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Dermoscopy Pigmented Lesions

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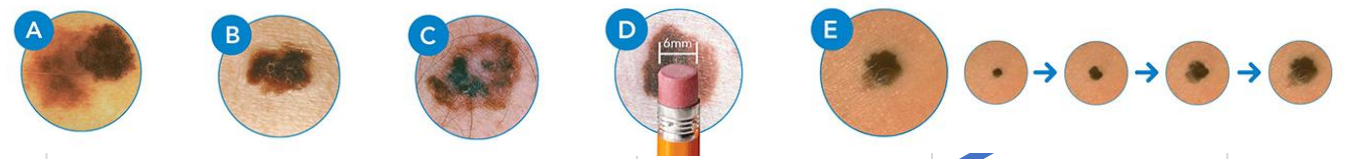
No Disclosures



Melanoma Incidence



Pre-1980's



ABCD criteria

Mid-1980's



Mid-1990's-
2000's

Time

Diagnostic Certainty



Dermoscopy

- ✓ Improves diagnostic accuracy by 10-27%
Only for experienced examiners*
- ✓ Decreased biopsy benign:malignant ratio from 18:1 to 4-5:1
- ✓ It does not take up much time
 - ✓ 70 seconds → 140 seconds



GOALS

Review Core Dermoscopic Knowledge of Pigmented Lesions

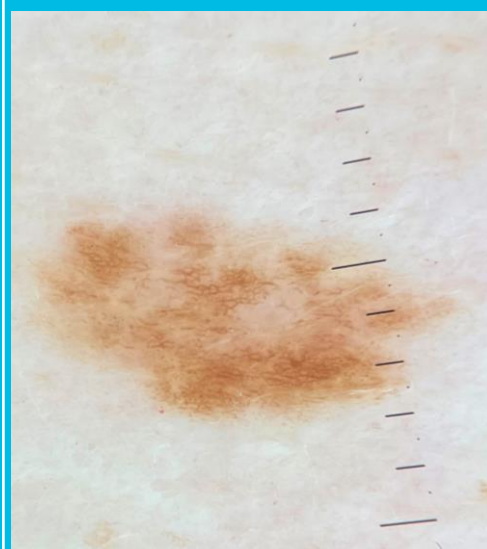
Dermoscopy Role in Overdiagnosis

Future of Dermoscopy/Total Body Photography

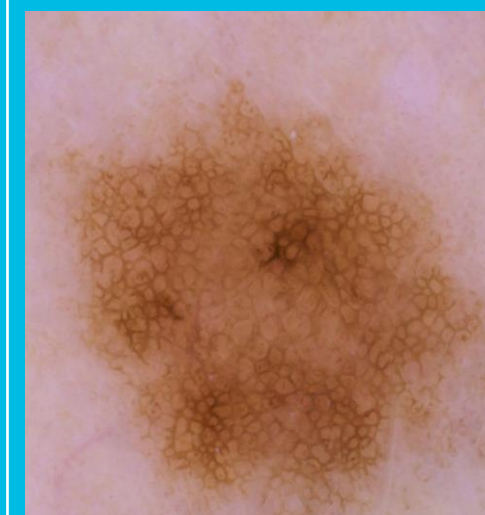
Benign Nevus Patterns



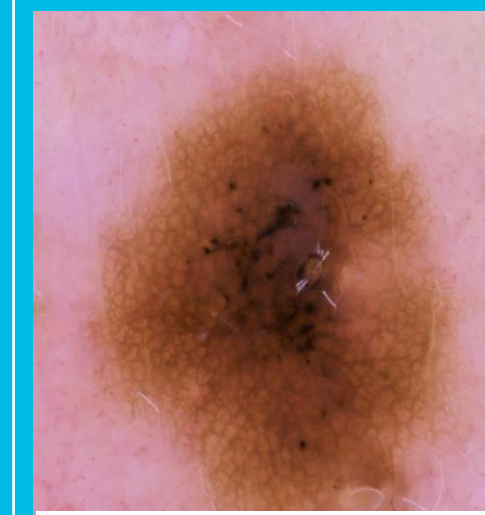
Reticular Network



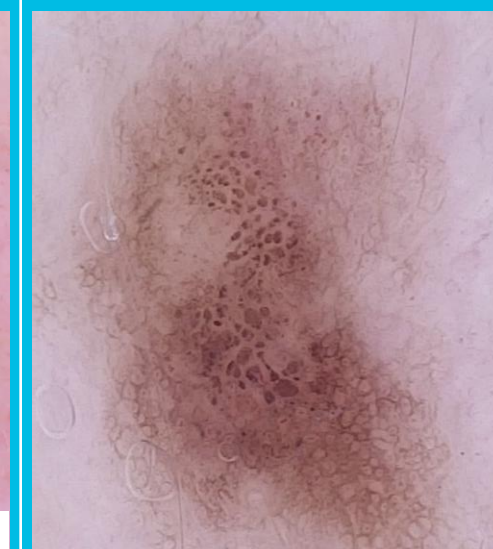
Patchy Reticular Network



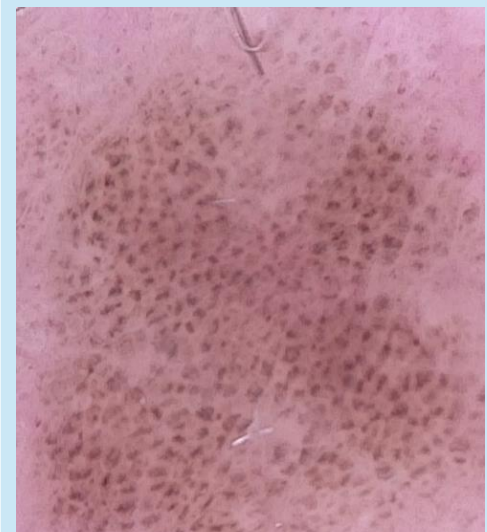
Network w/Central Hypopigmentation



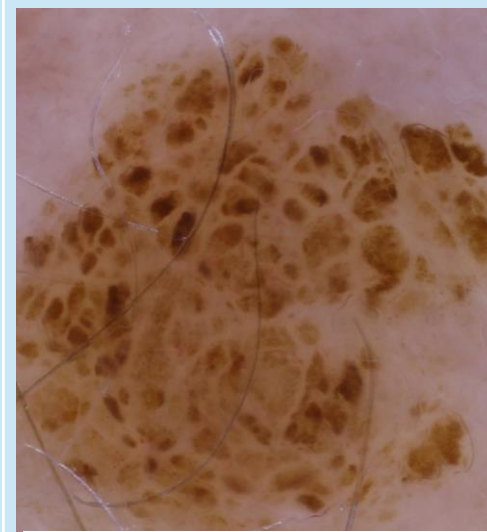
Network w/Central Hyperpigmentation



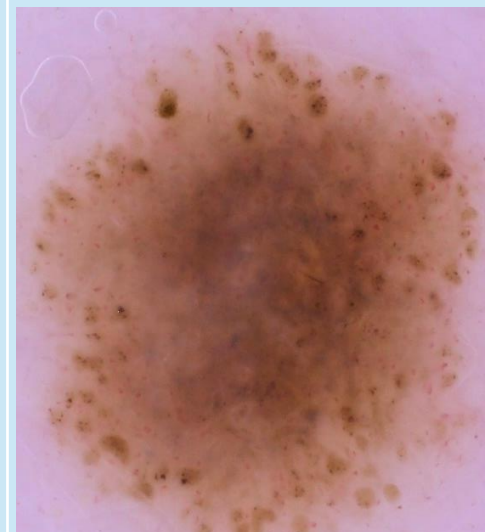
Network w/Central Globules



Globular



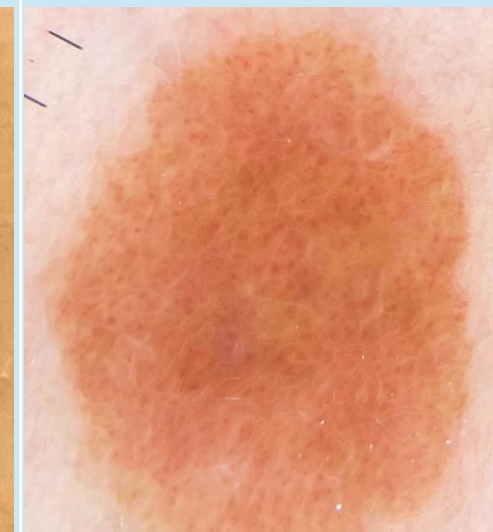
Cobblestone



Globular w/Central Network

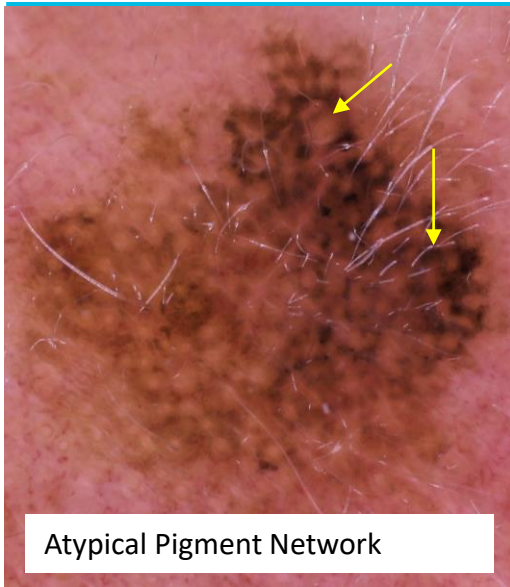


Homogenous Blue

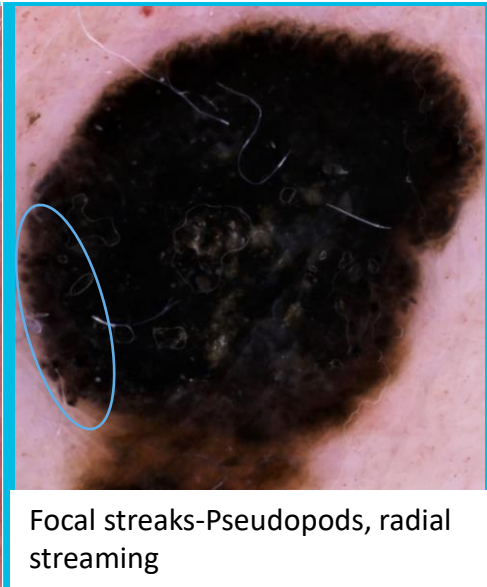


Homogenous Brown

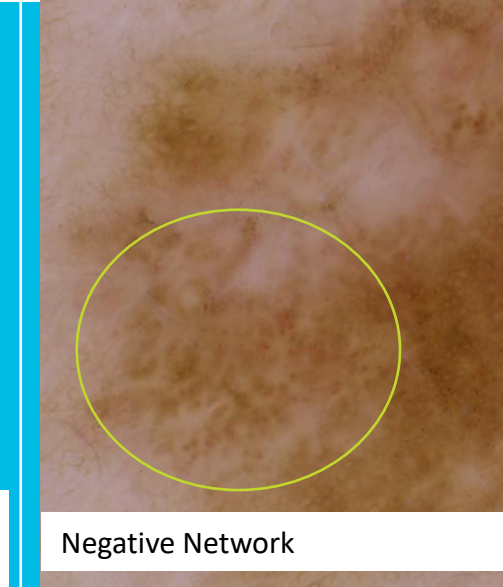
Melanoma Specific Structure



Atypical Pigment Network



Focal streaks-Pseudopods, radial streaming



Negative Network



Shiny white Lines



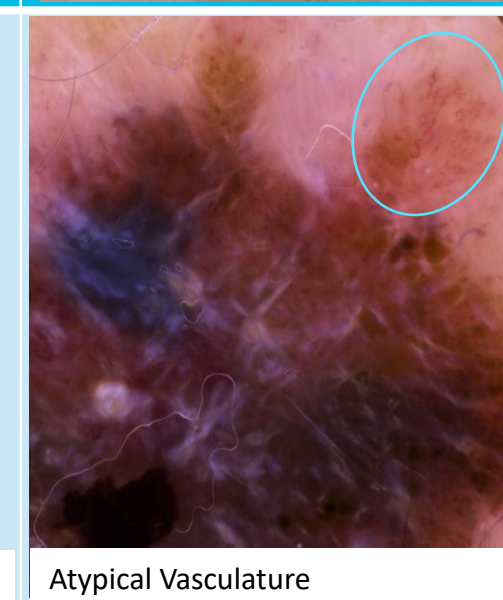
Atypical Dots and Globules



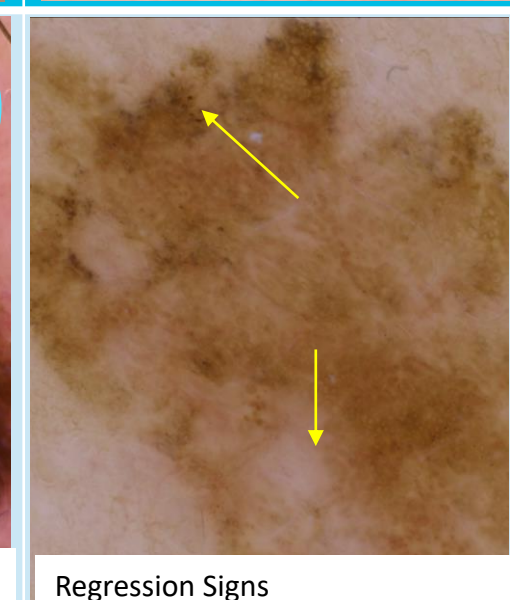
Off Center Blotch



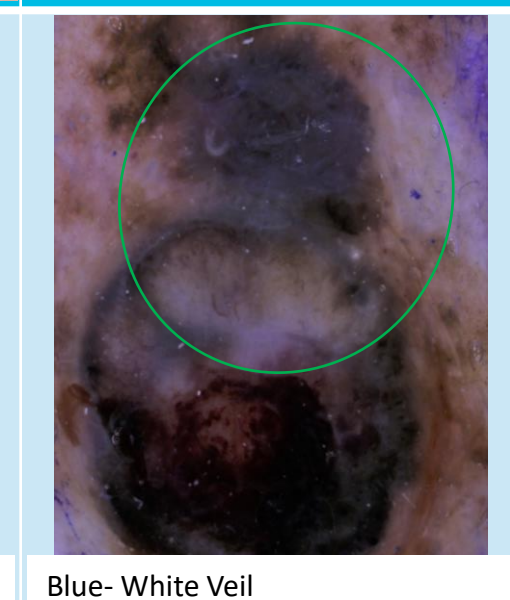
Peripheral Tan Structureless Areas



Atypical Vasculature



Regression Signs

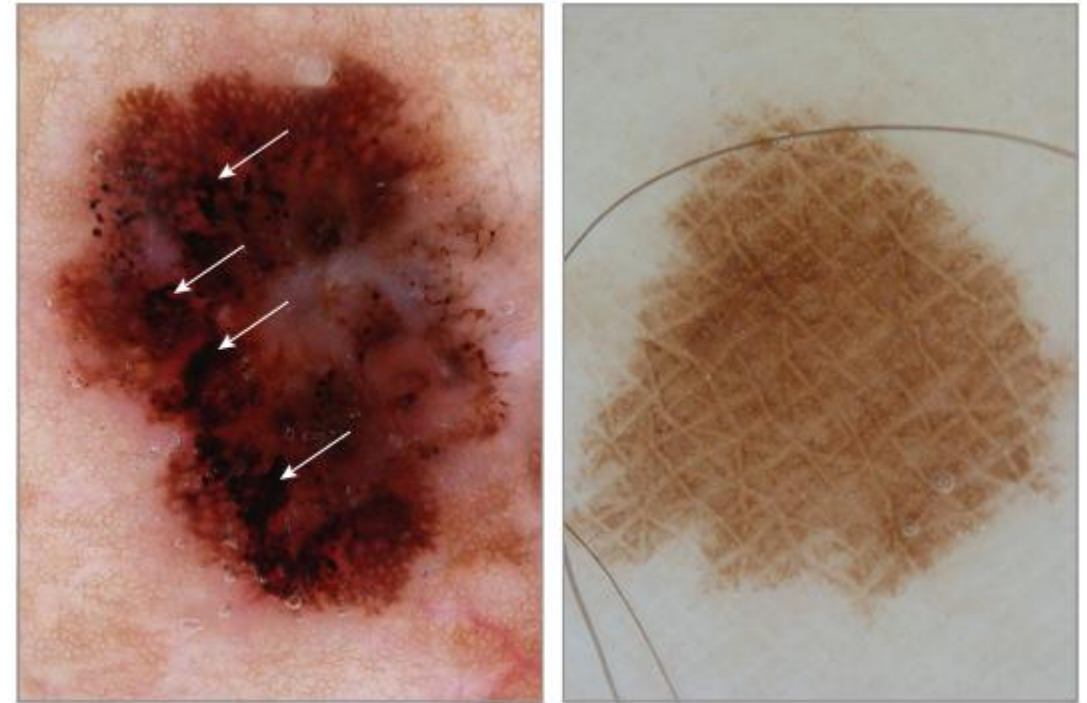


Blue- White Veil

Accuracy of Dermoscopic Criteria for the Diagnosis of Melanoma In Situ

Aimilios Lallas, PhD; Caterina Longo, PhD; Marco Manfredini, MD; Elisa Benati, MD; Graziella Babino, MD; Chiara Chinazzo, MD; Zoe Apalla, PhD; Chryssoula Papageorgiou, MD; Elvira Moscarella, MD; Athanassios Kyrgidis, PhD; Giuseppe Argenziano, PhD

- **Melanoma in Situ and Atypical Nevi**
 - Regression
 - Atypical network
 - Irregular dots/globules
- **Melanoma in Situ**
 - Irregular Hyperpigmented areas
 - Prominent skin markings



Not Black and White

1. Skin Phototype
2. Age
3. Location
4. Clinical History
 1. 0,1,2,3 melanomas?
 2. Familial?



Patient age, y <14

Nevus pattern Globular

Persistent

15-25

Peripheral rim of globules

Dynamic

26-60

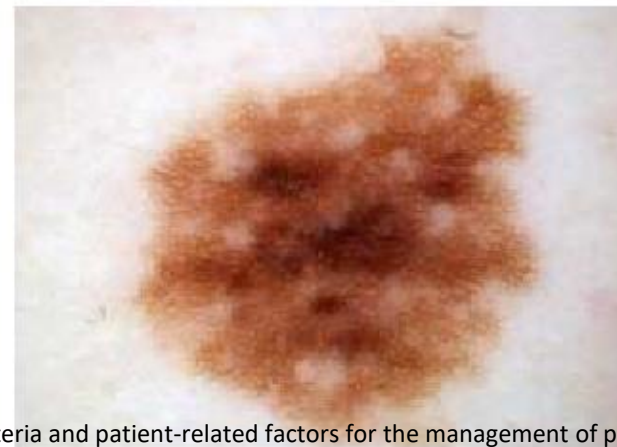
Reticular

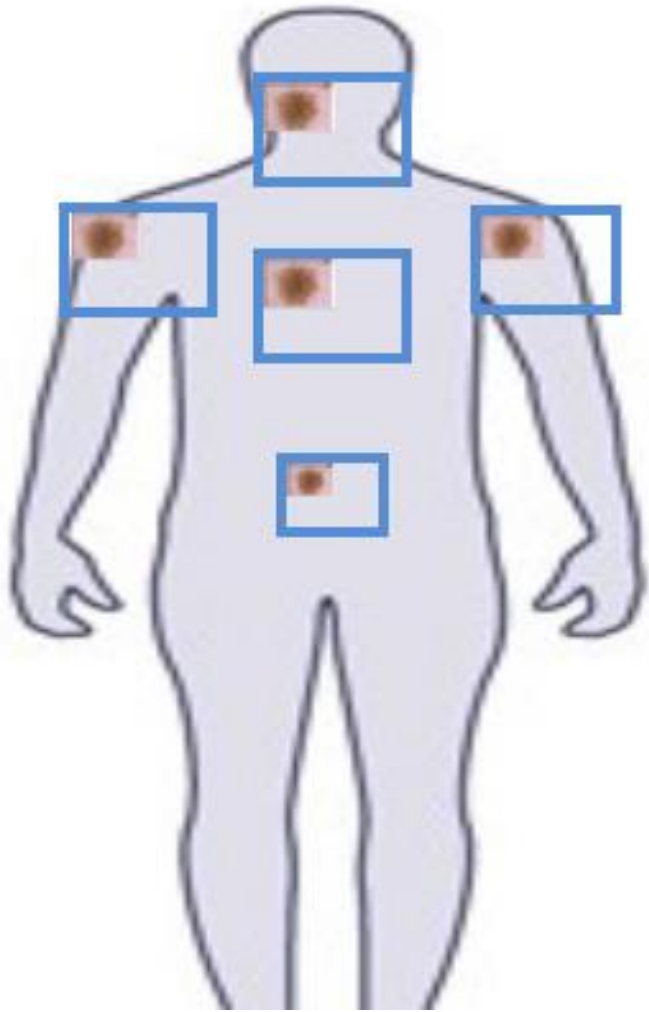
Dynamic

>60

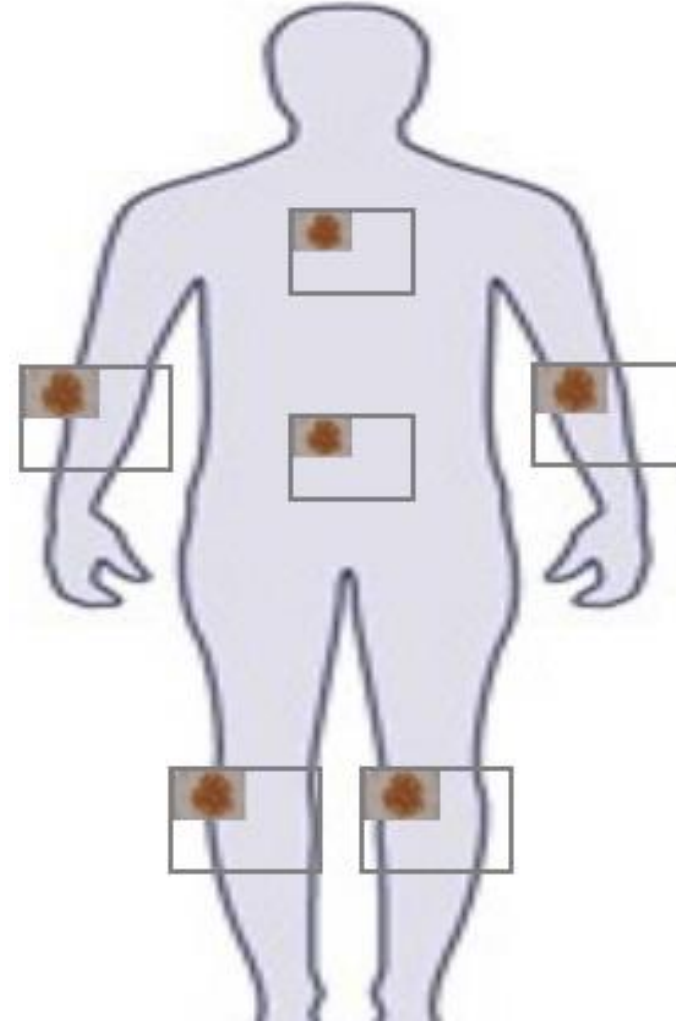
Globular

Persistent





- Globular Nevi are found on head, neck, upper chest



- Reticular Nevi are found on head, neck, upper chest and extremities
- **LOBULAR NEVI VERY RARE ON EXREMITIES**



Negative Pigment Network



- OR 1.8 for melanoma
- Spitz, Melanocytic Nevi, Dermatofibroma
- Melanoma: irregular distribution, peripheral distribution

MITF Mutation

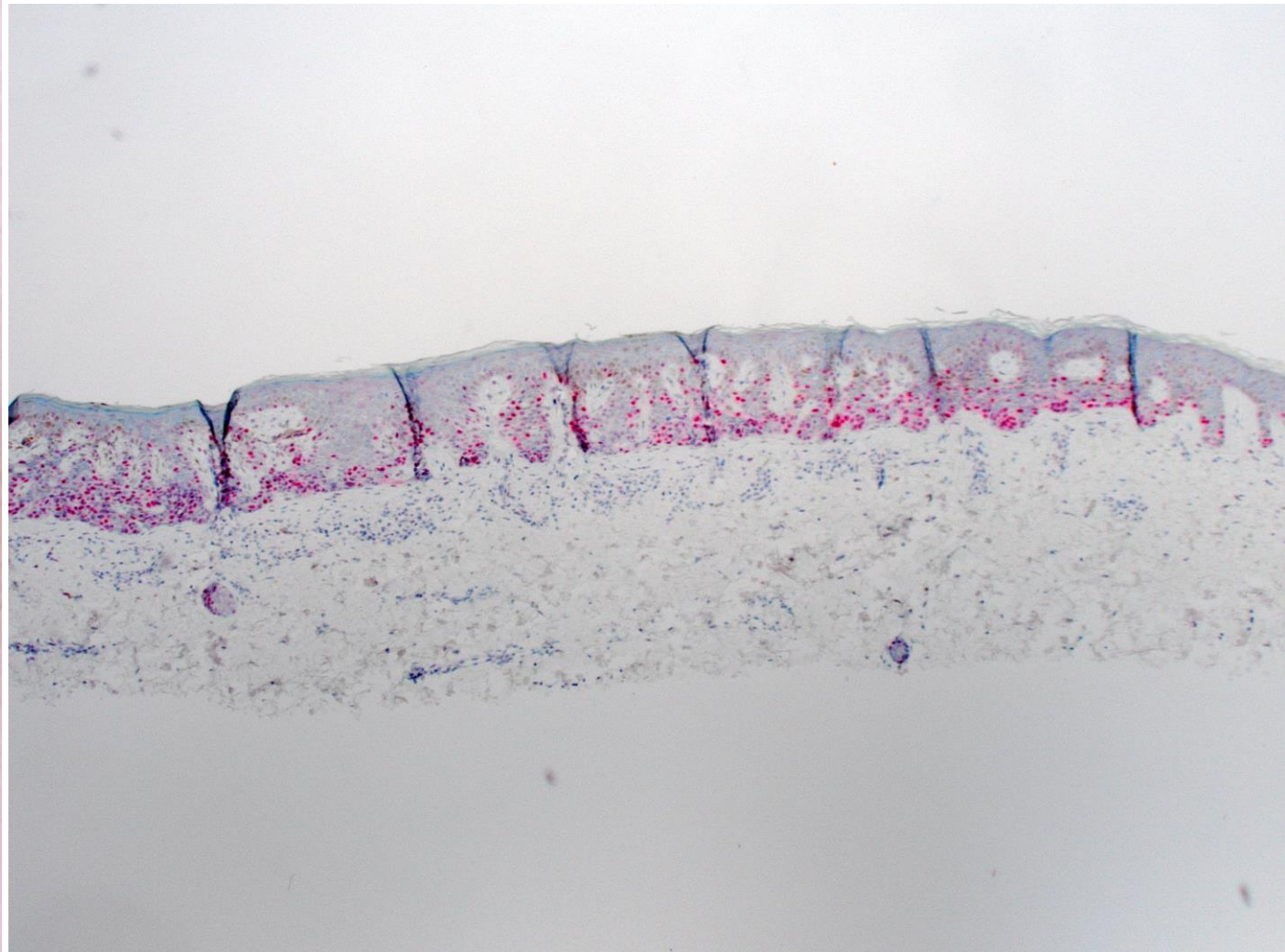
- p. E318K mutation
- 3-5 fold increase risk of melanoma
- Increase risk of multiple primary melanomas
- Increase risk of melanoma arising in dysplastic nevi
- Dermoscopy:
 - Nevi: reticular
 - Melanoma: unspecific pattern

Ciccarese, G. *et al.* Clinical, pathological and dermoscopic phenotype of *MITF* p.E318K carrier cutaneous melanoma patients. *J Transl Med* **18**, 78 (2020).

Roccuzzo G, *et al.* Phenotypic and Dermoscopic Patterns of Familial Melanocytic Lesions: A Pilot Study in a Third-Level Center. *Cancers*. 2023

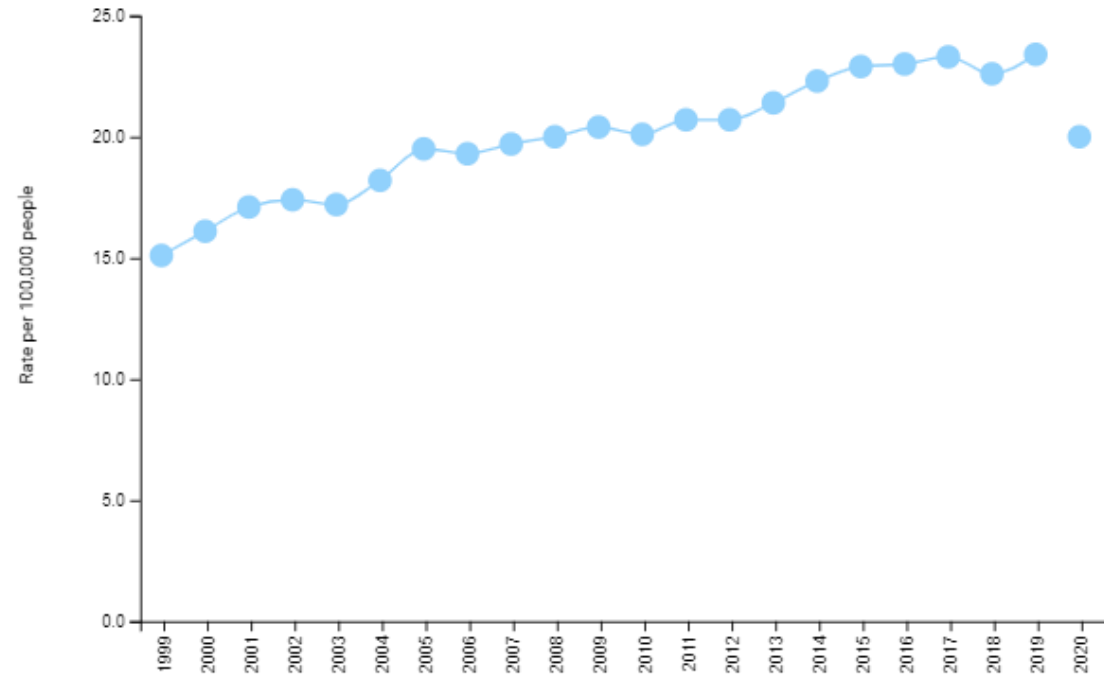
Pizzichetta M, *et al.* Negative pigment network: an additional dermoscopic feature for the diagnosis of melanoma. *J Am Acad Dermatol*. 2013 .





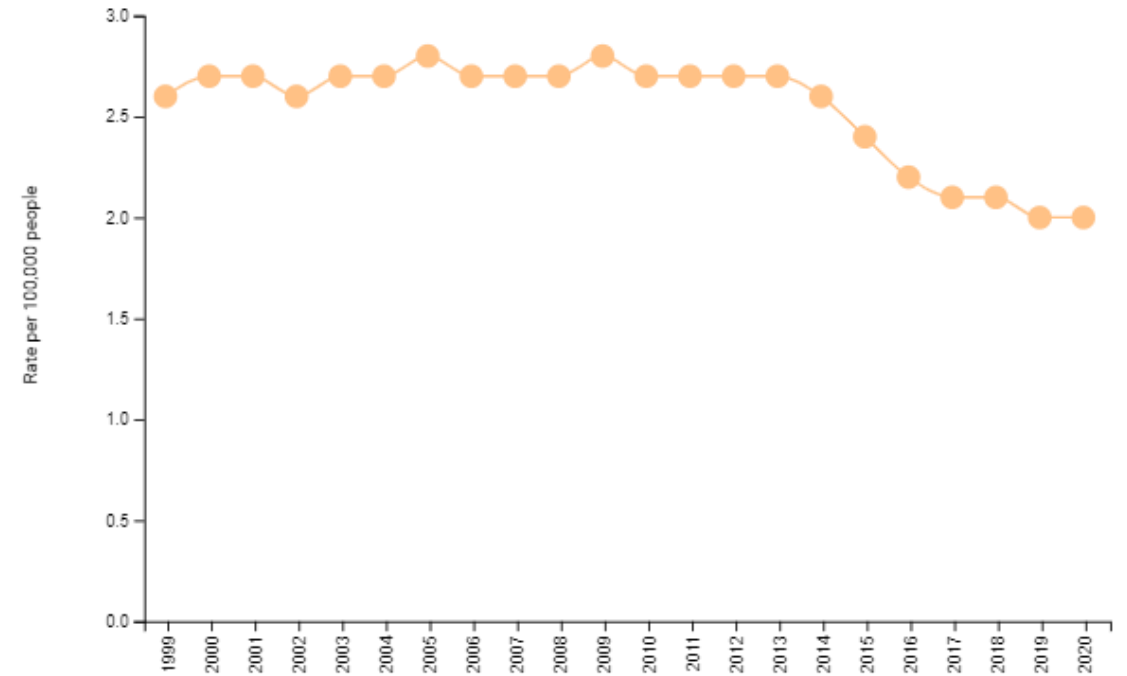
Melanoma In Situ

Annual Rates of New Cancers, 1999-2020



Source - U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on 2022 submission data (1999-2020): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://www.cdc.gov/cancer/dataviz>, released in November 2023.

Annual Rates of Cancer Deaths, 1999-2020



Source - U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on 2022 submission data (1999-2020): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://www.cdc.gov/cancer/dataviz>, released in November 2023.



Underdiagnosis → Overdiagnosis



MELANOMA EPIDEMIC

- UV exposure
- Increased public awareness/early recognition campaigns
- Technological innovations
 - Dermoscopy
- Lower threshold histologically to diagnose
 - Overdiagnosis

Challenges

- ✓ Training
- ✓ Dermoscopy + clinical context
- ✓ Multiple melanocystic nevi
- ✓ Static evaluation \neq biologic behavior

BRIEF REPORT

A short dermoscopy training increases diagnostic performance in both inexperienced and experienced dermatologists

Ines Chevolet,¹ Isabelle Hoorens,¹ Astrid Janssens,² Reinhart Speeckaert,¹ Nanja Van Geel,¹ George Van Maele,⁵ Katrien Vossaert,⁴ and Lieve Brochez¹

¹Department of Dermatology, ²Department of Anesthesiology, ⁵Department of Statistics, Ghent University Hospital, Ghent, and ⁴Dermatologist in Maldegem, Maldegem, Belgium

Two Step Method

- Total Body Photography (TBP) + sequential digital dermoscopy
- High risk populations: decrease excisions, increase early detection
- Improves SN/SP new/changing lesions
- 3-4 fold reduction in nevus biopsies with TBP

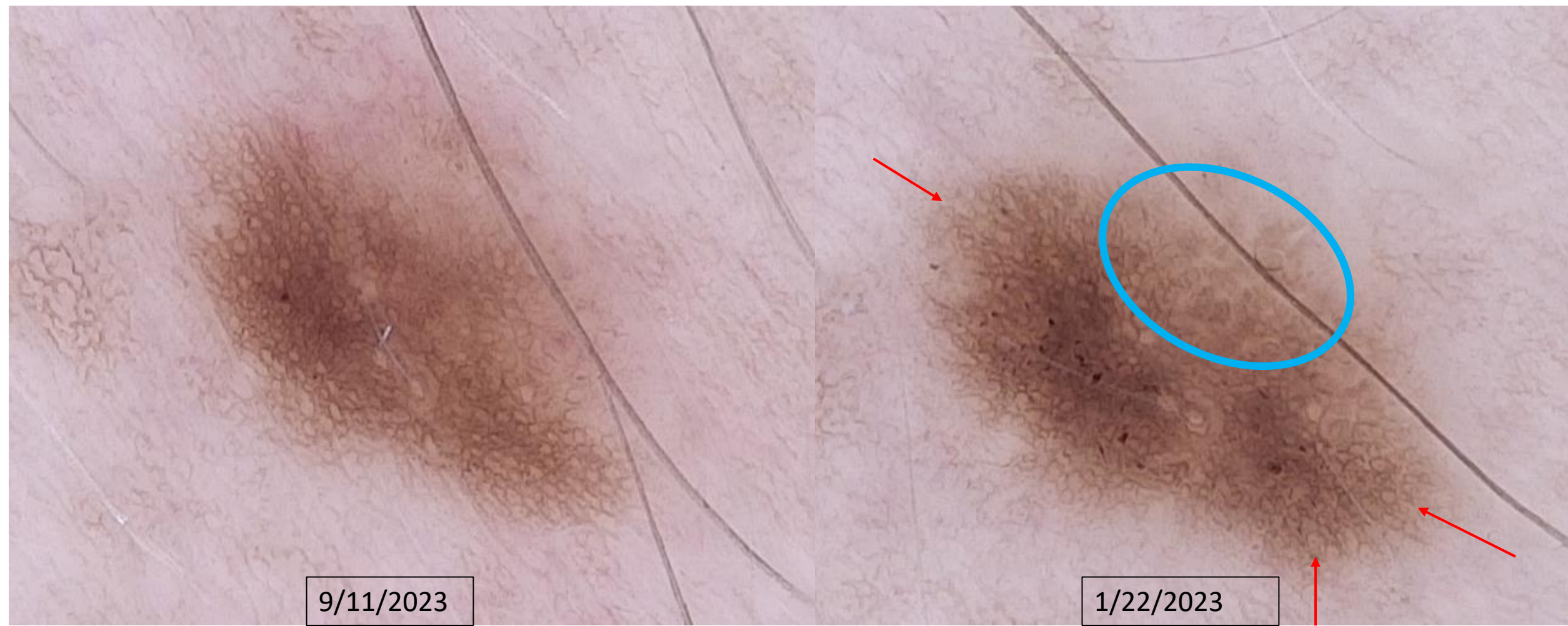


Sequential Digital Dermoscopy

- Diagnostic advantages are greater when combined with TBP
- Short term follow up (3-4 months): improves compliance
- 3.3-fold reduction in unnecessary biopsies
- Argenzo et al:
 - Melanomas biopsied
 - 33%: baseline
 - 26% STFU
 - 41.1% LTFU
 - BD of invasive melanomas at baseline significantly greater compared with those during follow-up







9/11/2023

1/22/2023

0.2 mm melanoma





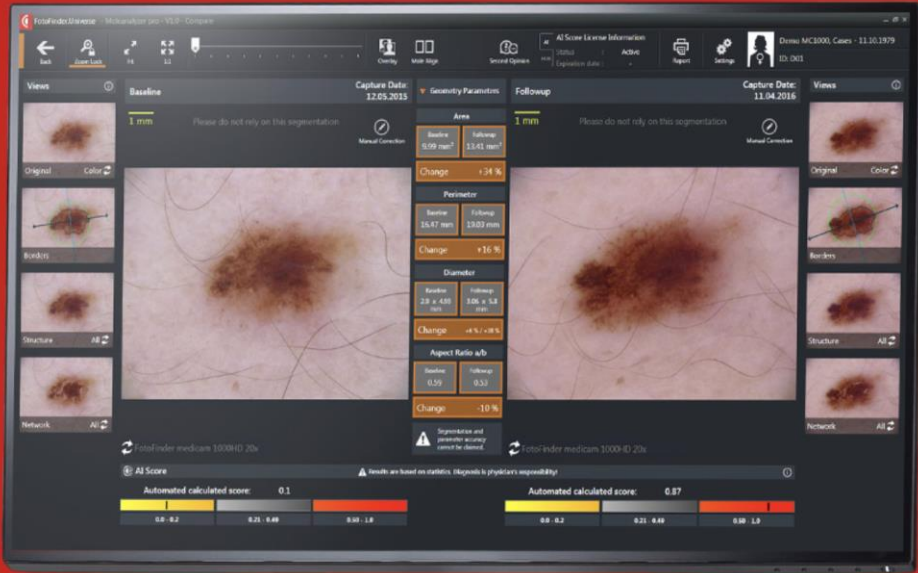
8/14/2023

12/11/2023

0.1 mm melanoma

Future

- Artificial Intelligence (AI)
- Increase use of teledermoscopy to improve access to care and triage



The FotoFinder AI Score

Artificial Intelligence in the pre-assessment of skin lesions

The optional AI Score is the perfect support for the pre-assessment of melanocytic and non-melanocytic skin lesions. Both sensitivity and specificity are impressive! To use the full benefits of FotoFinder Artificial Intelligence, you need internet access and a "PRO" account in the FotoFinder Hub.

[more](#)

NOT AVAILABLE IN THE U.S. AND CANADA

Take Home

- Dermoscopy: improved diagnostic accuracy and early detection of melanomas
- Requires Training + clinically history
- Total Body Photography and Sequential Digital Dermoscopy: early detection of melanoma with decrease unnecessary biopsies



References

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- Zalaudek I, Schmid K, Marghoob AA, et al. Frequency of Dermoscopic Nevus Subtypes by Age and Body Site: A Cross-sectional Study. *Arch Dermatol*. 2011;147(6):663–670. doi:10.1001/archdermatol.2011.149
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- Pizzichetta M, et al. Negative pigment network: an additional dermoscopic feature for the diagnosis of melanoma. *J Am Acad Dermatol*. 2013

Questions?

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