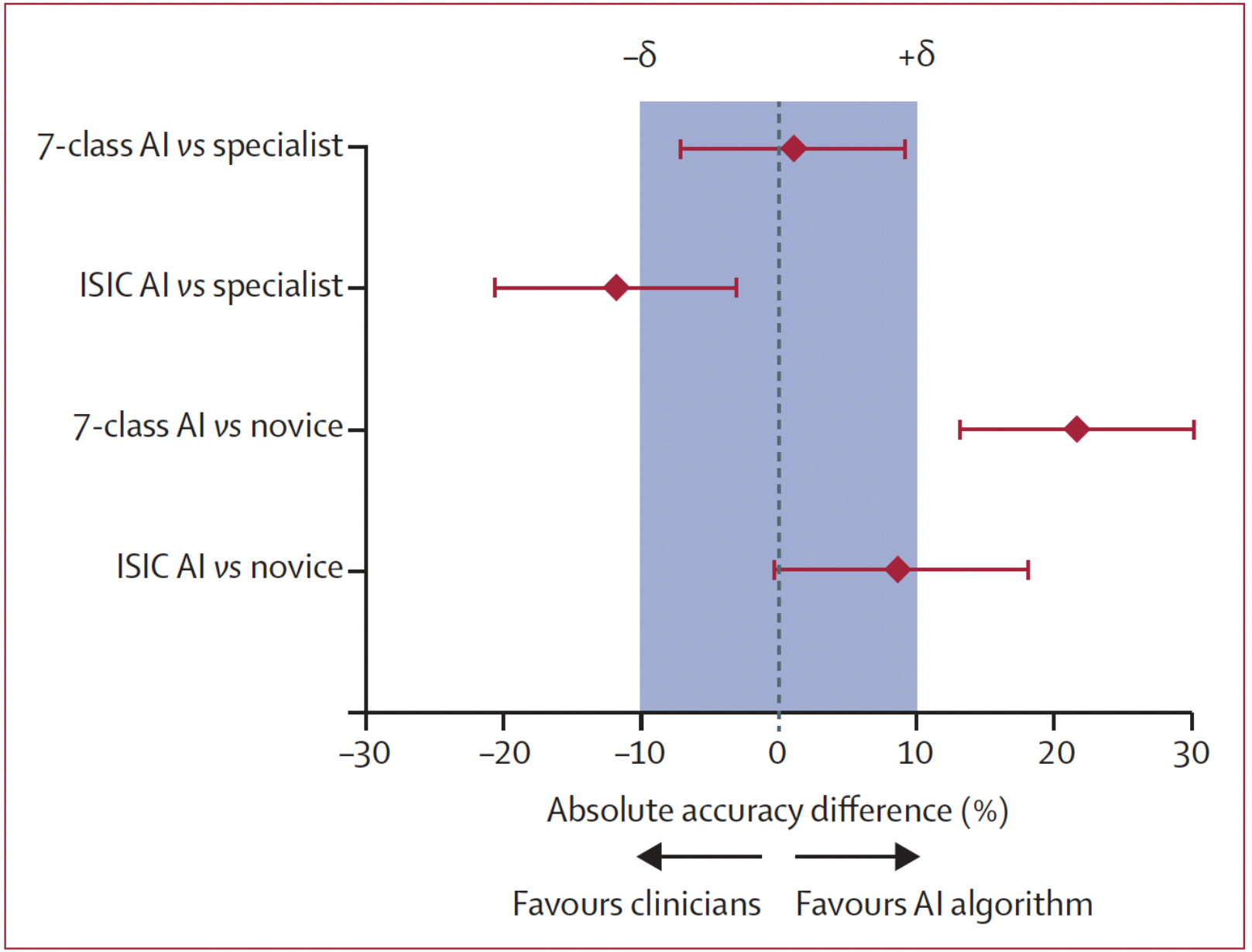


N Engl J Med 2023; 388:813-823



Artificial intelligence 'as good as cancer doctors'

26 January 2017



Lancet Digit Health 2023; 5: e679–91

Summary

- Know your benign AND malign lesions
- Take great pictures – practice
- If you adopt dermoscopy
  - make sure you are trained and use regularly
  - know your dermatoscope


Skin Club - Imelda.Murphy@dermal.co.uk