EMIRATES DERMATOLOGY SOCIETY
2024
ANNUAL CONFERENCE

8th YEAR
08-10 November 2024
InterContinental Dubai - Festival City
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EMIRATES DERMATOLOGY SOCIETY

Melanoma in Skin of Colour

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27TH WORLD CONGRESS OF DERMATOLOGY 2031
DUBAI - CANDIDATE CITY

Disclosure

Conflicts of Interests

- No conflicts of interest for this lecture

MELANOMA IS COLOR BLIND

Introduction

- Melanoma affects **all skin types**
- **Lower incidence** amongst individuals with Skin of Colour (SoC)
- Due to lower incidence, melanoma in SoC is **underrepresented** in research, educational literature, and many dermatology training programs
- Identified at more **advanced stages** and associated with **lower rates of survival** in individuals with SoC

Definition: Skin of Color (SoC)

Based on racial and ethnic group

- African
- African-American
- Asian
- Hispanic or Latino
- Middle Eastern
- Native Indian descent
- Native Australian
- Pacific Islander
- Mixed races

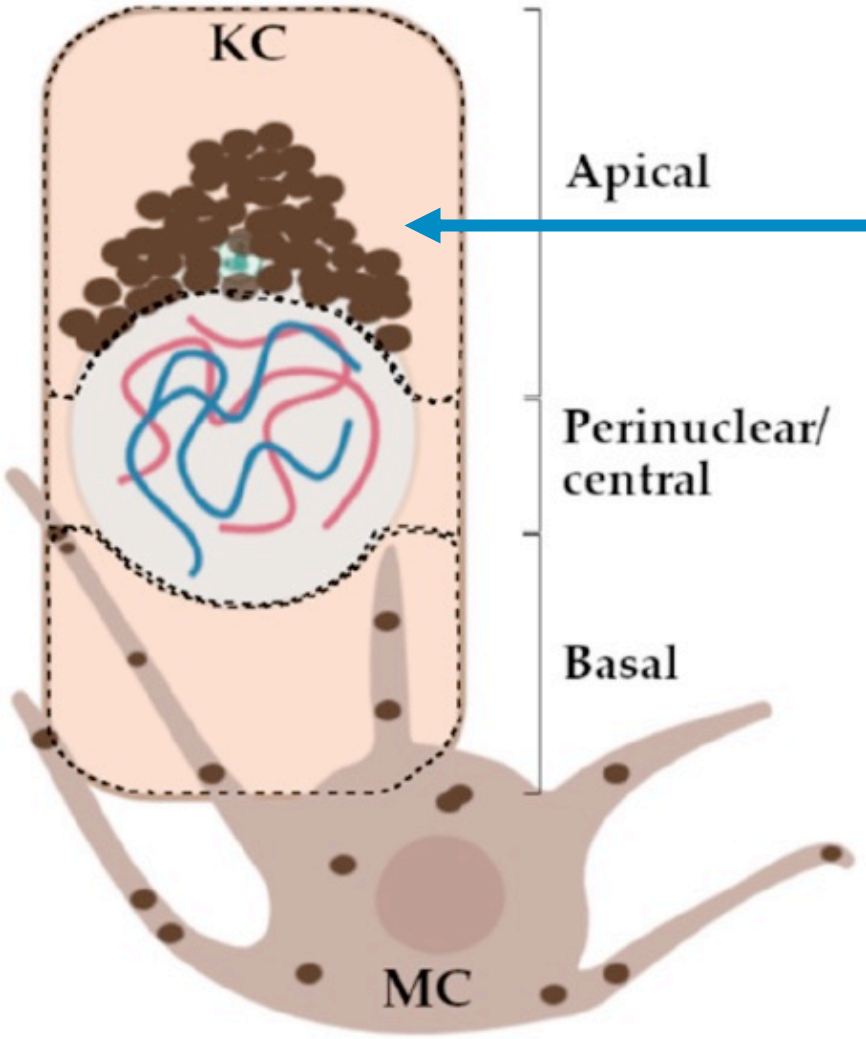
Skin of Color Society: https://skino fcolo rsoci ety. org/about- socs/

What skin of colour is not…

Skin of colour ≠ Ethnicity/Race

Should not use race as a surrogate for skin colour

KC's organelle intracellular localisation:



Quality and **amount** of melanin determines UV protection

Int. J. Mol. Sci. **2021**, *22*, 3143. https://doi.org/10.3390/ijms22063143

Table 1: Fitzpatrick skin phototypes, classification, and the need for ultraviolet A, ultraviolet B, and visible light protection from sunscreen.

EMJ Dermatol. 2022;10[Suppl 3]:2-8.

Fitzpatrick phototype	Description	ITA	Skin color (ITA classification)	UVB protection (SPF)	UVA protection (UVA-PF)	High energy visible light protection (VL-PF)
I	Always burns, never tans	ITA° >55°	Very light	SPF50+	UVA-PF+++ (>1/3 labelled SPF)	
II	Burns easily, sometimes tans	41° <ITA° <55°	Light			
III	Sometimes burns, always tans	28° <ITA° <41°	Intermediate			
IV	Rarely burns, tans easily	10° <ITA° <28°	Tan			
V	Rarely burns, tans easily	-30° <ITA° <10°	Brown			
VI	Rarely burns, tans promptly and intensely: highly pigmented	ITA° <-30°	Dark	SPF30+	UVA-PF+++ (>2/3 labelled SPF)	VL-PF+++

Risk of sunburn

UV skin cancer

Sunburn risk

Risk of sunburn

UV skin cancer

Incidence of melanoma in SoC

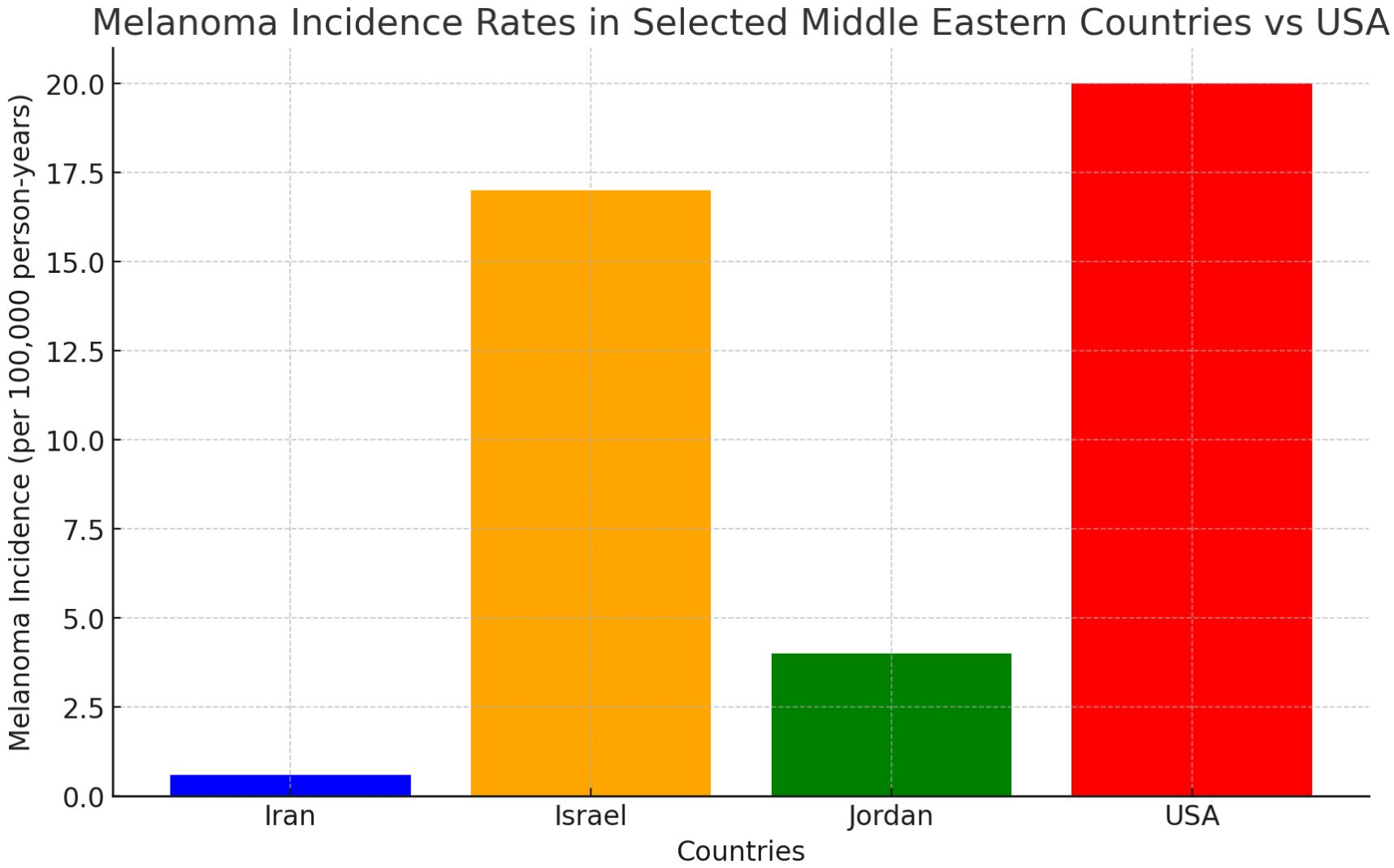
Five-year (2014-2018) age-adjusted incidence rates for melanoma by race and ethnicity in the U.S

The current incidence of melanoma in the USA is estimated at **22.8 per 100,000** annually

Race/Ethnicity	Rate per 100,000 (95% Confidence Interval)
American Indian / Alaska Native	5.5 (4.7 – 6.3)
Asian / Pacific Islander	1.3 (1.2 – 1.4)
Black	0.9 (0.9 – 1.0)
Hispanic (any race)	4.9 (4.7 – 5.0)
White (non-Hispanic)	32.2 (32.2-32.5)

Brunsgaard E, Wu YP, Grossman D. Melanoma in Skin of Color: Part I. Epidemiology and clinical presentation. J Am Acad Dermatol. 2022 May 6:S0190-9622(22)00783-6. doi:10.1016/j.jaad.2022.04.056. Epub ahead of print. PMID: 35533771.

Melanoma incidence in the Middle East



Malignant Melanoma in Iranian Provinces and American States Matched on Ultraviolet Radiation Exposure: An Ecologic Study.
Moslehi R, Zeinomar N, Boscoe FP. 2018;234:699-706. Incidence Rates and Time Trends of Skin Cancer in Golestan Province, Northeastern Iran, 2005-2018. Mehri M, Karazhian M, Nikyar A, et al. Archives of Iranian Medicine. 2024;27(6):289-297. Incidence Rates and Trends of Keratinocytic Skin Cancers and Melanoma in Israel 2006-11Sella T, Goren I, Shalev V, et al.
The British Journal of Dermatology. 2015;172(1):202-7. doi:10.1111/bjd.13213. Incidence Trends of Melanoma and Nonmelanoma Skin Cancers in Jordan From 2000 to 2016.
Almaani N, Juweid ME, Alduraidi H, et al. JCO Global Oncology. 2023;9:e2200338.
Epidemiology of Primary Cutaneous Malignant Melanoma in Jordan. Oumeish OYI International Journal of Dermatology. 1997;36(2):113-5. doi:10.1046/j.1365-4362.1997.00071.x.

UAE National Cancer Registry (2019)

ANNUAL REPORT OF THE UAE- NATIONAL CANCER REGISTRY

Table 1: Number of cancer cases among UAE population according to primary site, gender, and nationality, 2019

Primary site ICD-10	UAE Citizens			Non-UAE Citizens			Total
	Female	Male	Total	Female	Male	Total	
(C00-C96) All invasive cancers (Malignant Cases)	**674**	**443**	**1117**	**1751**	**1513**	**3264**	**4381**
C00-C14 Lip, Oral cavity & pharynx	11	20	31	28	83	111	142
C15 Esophagus	2	3	5	5	18	23	28
C16 Stomach	9	20	29	15	45	60	89
C17 Small intestine	2	3	5	8	11	19	24
C18-C21 Colorectal	63	66	129	94	190	284	413
C22 Liver and intrahepatic bile ducts	9	17	26	10	36	46	72
C23, C24 Gallbladder, other and unspecified part of biliary tract	5	5	10	8	13	21	31
C25 Pancreas	4	10	14	13	28	41	55
C30, C31 Nasal cavity, middle ear, accessory sinuses		1	1	4	4	8	9
C32 Larynx		11	11		20	20	31
C34 Bronchus and Lung	10	31	41	37	73	110	151
C40-C41 Bone and articular cartilage	2	5	7	9	13	22	29
C43 Skin melanoma	1	2	3	22	26	48	51
C44 Skin	7	12	19	90	169	259	278

Incidence of melanoma in South Africa

The incidence of melanoma for SA: 2.6 per 100 000

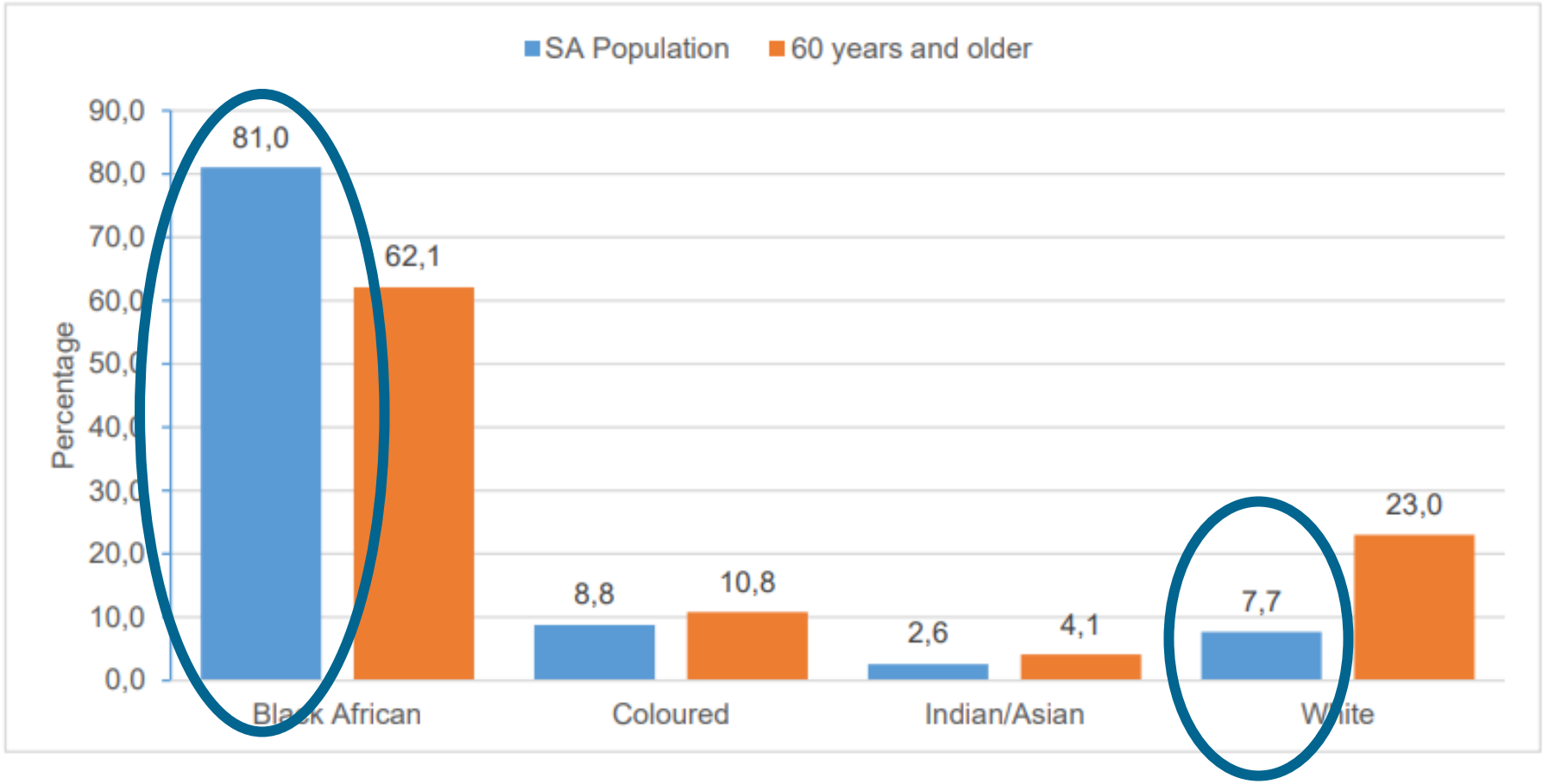
SAMJ RESEARCH

The incidence of melanoma in South Africa: An exploratory analysis of National Cancer Registry data from 2005 to 2013 with a specific focus on melanoma in black Africans

B M Tod,[1] MB BCh, MMed (Derm), FCDerm; **P E Kellett**,[2] NDip Med Tech; **E Singh**,[2] MB ChB, MMed (Community Health), FCPHSA; **W I Visser**,[1] MB ChB, MFamMed, MMed (Derm); **C J Lombard**,[3,4] MSc, PhD; **C Y Wright**,[5,6] PhD

South African population = 63 million people (2023)

Figure 2.5: Percentage distribution of older persons to the total population by population group, 2022



Source: Mid-year Population Estimates, 2022 series.

Table 1. Annual incidence rates for melanoma by sex, population group and age group, and counts by year of patients with melanoma in the public (NHLS) and private sector, and specifically for black Africans with limb melanoma

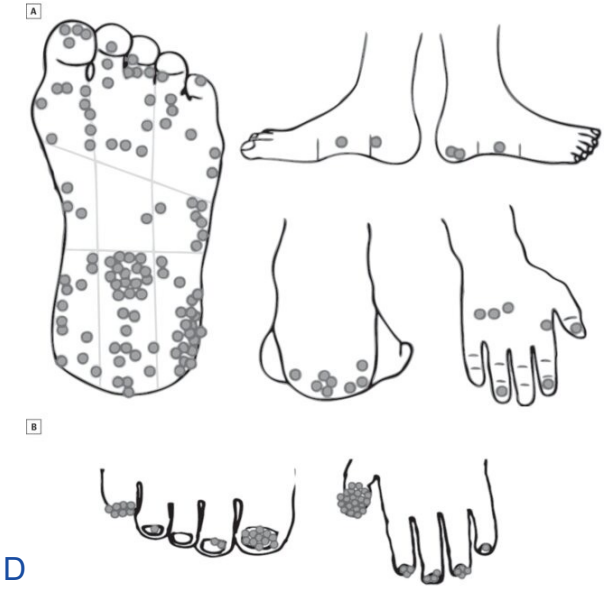
	2005	2006	2007	2008	2009	2010	2011	2012	2013	All 2005 - 2013	All 2011 - 2013
Annual incidence rates, /100 000/year											
All	2.9	2.8	2.6	2.6	2.0	2.0	2.6	2.8	2.9	2.6	2.7
Gender											
Male	3.2	2.9	2.7	2.8	2.0	2.2	2.8	2.8	3.1	2.7	2.9
Female	2.7	2.6	2.4	2.4	2.0	1.9	2.4	2.7	2.6	2.4	2.6
Population group											
Black African	0.6	0.6	0.6	0.6	0.6	0.4	0.5	0.6	0.5	0.5	0.5
Coloured	2.7	3.0	2.6	2.7	2.2	2.2	2.9	3.0	2.9	2.7	2.9
Indian/Asian	0.9	0.8	1.2	1.2	0.4	0.7	1.0	0.9	1.3	0.9	1.1
White	22.1	20.8	19.2	19.6	14.5	16.2	21.0	23.0	25.5	20.2	23.2
Age group (years)											
≤39	0.7	0.6	0.6	0.6	0.3	0.4	0.5	0.4	0.4	0.5	0.4
40 - 59	6.0	5.8	5.3	4.9	4.2	4.3	4.8	5.4	5.4	5.1	5.2
≥60	18.0	17.7	15.9	17.2	13.4	13.0	18.2	18.6	20.1	16.9	19.0
Counts by year, *n*											
Public v. private											
NHLS counts	379	313	357	367	381	322	335	396	323	3173	1 054
Private counts	1 032	1 036	915	928	645	735	1 026	1 075	1 219	8 611	3 320
Black Africans diagnosed with melanoma of the limb	112	106	115	53	53	75	126	130	108	878	-

NHLS = National Health Laboratory Service.

Tod BM, Kellett PE, Singh E, Visser WI, Lombard CJ, Wright CY. The incidence of melanoma in South Africa: An exploratory analysis of National Cancer Registry data from 2005 to 2013 with a specific focus on melanoma in black Africans. S Afr Med J. 2019 Mar 29;109(4):246-253. doi: 10.7196/SAMJ.2019.v109i4.13565. PMID: 31084690.

Clinical presentation of Melanoma is SoC

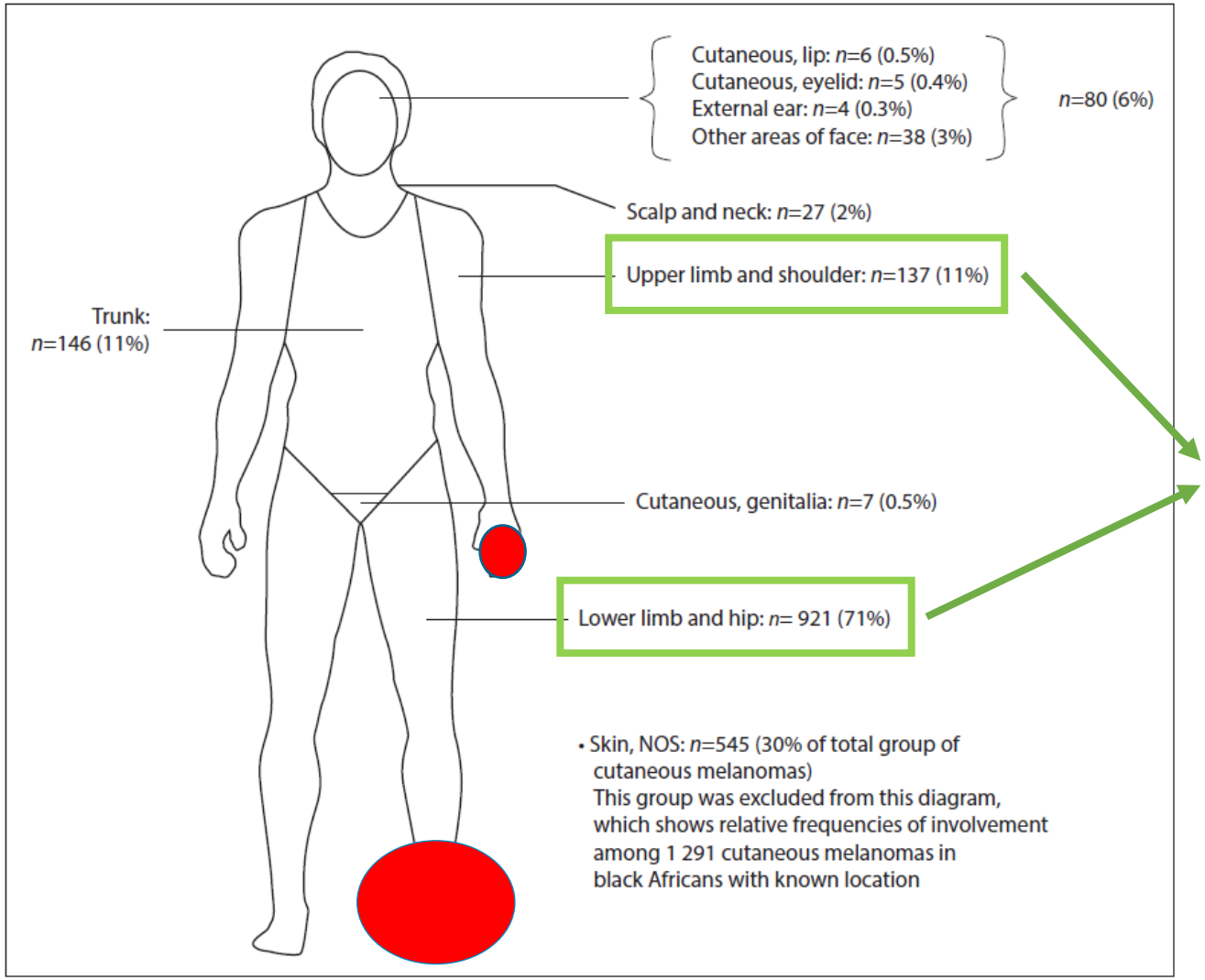
- **Non-sun-exposed areas** - regions with less pigmentation
- **Dark brown or black macule** that gradually increases in size and is more likely to be overlooked
- Frequently **defies "ABCD" criteria** - symmetry and homogeneous uniform pigmentation
- Arise **de novo**
- **Thicker and ulcerated** at the time of diagnosis



JAMA Dermatol. 2013;149(11):1281-1288. doi:10.1001/jamadermatol.2013.5853Published online September 25, 2013

Brunsgaard E, Wu YP, Grossman D. Melanoma in Skin of Color: Part I. Epidemiology and clinical presentation. J Am Acad D 9622(22)00783-6. doi: 10.1016/j.jaad.2022.04.056. Epub ahead of print. PMID: 35533771.

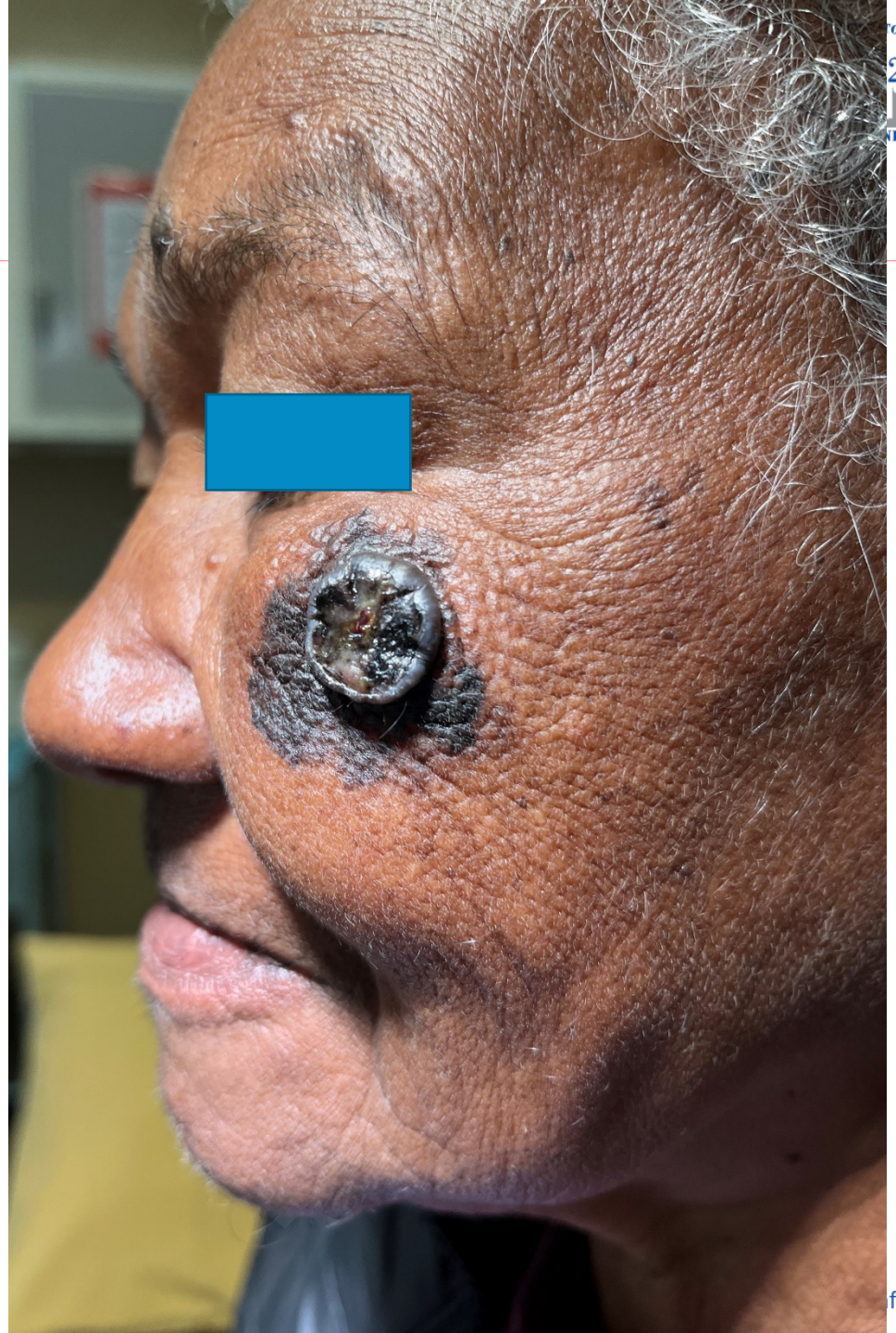
Anatomic distribution in black Africans



82%

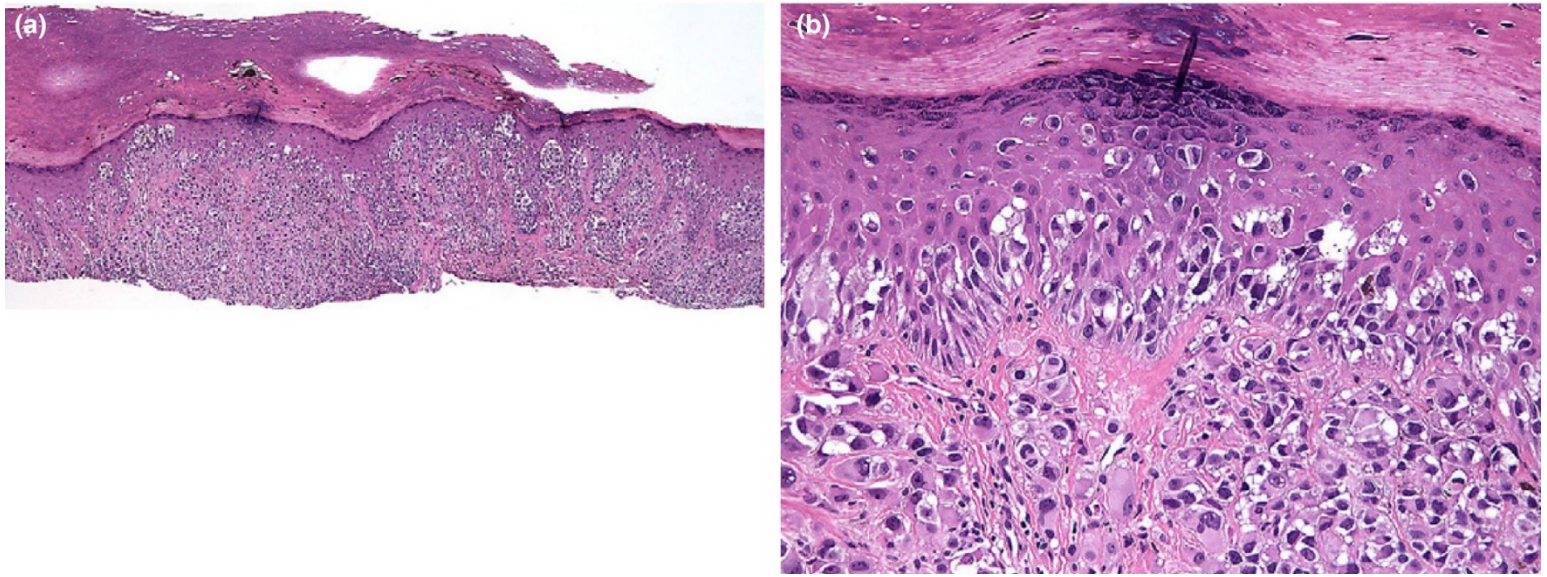
Distribution of melanoma incidence as a frequency count (and as a percentage of all body sites in parentheses) by anatomical site for the black African population group. (NOS = not otherwise specified.)

S Afr Med J 2019;109(4):246-253. DOI:10.7196/SAMJ.2019.v109i4.13565



Melanoma subtypes

- In black individuals - **acral lentiginous melanoma (ALM)** (palms, soles, and subungual region)
- **75%** of melanomas diagnosed in **SoC is ALM**
- Higher percentage of patients with SoC are diagnosed with **mucosal melanoma (MM)**

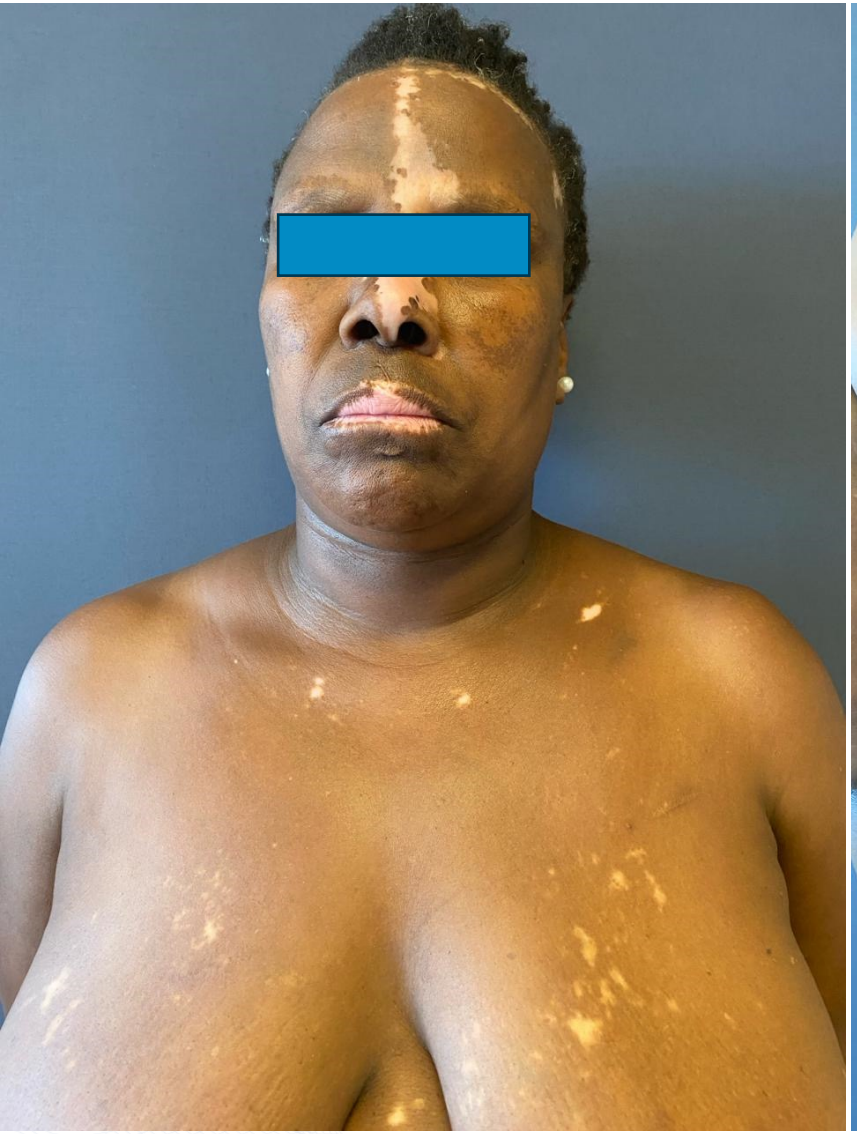


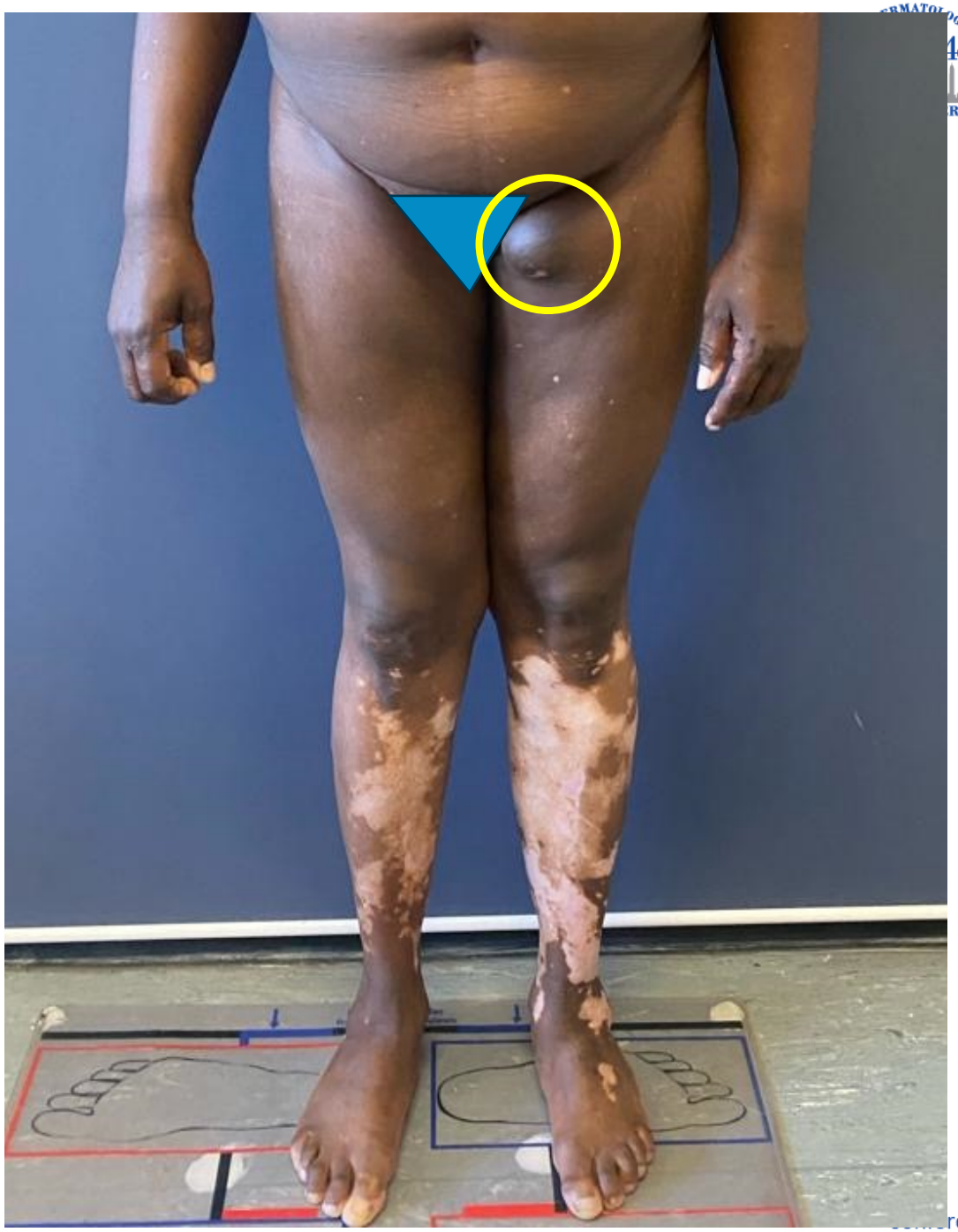
Desai, A., Ugorji, R. and Khachemoune, A. (2018), Acral melanoma foot lesions. Part 2: clinical presentation, diagnosis, and management. Clin Exp Dermatol, 43: 117-123.

Brunsgaard E, Wu YP, Grossman D. Melanoma in Skin of Color: Part I. Epidemiology and clinical presentation. J Am Acad Dermatol. 2022 May 6:S0190-9622(22)00783-6. doi: 10.1016/j.jaad.2022.04.056. Epub ahead of print. PMID: 35533771.

Melanoma mimics

- Nevi in SoC tend to be darkly pigmented
- Acral nevi are more common in SoC
- Physiologic **oral pigmentation** can mimic MM
- Physiologic longitudinal **melanonychia** can mimic subungual melanoma





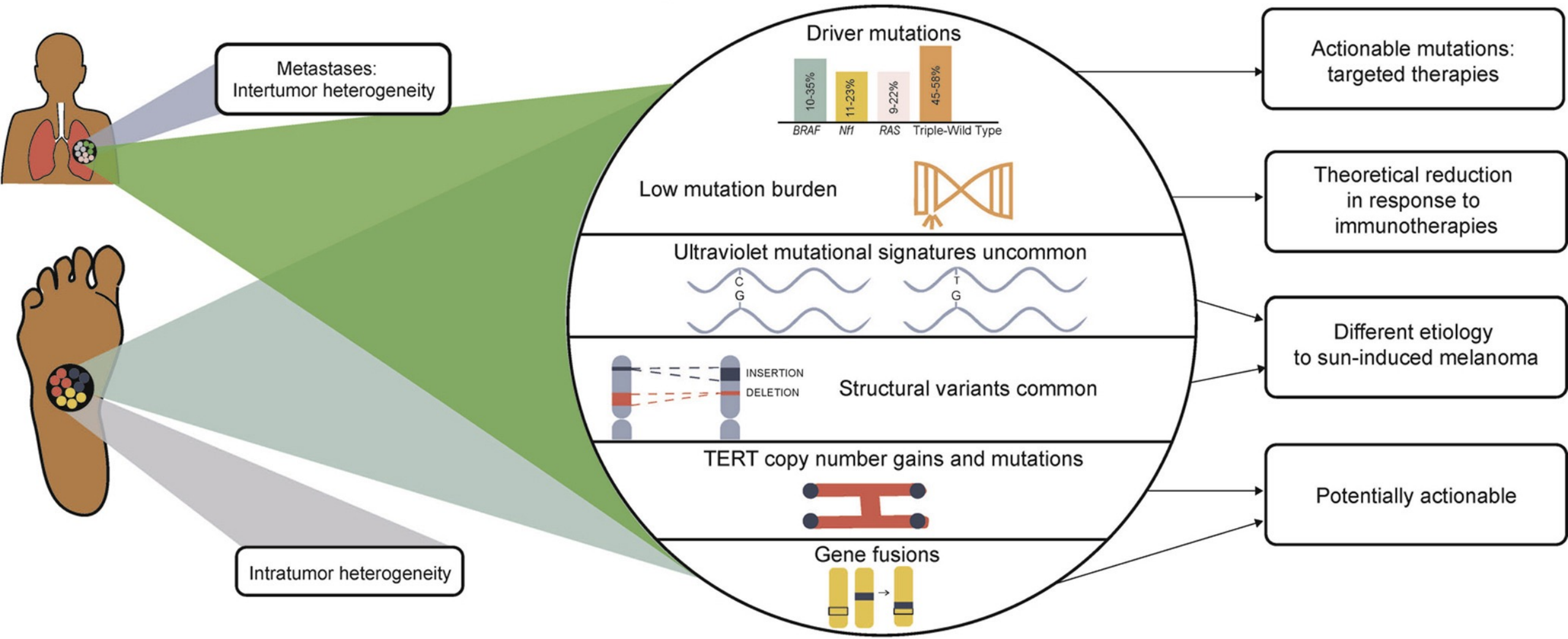
ORIGINAL ARTICLE

The tumor genetics of acral melanoma: What should a dermatologist know?

Bianca M. Tod, MMed (Derm), FCDerm,[a] Johann W. Schneider, FCPath (SA) Anat, MMed (Anat Path),[b] Anne M. Bowcock, PhD,[c] Willem I. Visser, MMed (Derm), MFamMed,[a] and Maritha J. Kotze, PhD[d]
Cape Town, South Africa; and New York, New York

JAAD Int 2020;1:135-47

Tumor genetics of acral melanoma



Mortality

Racial disparities in melanoma-specific survival (MSS)

- MSS improved for most racial groups, but the improvement was most significant for whites
- Patients with SoC continued to have relatively **worse overall MSS**
- Despite universal improvements in MSS, melanoma has the **largest survival difference** of **all cancers** between black and white patients with an absolute difference of 25%

Brunsgaard E, Wu YP, Grossman D. Melanoma in Skin of Color: Part I. Epidemiology and clinical presentation. J Am Acad Dermatol. 2022 May 6:S0190-9622(22)00783-6. doi: 10.1016/j.jaad.2022.04.056. Epub ahead of print. PMID: 35533771.

Individuals with SoC are more likely to be diagnosed at a later stage

Racial disparities in melanoma-specific survival (MSS) have persisted

- In a large retrospective study (utilizing the SEER database from 1975-2016):

Patients who presented with <u>regional or distant disease</u>

  - **12.6% of White**
  - 18.6% of American Indian/Alaska Natives
  - 21.0% of Hispanics
  - 28.6% of Asian/Pacific Islanders
  - **34.1% of black patients**

- In patients diagnosed with localized disease, individuals with SoC were more likely to have **ulcerated** and significantly **thicker** melanoma.

Brunsgaard E, Wu YP, Grossman D. Melanoma in Skin of Color: Part I. Epidemiology and clinical presentation. J Am Acad Dermatol. 2022 May 6:S0190-9622(22)00783-6. doi: 10.1016/j.jaad.2022.04.056. Epub ahead of print. PMID: 35533771.

SAMJ RESEARCH

Clinical and pathological features of acral melanoma in a South African population: A retrospective study

J de Wet,[1] MB ChB, MMed; **B Tod**,[1] MB BCh, MMed, FCDerm; **W I Visser**,[1] MB ChB, MFamMed, MMed;
H F Jordaan,[1] MB ChB, MMed, M Akad SA; **J W Schneider**,[2] MB ChB, MMed, FCPath

LETTER TO THE EDITOR

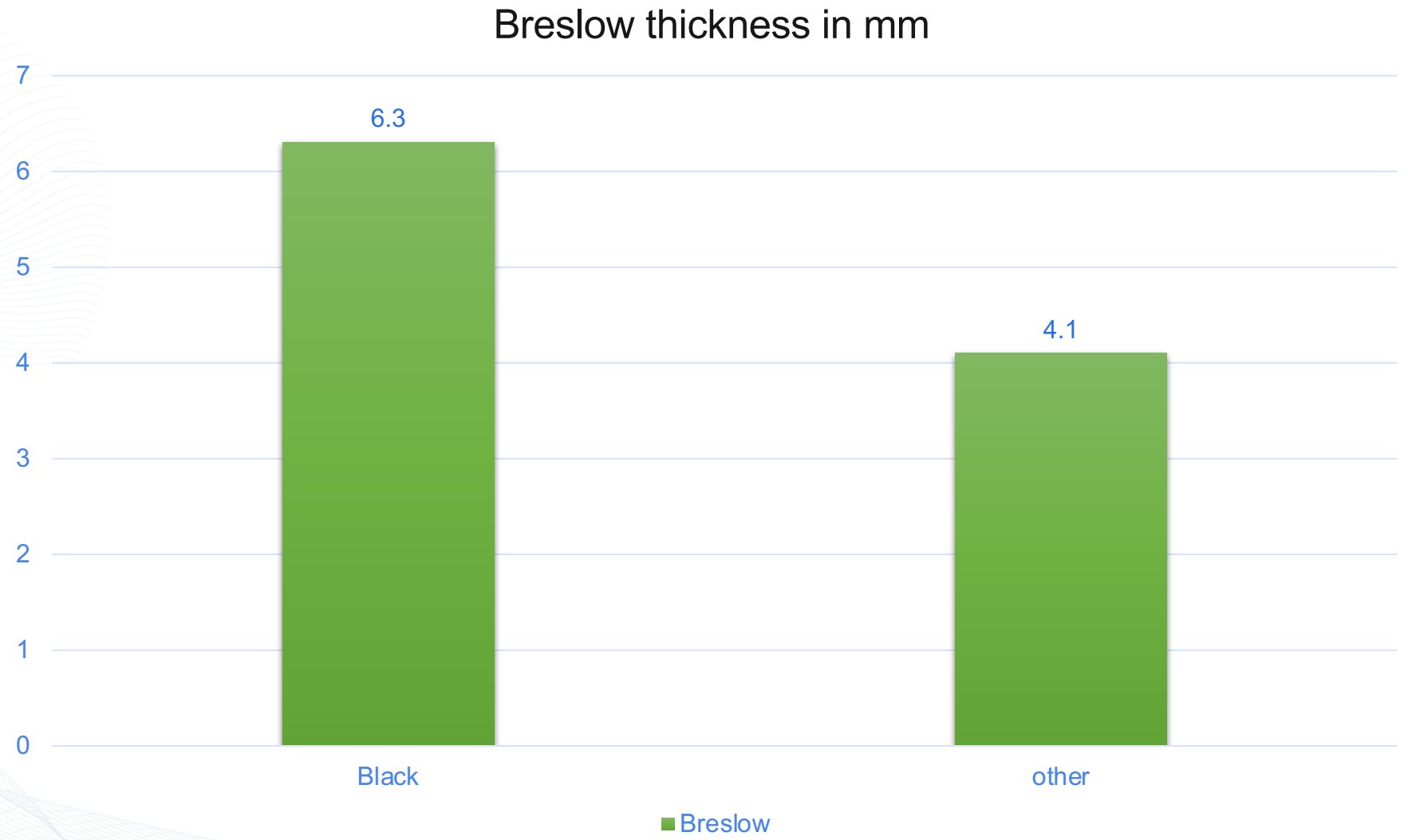
WILEY

Clinicopathological features and associations in a series of South African acral melanomas

Clinical presentation = consistent with delay in diagnosis

The median duration of lesions at presentation in the current study was **10 months (range 2 - 48)**
Mean tumour size at diagnosis (longest diameter) was **3,8 cm**
The mean Breslow thickness of all AMs at diagnosis was **5.2 mm** (median 4.2 mm, range 0 - 22)
Ulceration was reported in **73.8%**
56% presented with at least stage 3 disease

The difference in Breslow thickness between Black and other patients at presentation.




GOVERNMENT WESTERN CAPE
HEALTH

Acral melanoma in South African population

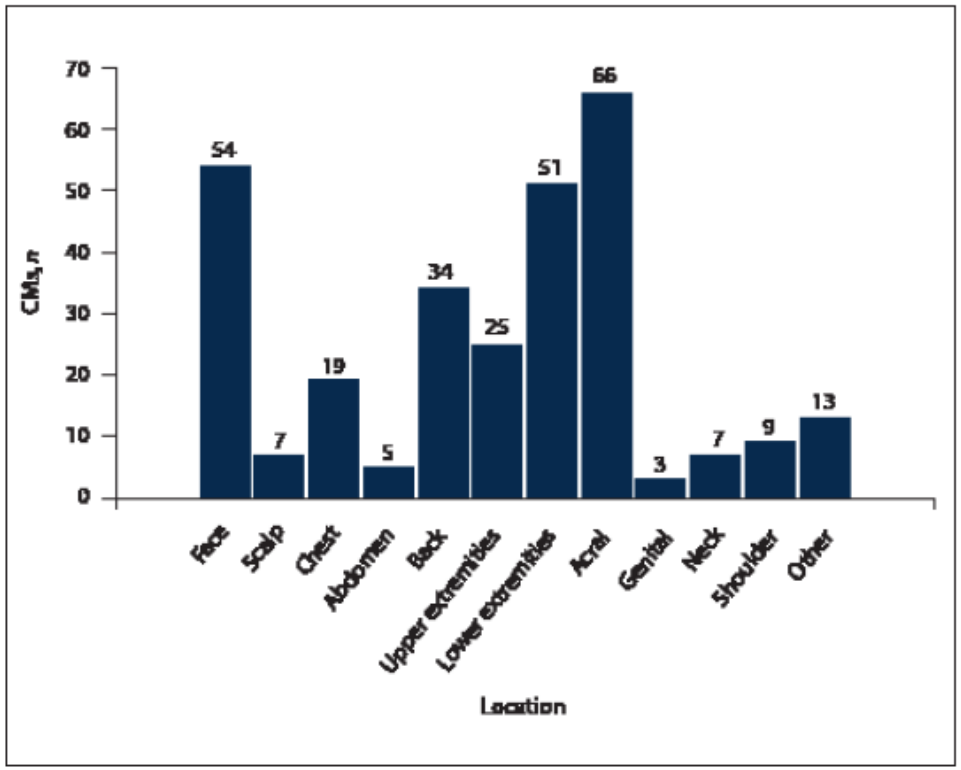
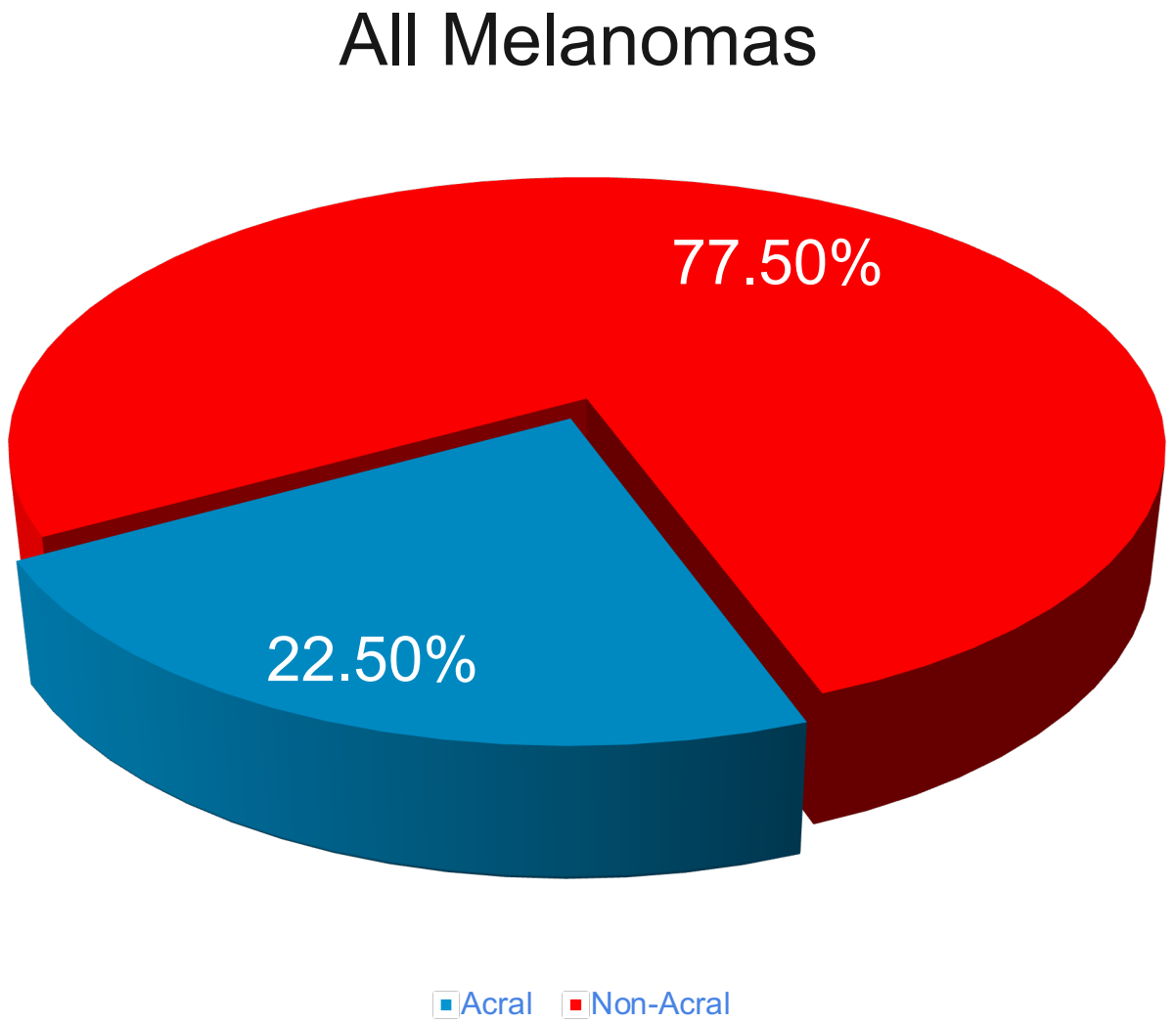


Fig. 1. Location of all CMs diagnosed (N=293). (CMs = cutaneous melanomas.)



S Afr Med J 2018;108(9):777-781. DOI:10.7196/SAMJ.2018.v108i9.13435

"AM could represent an underestimated public health problem in countries mostly populated by people with darker skin types"

Durbec F, Martin L, Derancourt C, Grange F. Melanoma of the hand and foot: Epidemiological, prognostic and genetic features: A systematic review. Br J Dermatol 2012;166(4):727-739

13 Apr 2019

‘White cancer’ hitting more black people

City Press Vuyo Mkize

SHARE

Melanoma, an aggressive form of skin cancer, was thought to affect mainly white people, has been found to pose a threat to black people. Picture: iStock

An aggressive form of skin cancer previously thought to affect mainly white people, has been found to pose a significant threat not only to black people, but the public health sector that treats them.

This is according to the latest study on the incidence of melanoma in the country, with a specific focus on melanoma in black Africans, published in the South African Medical Journal.

Research on melanoma and SoC

- Inappropriate **categorization**: racial groups vs skin type
- **Lower incidence** of melanoma in SoC: significant barrier to performing high quality trials.
- Individuals with SoC are also less likely to participate in clinical trials: **underrepresented**

Increasing research and education is necessary to improve survival outcomes

Patient education

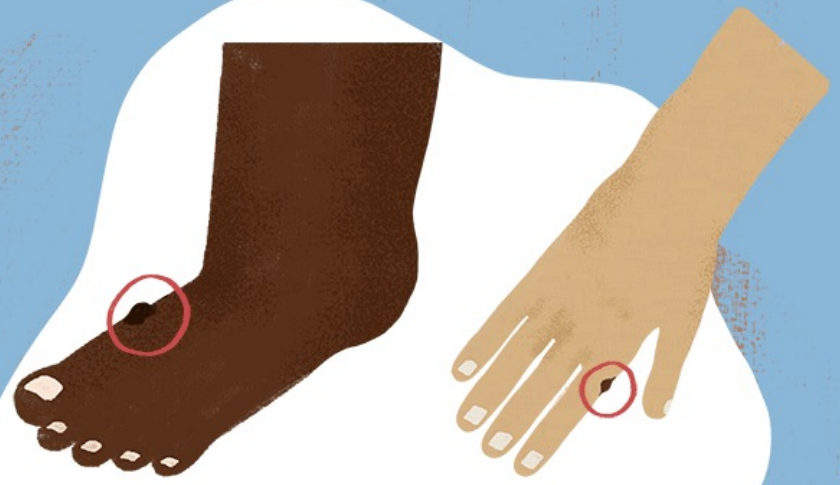
- Skin cancer awareness campaigns **target white populations**
- Patients with SoC are significantly **less likely to be counselled** about skin cancer or be taught how to perform a skin self-exam = decreased melanoma awareness

Lower melanoma awareness has been associated with significant delays in evaluation

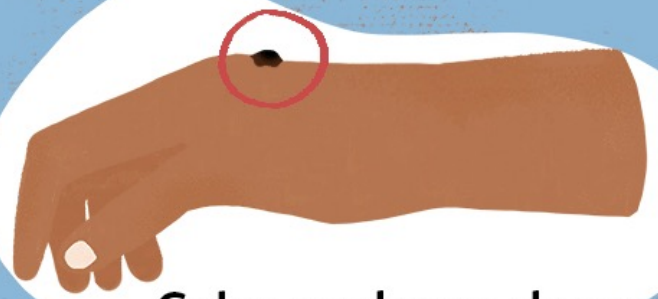
Brunsgaard E, Wu YP, Grossman D. Melanoma in Skin of Color: Part I. Epidemiology and clinical presentation. J Am Acad Dermatol. 2022 May 6:S0190-9622(22)00783-6. doi: 10.1016/j.jaad.2022.04.056. Epub ahead of print. PMID: 35533771.

Symptoms of Acral Lentiginous Melanoma

Black or brown discoloration on palms/soles



Thick, elevated, or irregular growth on the hands/feet



Color or shape changes of mole on hands/feet

Dark streak across length of nail

verywell

Feet up - thumbs up - high five

Anyone can get melanoma

Check your nails, palms and soles for dark, pink or bleeding freckles, marks or bumps, or anything that changes on your skin.
It could be a sign of Acral Melanoma.
See your healthcare provider if you have concerns.

Professional education

1. Medical students **less accurate in diagnosing** skin **diseases in SoC**
2. **Textbooks and clinical training** in residency often **underrepresent** dermatologic conditions in SoC

Fenton A, Elliott E, Shahbandi A, et al. Medical students' ability to diagnose common dermatologic conditions in skin of color. J Am Acad Dermatol. 2020;83(3):957-958. doi:10.1016/j.jaad.2019.12.078

ijdvl.com

Net Study

Cross-sectional study of acral melanoma awareness in a group of South African final phase medical students

Johanna M. Eksteen, Willem I. Visser, Johann de Wet, Carl Lombard[1], Moleen Zunza[1], Bianca Tod

Department of Dermatology, Stellenbosch University, Tygerberg Academic Hospital, [1]Department of Global Health, Division of Epidemiology and Biostatistics, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa

Acral melanoma awareness – Final year medical students

- Hundred and one final phase medical students participated
- **Only 8.9% identified all acral melanomas**

Disparities in melanoma-specific mortality by race/ethnicity, socioeconomic status, and health care systems

Amanda Rosenthal, MD,[a] Shivani Reddy, MD,[b] Robert Cooper, MD,[c] Joanie Chung, MPH,[d] Jing Zhang, MS,[d] Reina Haque, PhD,[d,e] and Christina Kim, MD[a]

J Am Acad Dermatol 2023;88:560-7.

NOT race/ethnicity BUT **socio-economic status**
NOT socio-economic status BUT **access to health care/insurance**

What can we do to improve the poor outcomes?

Improve Socio-economic status

Improve access to Health care

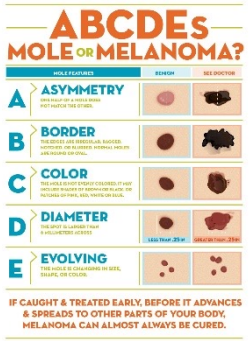
Better Health equality

Health care provider education

Improve patient education

AM specific education

Focus on awareness and early detection/ Screening programs



Conclusion: Melanoma in people with SoC

Incidence BUT Mortality

Patients

Health care workers

Lower melanoma awareness

Health care inequalities

IMPROVE

EDUCATION
RESEARCH
ACCESS to HC

Special thanks to…

Dr Bianca Tod

Dr Johann de Wet

Thank you