

SKIN CANCER SCREENING IN 2026

Richard Shellenberger, DO, MACP

DISCLOSURES

None

OBJECTIVES

- ▶ Review epidemiology of skin cancer
- ▶ Examine the importance of early detection
- ▶ Screening high risk patients
- ▶ Evaluation of pigmented lesions
- ▶ An ounce of prevention

Non-melanoma skin cancer (Keratinocyte carcinoma)

- Most common cancer in the US
 - (98% skin cancers)
 - 1/5 lifetime risk
 - ~ 3-5 million cases/year

Melanoma (1-2% of skin cancer)

- 104,960 in 2025
 - ~61K in Men
 - ~44 K in women)SEER data
- 8,430 deaths/yr in the US
- 5th most common cancer both sexes

EPIDEMIOLOGY DATA

of new cases = cervical
+ endometrial cancer

Only 20% < cancers of
colon and rectum

**1/28 lifetime risk in US for
men**

1/41 for women

MELANOMA EPIDEMIOLOGY

MELANOMA EPIDEMIOLOGY

- ▶ Age adjusted incidence rate
 - ▶ 8.8 per 100,000 in 1975
 - ▶ 28.4 per 100,000 in 2022
- ▶ 1.4 million living with melanoma in 2021 in the US
- ▶ **GOOD NEWS!**
 - ▶ Mortality declining 2011- 2021 5% in age < 50 and 3% in age > 50
 - ▶ 5 yr survival for distant stage melanoma has risen from 15% to 35%

SUPPORT FOR MELANOMA EARLY DETECTION

- ▶ 5-year survival (ACS)
 - ▶ **99%** for **localized stage I and II**
 - ▶ **60 – 76% 83%** **Regional stage III**
 - ▶ **35 %** for distant **stage IV**

Incidence of melanoma rose 3%/yr
from 1975-2015

Most solid tumors decreased!

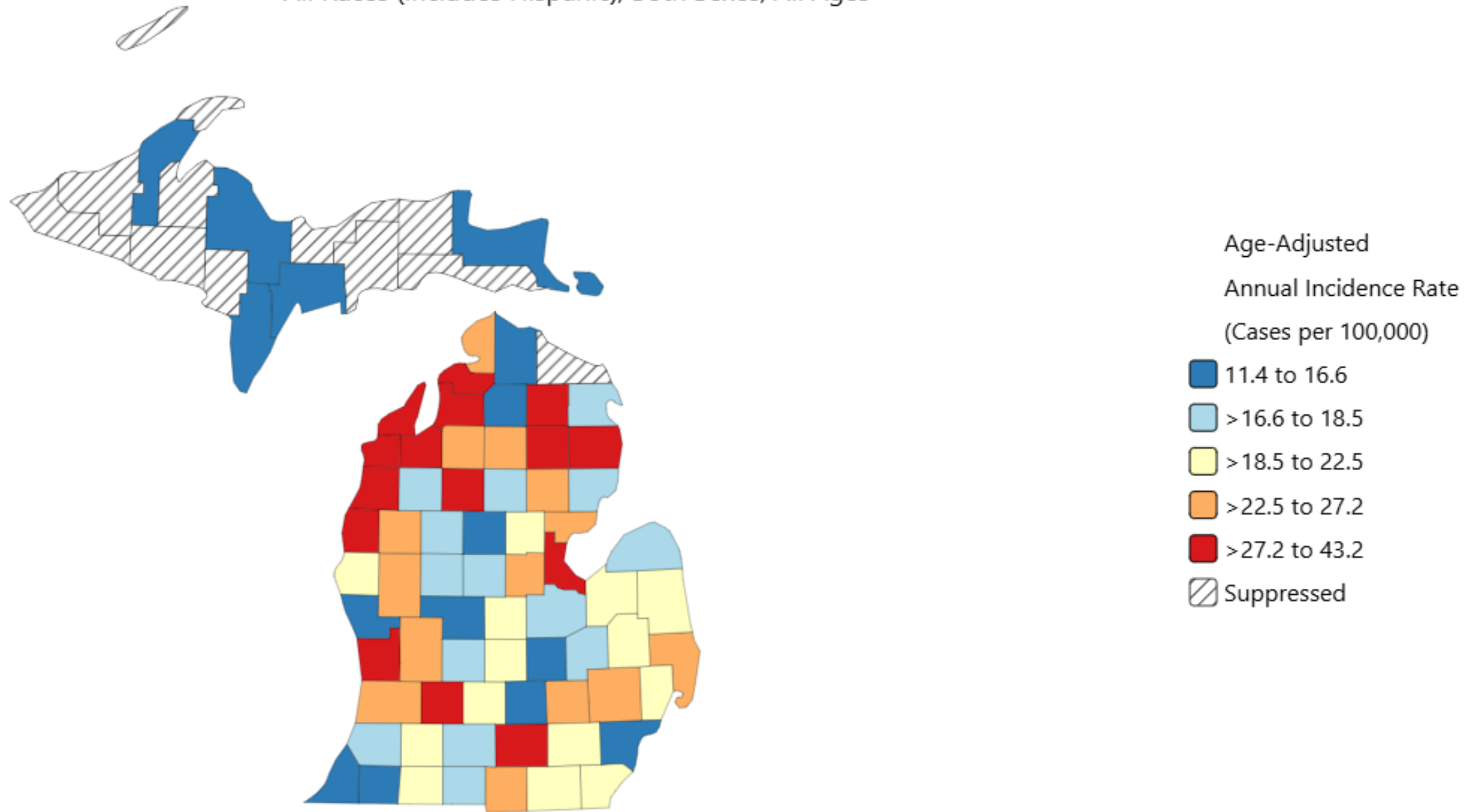
patients tx for melanoma has
doubled since 2002

**Total cost increases by 288% since
2002**

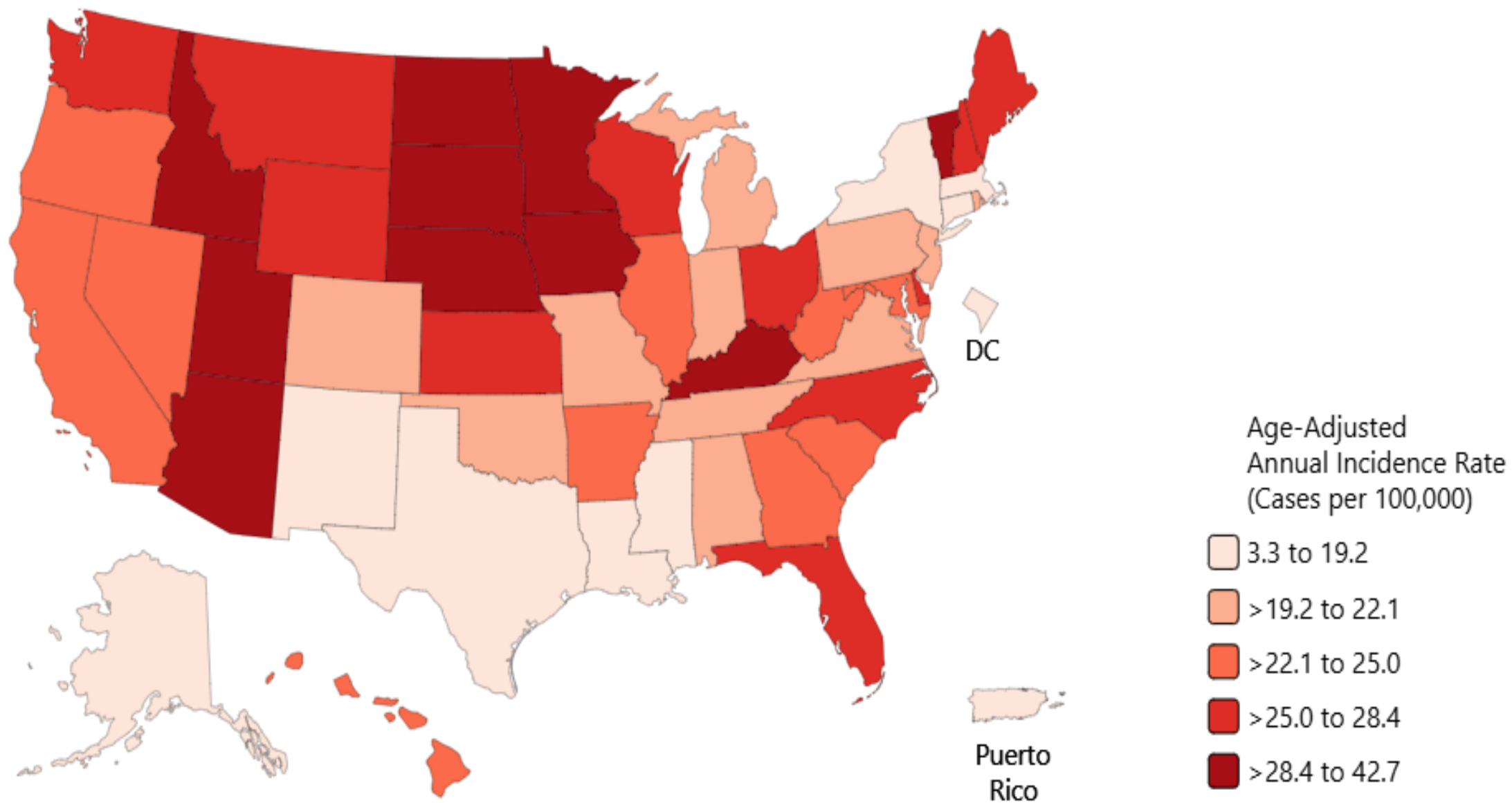
- **For all other cancers 25%**

PUBLIC
HEALTH –
SHOULD WE
SCREEN?

Melanoma of the Skin (All Stages^), 2018-2022
All Races (includes Hispanic), Both Sexes, All Ages



All Races (includes Hispanic/Latino), Both Sexes, All Ages, 2018-2022



- ▶ Physician- detected melanoma are consistently thinner than patient detected melanoma
 - ▶ Brady et al., 2000
 - ▶ Physicians 3.6 X more likely to find lesions < 0.75 mm Breslow depth
 - ▶ Tim Johnson(U Mich) 2002 found physician detected melanoma thinner than patient or spouse detected melanoma

SCREENING



- ▶ Breast cancer screening in age 40+ 80%
 - ▶ Cervical cancer screening age 21-65 75%
 - ▶ Colorectal cancer screening 67%
 - ▶ PSA (Now “C” USPSTF) 38%
 - ▶ Skin cancer (NIH estimates) 14-30%%
- ▶ All increasing except not certain for skin cancer

2023 SCREENING RATES FOR US CANCERS

SCREENING FOR SKIN CANCER

- ▶ The April 2023 USPSTF statement found that while early detection helps survival, there is limited evidence on the overall benefits vs. harms of screening, leading to the "I" (Insufficient) rating.

- ▶ Landmark primary care skin cancer screening QI
 - ▶ PCPs encouraged to offer FBSE to informed patients
 - ▶ 2 groups of PCP - 2 hr web-based training module INFORMED
 - ▶ EMR alerts for FBSE pt age > 35 when they had a routine visit
 - ▶ 15.9% received FBSE
 - ▶ Melanoma dx 79% higher in INFORMED group
 - ▶ Screened patients
 - ▶ 2.4 X more likely to be dx with melanoma
 - ▶ Melanoma thinner the group not screened

WEINSTOCK, ET AL (CANCER, OCT 15, 2016)
UPMC MELANOMA SCREENING PROGRAM

Lack of Data from RCT

Support for screening

- Physicians find thinner melanoma than pt of family
- Yet only 1/3 of melanoma are discover by doctors
- **60 – 80+ % pt dx w melanoma**
 - **2 doctor visits same year as dx**

WHAT TO DO?





Clinical Practice Guidelines

for the Management of **Melanoma**
in Australia and New Zealand

Evidence-based
Best Practice
Guidelines

Approved by



HIGH-RISK PATIENTS

- ▶ Person's age and gender
- ▶ History of previous melanoma or NMSC
- ▶ Family history of melanoma
- ▶ Number of nevi
- ▶ Skin and hair pigmentation
- ▶ Response to sun exposure (sunburns)
- ▶ Evidence of actinic skin damage

Grade B Evidence

COUNTRIES WITH SKIN CANCER SCREENING

- ▶ Australia / New Zealand
- ▶ Canada
 - ▶ “Mole Mobile” – free screening
- ▶ UK, Switzerland, Belgium, Austria and Spain
 - ▶ High risk
- ▶ Germany – skin exam every 2 years
- ▶ US has the highest # of cases of skin cancer and #9 in IR



Annals of Medicine



ISSN: 0785-3890 (Print) 1365-2060 (Online) Journal homepage: <http://www.tandfonline.com/loi/iann20>

Melanoma screening: A plan for improving early detection

Richard Shellenberger, Mohammed Nabhan & Sweta Kakarparthi

To cite this article: Richard Shellenberger, Mohammed Nabhan & Sweta Kakarparthi (2016); Melanoma screening: A plan for improving early detection, *Annals of Medicine*, DOI: [10.3109/07853890.2016.1145795](https://doi.org/10.3109/07853890.2016.1145795)

To link to this article: <http://dx.doi.org/10.3109/07853890.2016.1145795>



COMMENTARY

Melanoma Screening: Thinking Beyond the Guidelines



Richard A. Shellenberger, DO; Sweta Kakarparthi, MD; and Karine Tawagi, MD

Malignant melanoma is a growing public health concern for many countries worldwide. The incidence of melanoma has increased during the past 50 years in the United States and in most countries with fair-skinned populations.¹ Most cases are seen in developed countries, where melanoma ranks as the sixth leading cancer.² Paradoxically, melanoma composes a small minority of all skin cancer cases seen in the United States but accounts for most skin cancer deaths.³ The continuing rise in melanoma mortality in the United States is disconcerting considering a decline in death rates for most solid tumors from 1975 through 2013. The cumulative incidence of melanoma in the US white population aged 0 to 74 years ranks third worldwide behind Australia and New Zealand.⁴ Evidenced-based guidelines worldwide have not recommended routine screening for any type of skin cancer in the general population. Can thinking beyond these guidelines cultivate a benefit for a cancer with such a requisite for enhanced outcomes?

identifying and managing patients at high risk for future melanoma through clinical assessment. These risks include a person's age and sex, history of previous melanoma and nonmelanoma skin cancer; family history of melanoma, number of nevi (common and atypical), skin and hair pigment, response to sun exposure, and evidence of actinic skin damage. Evidence grade B, which represents a body of evidence that can be trusted to guide practice in most situations, has been designated for this recommendation. We believe that these recommendations can be applied to the implementation of research aimed at expanding the evidence base. The USPSTF agrees that targeted research among populations with the highest burden of disease would be useful.⁵ However, until clear evidence to support screening is available, stemming the tide of the unfavorable epidemiology of malignant melanoma in the United States may remain a challenge. An opportunity for improving early detection by screening high-risk patients may exist.




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HIGH-RISK SCREENING

- ▶ Should we screen? Highest melanoma risk
 - ▶ **Caucasian men > 50**
 - ▶ **Sunburns x 5**
 - ▶ **FH (first degree) or personal history of melanoma**
 - ▶ **> 40 nevi > 2 mm or > 5 atypical nevi**

Disparities in melanoma incidence and mortality in rural versus urban Michigan

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Abstract

Introduction: We sought to identifying the possible existence of disparities between rural and urban residents of Michigan for the incidence by stage of disease and disease-specific mortality for cutaneous melanoma (CM).

Methods: Incidence rates for stage of disease and disease-specific mortality of cutaneous melanoma were calculated and controlled for gender, age, and area of residence from January 1, 2014, to December 31, 2018, from data collected from the Michigan Department of Health and Human Services and the Centers for Disease Control and Prevention.

Results: The incidence rates for CM were significantly higher in rural Michigan counties, from 2014–2018, for all patients, both age groups, both genders and all stages. Melanoma-specific mortality rates were also significantly higher for all patients, both age groups and both genders in rural Michigan counties. Using logistic regression analysis, while controlling for age and gender, rural Michigan counties continued to have a higher melanoma-specific mortality rate during our study period (OR = 1.491; 95% CI, 1.27–1.74; $p = <.001$).

Conclusion: We found significant disparities in the incidence rates and disease specific mortality for cutaneous melanoma in rural compared to urban Michigan from 2014–2018.

KEYWORDS

cutaneous melanoma, melanoma incidence, melanoma-specific mortality, rural disparities, rural healthcare

1 | INTRODUCTION

Sociodemographic factors have been associated with the incidence, stage of disease, treatment, trial involvement and prognosis for many

those lacking any core urban area with a population of at least 50 000 persons.^{2,3} The incidence rate and mortality rate of many cancers have been shown to be higher in rural populations compared to urban.^{4–6} For colorectal, breast, prostate, and cervical cancers; lower

IR Significantly higher in rural Michigan

- (IRR 1.30, 95% CI 1.25 – 1.36, $p < .001$)
- Higher in all SEER stages

Cancer specific mortality significantly higher in rural Michigan

- (MRR 1.491; 95% CI, 1.27–1.74; $p < .001$)

MICHIGAN RURAL MELANOMA
DISPARITIES 2014 - 2018



SCREENING
IS LOOKING

Are doctors looking at skin?

- < 25 % Pt in US report a skin exam
- 24% of high risk (2014, Lakhani NA, *Prev Med*)

Patients are concerned

- “Moon Shots” for some of the deadliest cancers
- Melanoma is #2 of the 7 Moon Shots

SKIN EXAMINATION

BARRIERS TO SKIN EXAM

- ▶ Time
- ▶ Competing comorbidities
- ▶ Getting patients undressed
- ▶ Lack of training
 - ▶ Wise et al. 2009
 - ▶ 76% residents never trained
 - ▶ **16% reported being skilled**
 - ▶ Shellenberger et al, JGIM, 2018
 - ▶ FM residents performed better than IM residents in Skin Cancer Examination

SKIN CANCER SIGNS OR SX

Moles than grow, itch or bleed

“Sores” which do not heal

Pigment spreading around a lesion

Red or black new pigment

A

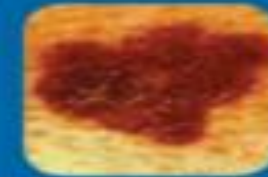
Asymmetry

One half is unlike the other.

GOOD



Symmetrical



Asymmetrical

BAD
Have a doctor check it out

B

Border

Blurry and/or jagged edges.

GOOD



Even edges



Uneven edges

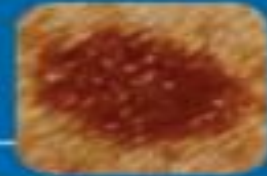
BAD
Have a doctor check it out

C

Colour

More than one shade or colour.

GOOD



One shade



Two or more shades

BAD
Have a doctor check it out

D

Diameter

Greater than 6 mm.

GOOD



Smaller than 6mm



Larger than 6mm

BAD
Have a doctor check it out

E

Evolution

Watch for changes over time. If your mole changes in size, shape or colour, it might be suspicious.



“ABCDE” FOR MELANOMA

| <u>Number</u> | <u>Probability of melanoma (LR)</u> |
|---------------|-------------------------------------|
| 1 | 1.5 |
| 2 | 2.6 |
| 3 | 3.3 |
| 4 | 8.3 |
| 5 | 107 |

Ebell M. Clinical Diagnosis of Melanoma.
Am Fam physician. 2008. 78(10) 1205-
1208

Lesion is **new** or **changing** in **size, shape, color or sx** (**bleed and itch**)

Questions:

- Ask the patient
- Ask patient's family
- Ask for or take photos

EVOLVING





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BASAL CELL SKIN CANCER

- ▶ Nodular and superficial
 - ▶ BCSC 60% of primary skin cancers
 - ▶ most common on face
- ▶ Slow-growing locally invasive
 - ▶ Oval, shiny, central atrophy and vessels visible
- ▶ Can do initial bx – shave or punch ok
 - ▶ Infiltrative or sclerosing types will need Mohs surgery



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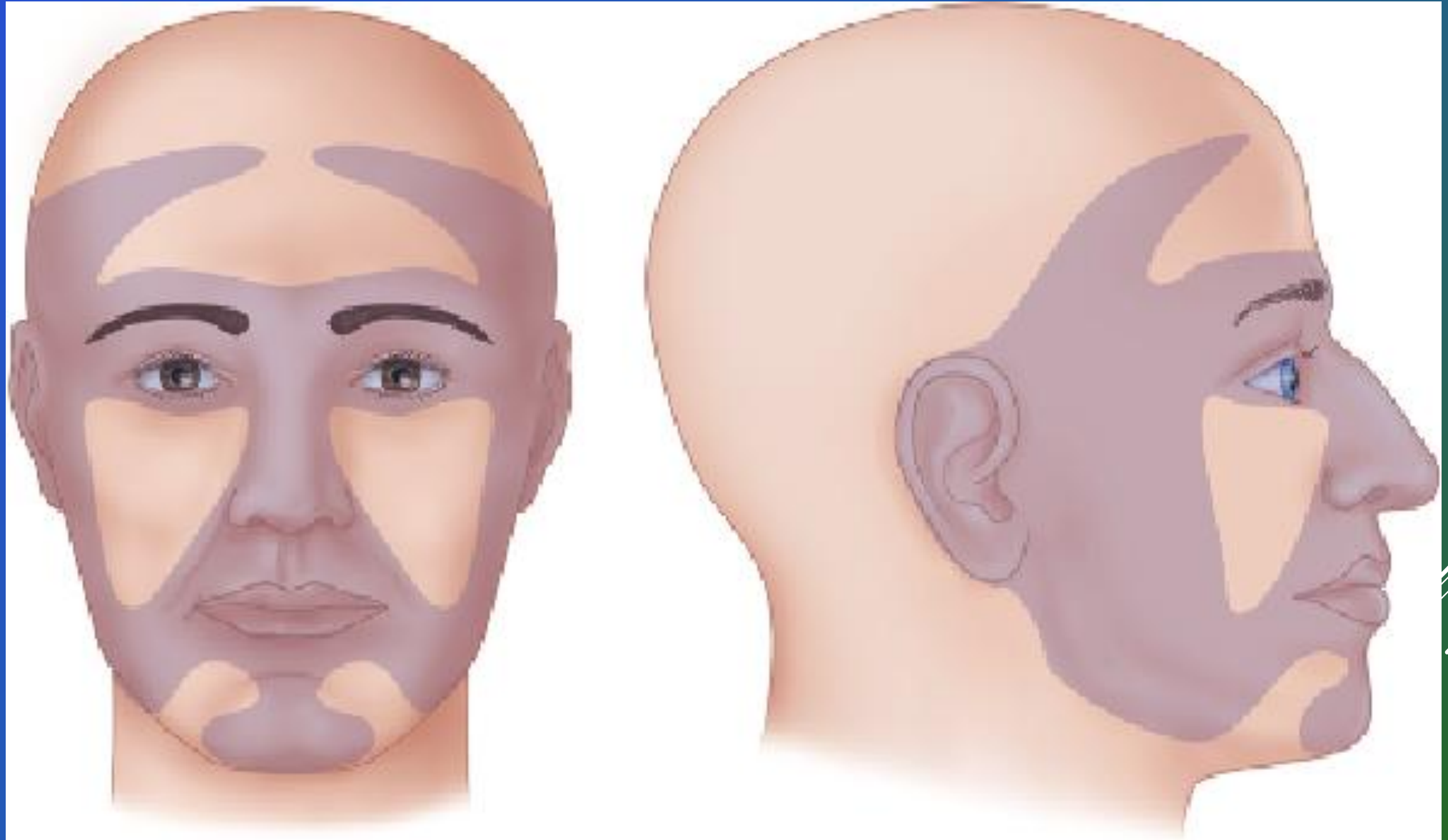
SQUAMOUS CELL SKIN CANCER

▶ Appearance

- ▶ Redness, slight scaling and fissuring initially
- ▶ Appears dry and may bleed when scratched
- ▶ Centers may be atrophic and ulcerated

TX OF SCSC

- ▶ Punch biopsy vs Excision vs Refer for Mohs surgery
- ▶ MOHS:
 - ▶ Superior histological analysis
 - ▶ Tissue conserving
 - ▶ Lower recurrence
- ▶ Higher risk with benefit from Mohs:
 - ▶ > 6 mm on “mask” area of face
 - ▶ > 10 mm on cheek or forehead
 - ▶ Rapid growth
 - ▶ Poorly defined borders













Most common type of melanoma

Dark brown or black w red pigment as well

Slowly spreading irregular outline

Vertical growth late

SUPERFICIAL SPREADING MELANOMA

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against the blue background.





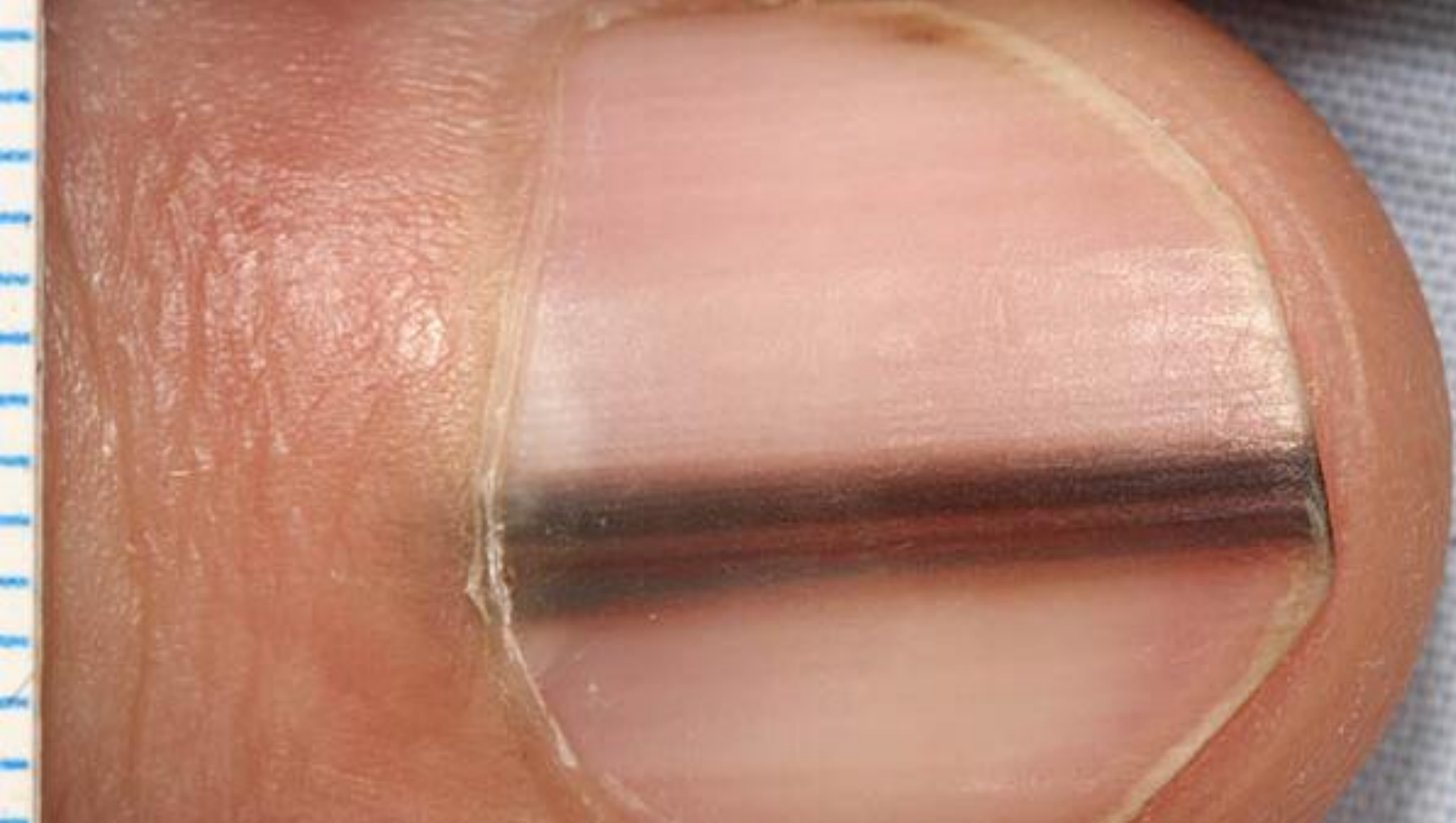






NODULAR MELANOMA

- ▶ Grows **vertically** - more metastasis - grows quickly
 - ▶ Grows 4 x faster
 - ▶ 4 x thicker at the time of dx
- ▶ 14% cases – 27% over age 65
- ▶ 37% of deaths
- ▶ Often more symmetric, elevated and may not have pigment





ACRAL LENTIGINOUS MELANOMA

- Palms, soles of feet, under nails, mucosa
- Least common melanoma
- Dark-skinned patients will get this type

BIOPSY

- ▶ Ok for primary care to bx pigmented lesions suspicious for melanoma
- ▶ Full thickness ellipse takes time
 - ▶ Can I punch?
 - ▶ Can I shave?

Impact of Biopsy Technique on Clinically Important Outcomes for Cutaneous Melanoma: A Systematic Review and Meta-analysis

Richard A. Shellenberger, DO; Fatima Fayyaz, MD; Zeyad Sako, MD; Madeline Schaeffer, DO; Karine Tawagi, MD; Caleb Scheidel, MS; and Mohammed Nabhan, MD

Abstract

We performed a systematic review and meta-analysis to examine the relationship between the type of biopsy technique employed in the diagnosis of cutaneous melanoma and 4 clinically important outcomes: melanoma-specific mortality, all-cause mortality, Breslow tumor depth, or melanoma recurrence. Our database was obtained by searching PubMed, Ovid MEDLINE, EMBASE, the Cochrane Database of Systematic Reviews, and the Cochrane Library from inception until December 6, 2019. Studies were identified that compared biopsy techniques used to diagnose cutaneous melanoma with any of our study outcomes. We included 7 observational studies for our meta-analysis after screening 3231 titles and abstracts. Pooled data identified a significantly higher all-cause mortality in the punch biopsy group (risk ratio [RR], 1.520; $P=.02$). A higher, but nonsignificant, rate of melanoma-specific mortality (RR, 1.96; $P=.22$) and melanoma recurrence (RR, 1.20; $P=.186$) was also found for the punch biopsy group. Breslow tumor thickness was not significantly lower for punch incision (standardized mean difference, -0.42 ; $P=.27$). We found limited evidence for differences in clinically important outcomes across the spectrum of the most common methods employed in clinical practice for the initial diagnosis of cutaneous melanoma. A small, but significant, increase ($P=.02$) in all-cause mortality with punch biopsies was not seen for the other outcomes and was most likely due to small sample sizes and demographic differences in the included studies and unlikely represents a clinically important outcome. Our findings support the use of existing clinical practice guidelines for evaluating pigmented lesions suspicious for cutaneous melanoma.



- ▶ Data to compare punch and excision
- ▶ No difference between punch and excision;
 - ▶ Melanoma-specific mortality
 - ▶ Recurrence
 - ▶ Breslow depth

NEW META- ANALYSIS ON SHAVE BX

- ▶ Ahmadi O. Impact of Shave Biopsy on Diagnosis and Management of Cutaneous Melanoma: A Systematic Review and Meta-Analysis. *Ann Surg Oncol*. 2021 Mar 29:1–9.
- ▶ 43% had disease at the deep margin, 8% staging reclassification, 2% had a change in tx
- ▶ Did not examine outcomes

AAD GUIDELINES

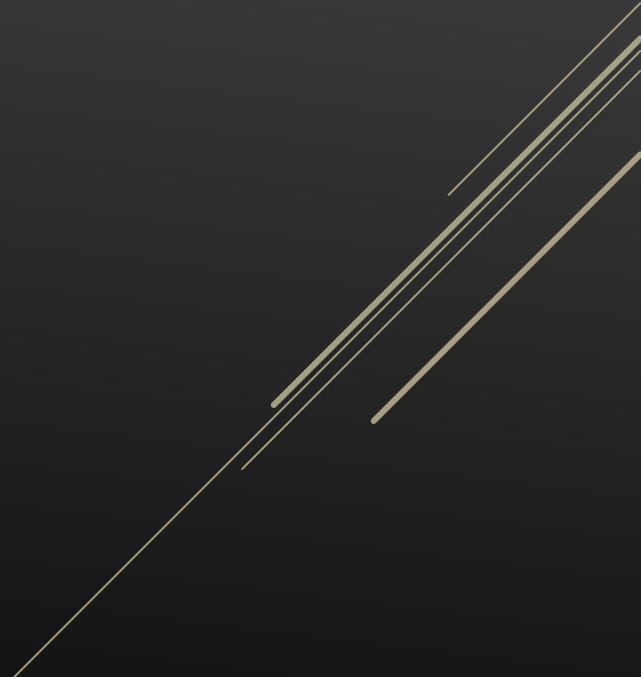
- ▶ Management of pigmented lesions suspicious for melanoma
 - ▶ ABCDE rules
 - ▶ Full thickness elliptical, punch, or deep saucerization all OK with 1-3 mm margins
 - ▶ Superficial shave discouraged

- ▶ Sun exposure is the strongest modifiable risk for NHW not NHB and Hispanics
 - ▶ Total and intermittent sun
 - ▶ Sunburns
- ▶ Shade, Hats, Sunscreen, SPF shirts
 - ▶ RCT of 1621 Australians showed daily sunscreen decrease SCSC and melanoma
- ▶ Tanning beds are bad

PREVENTION



SUMMARY

- ▶ Ask about sunburns and mole changes
 - ▶ Look at patient's skin
 - ▶ 2/3 Pt w melanoma saw their PCP before the dx
 - ▶ Men over 50 at least look at back
 - ▶ Biopsy
 - ▶ Prevention
- 



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