

Migliorare la diagnosi assistenziale: la nuova frontiera della sicurezza del paziente

Bologna, 13 settembre 2024

Utilizzo delle nuove tecnologie non invasive nell'accuratezza diagnostica del melanoma

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BACKGROUND

Tipo/sede	Uomini	Donne	Totale
Tutti i tumori*	208	187	395
Mammella		55.9	55.9
Colon-Retto-Ano	26.8	23.7	50.5
Polmone	29.8	14.0	43.8
Prostata	41.1		41.1
Vescica	23.7	6.0	29.7
Stomaco	9.0	6.0	15.0
Pancreas	6.8	8.0	14.8
Linfomi non Hodgkin	8.1	6.3	14.4
Melanoma	7.0	5.7	12.7
Rene	7.9	4.8	12.7
Tiroide	3.5	8.7	12.2
Fegato	8.2	4.0	12.2
Endometrio		10.2	10.2
Leucemie, tutte	5.3	4.3	9.6

TABELLA 10. Numero stimato di nuovi casi di tumore maligno in Italia nel 2023 (x1.000), per tipo di tumore e sesso *Esclusi i tumori della cute diversi dai melanomi – Fonte Cancer tomorrow IARC - All Rights Reserved 2023 - Data version: 2020

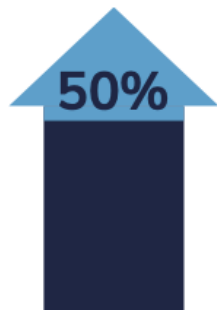
BACKGROUND

Melanoma epidemic: Facts and controversies

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Over the last decade, the annual cases of melanoma, the deadliest form of skin cancer, have increased by nearly 50% to over 287,000¹. This translates to more than 60,000¹ melanoma-related deaths per year.



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BACKGROUND



Global incidence and mortality rates

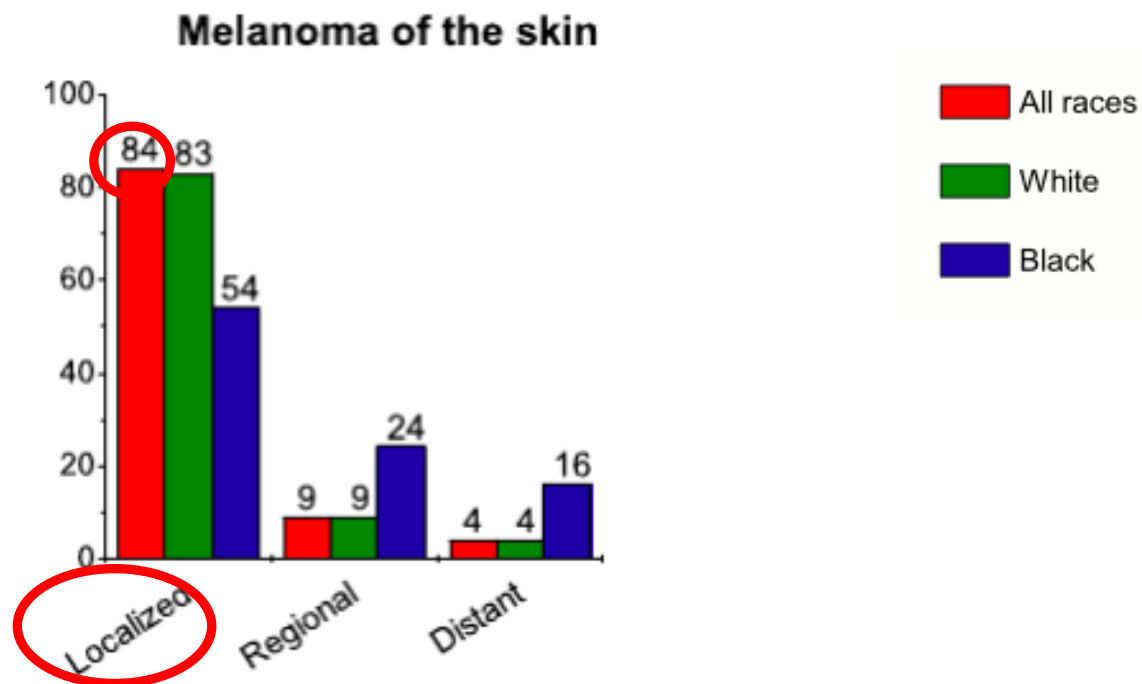
In 2018, 287,723 cases of melanoma skin cancer and 1,042,056* of non-melanoma skin cancer were diagnosed globally. 60,712 people died of melanoma skin cancer and 65,155 of non-melanoma skin cancer.

Albeit less dangerous because they are more easily treated, there were still 65,000¹ non-melanoma-related deaths recorded in the last year. When combined with melanoma-related fatalities, this equates to one person dying from skin cancer every four minutes.



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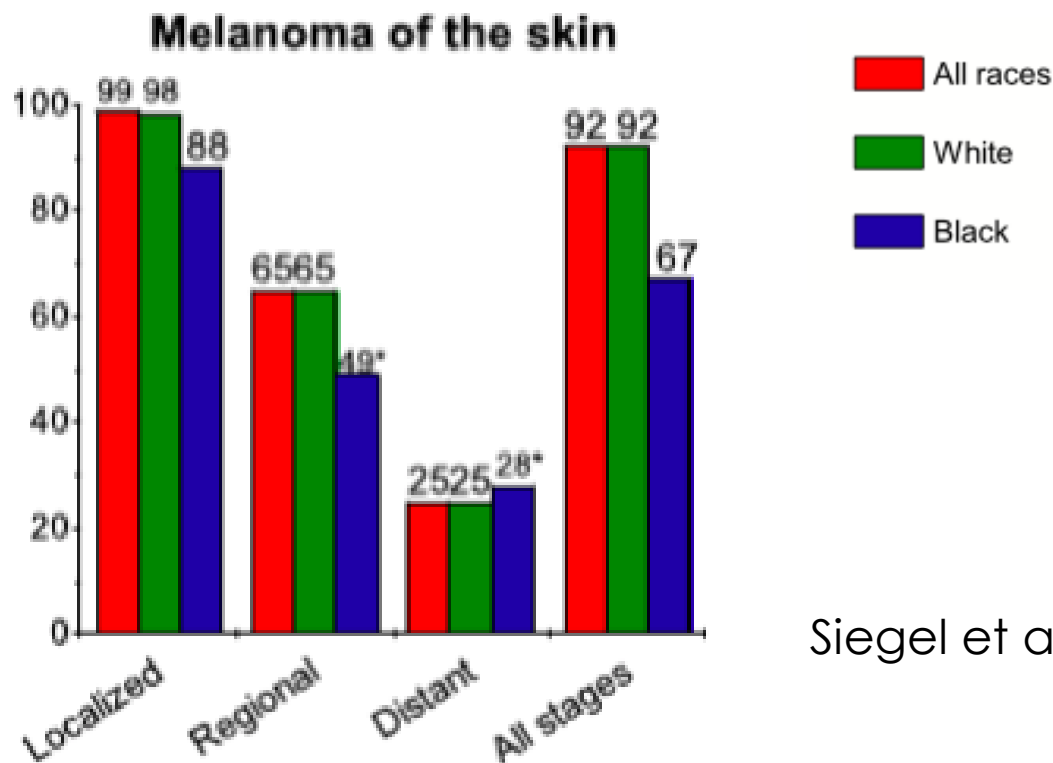
BACKGROUND



Siegel et al. Cancer Statistics (2022)

BACKGROUND

Sopravvivenza a 5 anni



Siegel et al. Cancer Statistics (2020)

BACKGROUND

Estimation of Direct Melanoma-related Costs by Disease Stage and by Phase of Diagnosis and Treatment According to Clinical Guidelines

Acta Derm Venereol 2018

Table VII. Mean per-patient cost by disease stage and phase of treatment in Euros (€) and proportion of each diagnostic-treatment phase cost on total stage cost of the whole pathway (including one year of follow-up)

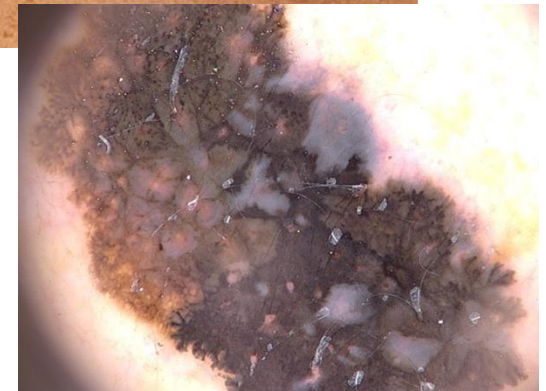
Stage	Diagnosis & staging	Medical therapy	Surgical therapy	Follow-up	Supportive care	Relapse	Total ^a	
Negative biopsies								
Naevi	59	0	0	1	0	0	61	
Borderline	59	0	23	14	0	0	96	
MELTUMP	120	0	410	14	0	0	544	
Positive biopsies								
0	59 (39.6%)	0	75 (50.3%)	14 (9.4%)	0	0	149	
IA	59 (3.2%)	0	1,750 (95.3%)	28 (1.5%)	0	0	1,837	
Unknown thickness	240 (10.5%)	0	1,750 (76.6%)	97 (4.2%)	4 (0.2%)	194 (8.5%)	2,285	
IB	196 (7.2%)	0	1,750 (63.9%)	225 (8.2%)	11 (0.4%)	555 (20.3%)	2,737	
IIA	198 (4.0%)	122 (2.4%)	1,750 (34.9%)	225 (4.5%)	22 (0.4%)	2,693 (53.8%)	5,009	
IIB	680 (11.4%)	414 (6.9%)	1,750 (29.2%)	387 (6.5%)	66 (1.1%)	2,693 (45.0%)	5,989	
IIC	597 (5.8%)	625 (6.1%)	1,750 (17.1%)	1,205 (11.8%)	110 (1.1%)	5,925 (58.0%)	10,210	
III	712 (3.5%)	7,145 (34.7%)	7,104 (34.5%)	1,245 (6.1%)	138 (0.7%)	4,233 (20.6%)	20,576	
III TR	684 (1.7%)	34,789 (86.5%)				3,003 (7.5%)	40,229	
IV	643 (1.0%)	61,594 (92.0%)	1			603 (0.9%)	66,950	
				Drugs (€/month)	Drug delivery (€/month)	Laboratory tests (€/month)	Visits (€/month)	Total* (€)
				237	0	7	7	251
				3,588	206	53	57	3,904
				1,334	0	7	7	1,347
				9,362	0	21	70	9,453
				7,938	0	21	70	8,029
				5,704	590	68	29	6,390
				7,145	418	51	20	7,635
				3,916	103	7	5	4,031

^aDue to rounding up or down, some totals may not correspond to the sum of MELTUMP: MELanocytic Tumors of Unknown Malignant Potential.

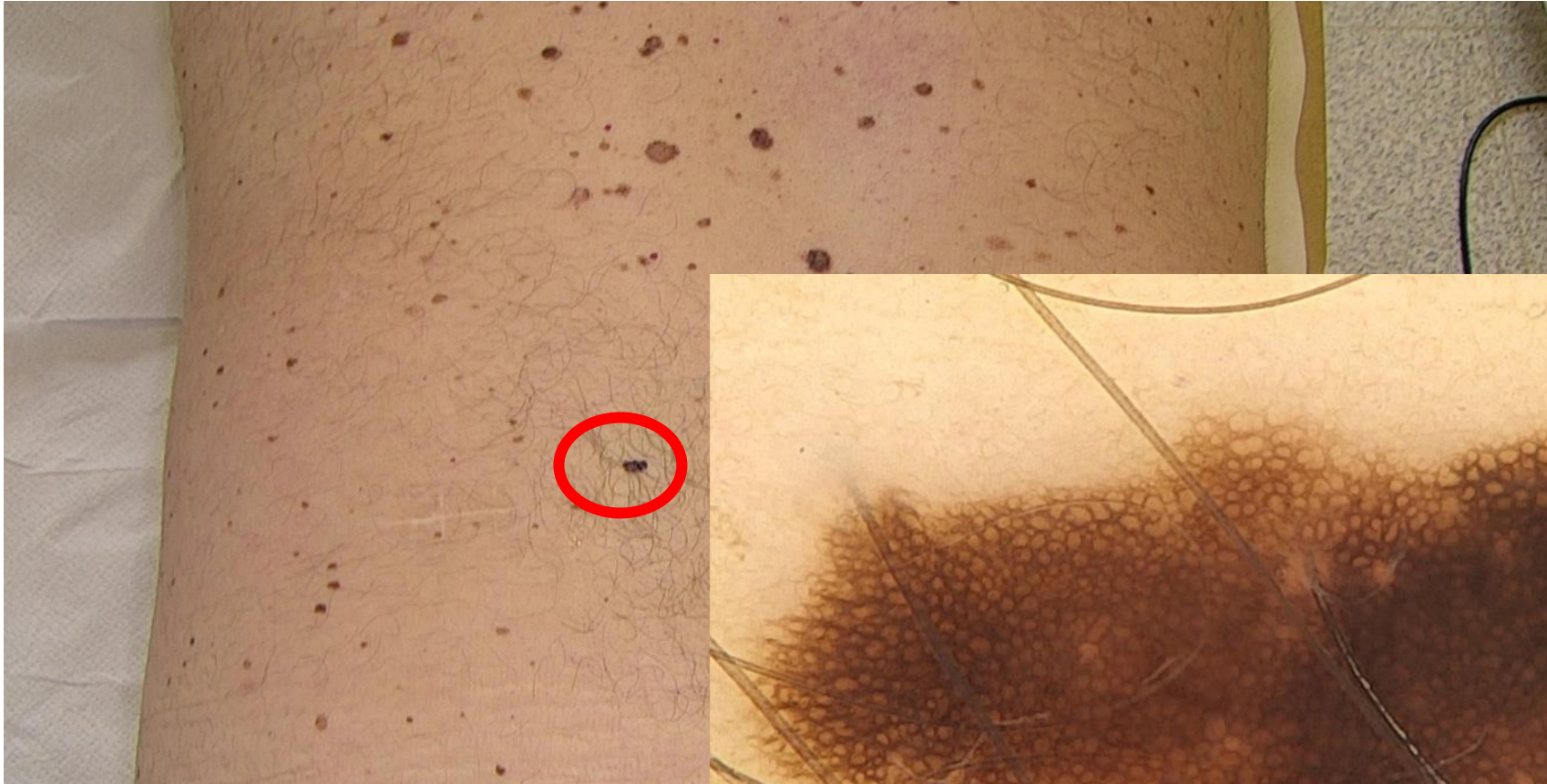
In Italy, the incidence rate is increasing:
men (from 1.6/100,000 in 1970 to 21/100,000 in 2015)
women (from 2/100,000 in 1970 to 17/100,000 in 2015)

The mean per patient cost of the whole melanoma pathway including 1 year of follow up 149 euro per stage 0/1 a to 66.950 for stage IV disease

BACKGROUND



BACKGROUND



BACKGROUND





Review

European consensus-based interdisciplinary guideline for melanoma. Part 1: Diagnostics: Update 2022



Recommendation 3:

Dermatoscopic diagnosis	Evidence-based recommendation
Level of recommendation A	Dermatoscopy shall be used for the assessment of pigmented and non-pigmented skin lesions.
Level of evidence: 1b	Guideline adaptation [68,69] De novo literature research for nail, acral, and mucosal melanomas [65–67,70–73] Consensus rate: 100%

Recommendation 6:

Reflectance confocal microscopy	Evidence-based statement
Level of recommendation C	Reflectance confocal microscopy can be used for further evaluation of clinically/dermatoscopically equivocal skin lesions.
Level of evidence: 2b	De novo literature research [86–89] Consensus rate: 100%

Recommendation 4:

Whole-body photography	Evidence-based recommendation
Level of recommendation B	Whole-body photography with sequential examinations should be used for the early detection of melanoma in high-risk patients.
Level of evidence: 2b	De novo literature research [79–81] Consensus rate: 95%

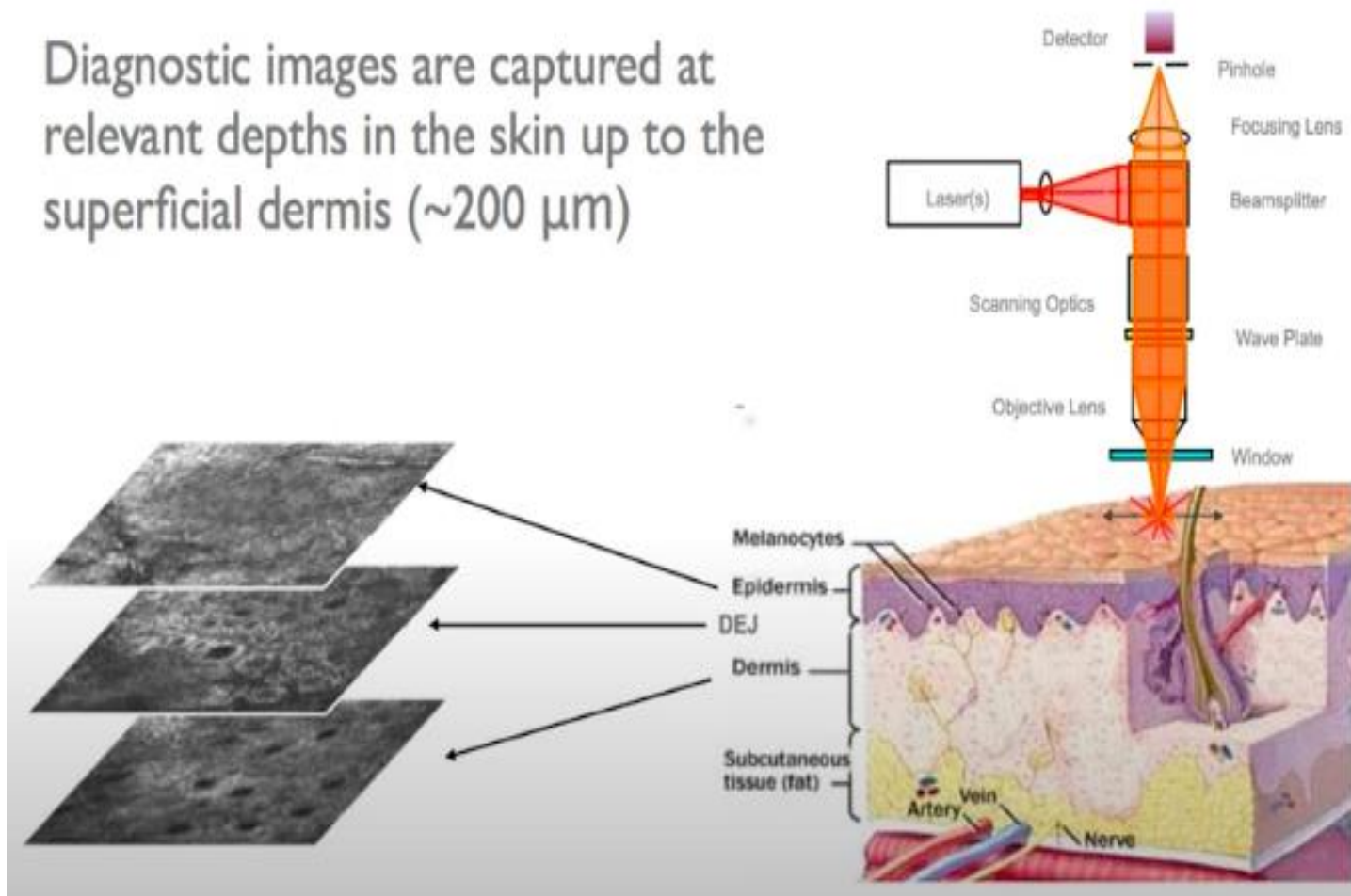
Recommendation 5:

Digital dermatoscopy	Evidence-based recommendation
Level of recommendation B	Sequential digital dermatoscopy can improve the early detection of melanoma and should be used in high-risk patients, with a high total nevus count.
Level of evidence: 2b	De novo literature research [82–85] Consensus rate: 90%

INNOVATIVITA'

Nell'ambito della diagnostica per immagini cutanea non invasiva, la microscopia confocale, definita anche come biopsia ottica virtuale, viene utilizzata come livello diagnostico successivo alla valutazione clinico-dermatoscopica in casi selezionati e in particolare per le lesioni del volto

Diagnostic images are captured at relevant depths in the skin up to the superficial dermis ($\sim 200 \mu\text{m}$)

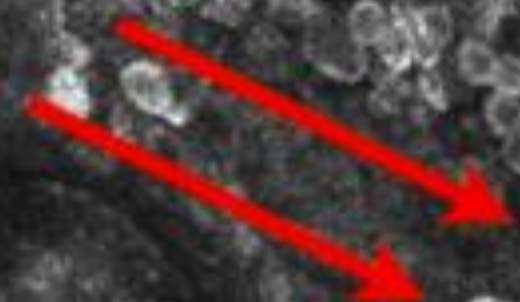
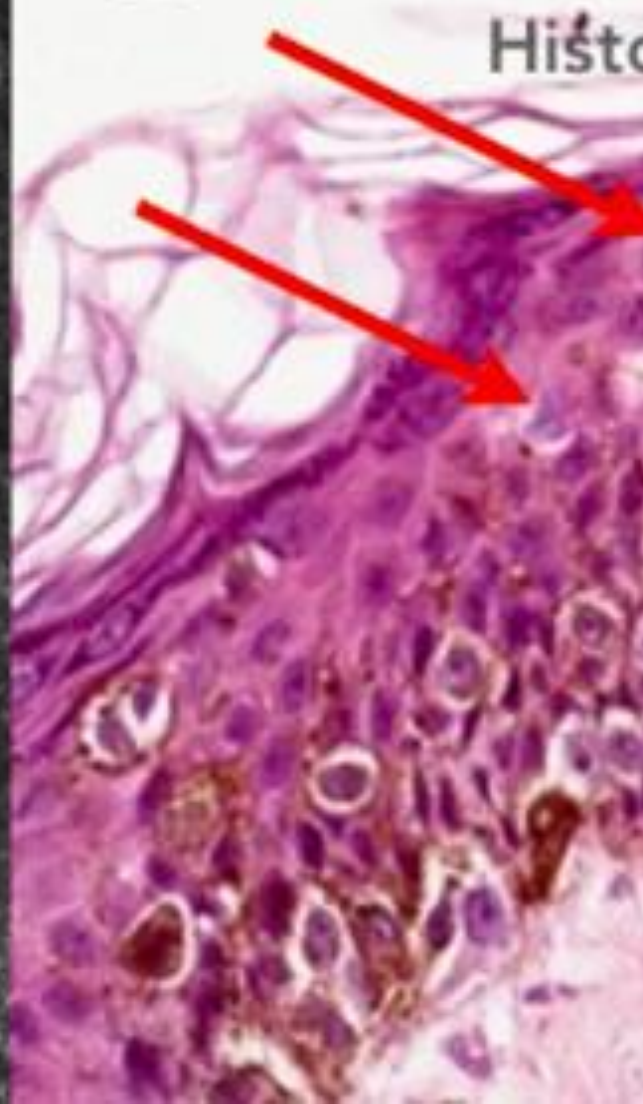


MELAN

Confocal Microscopy

OM

Histo



OBIETTIVI/BENEFICI ATTESI



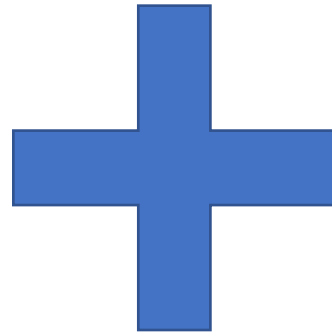
DERMOSCOPY

Quality clinical and dermoscopy images

including large skin area to total body pictures

GOOD ACCURACY

NNE= 8-30



CONFOCAL MICROSCOPY

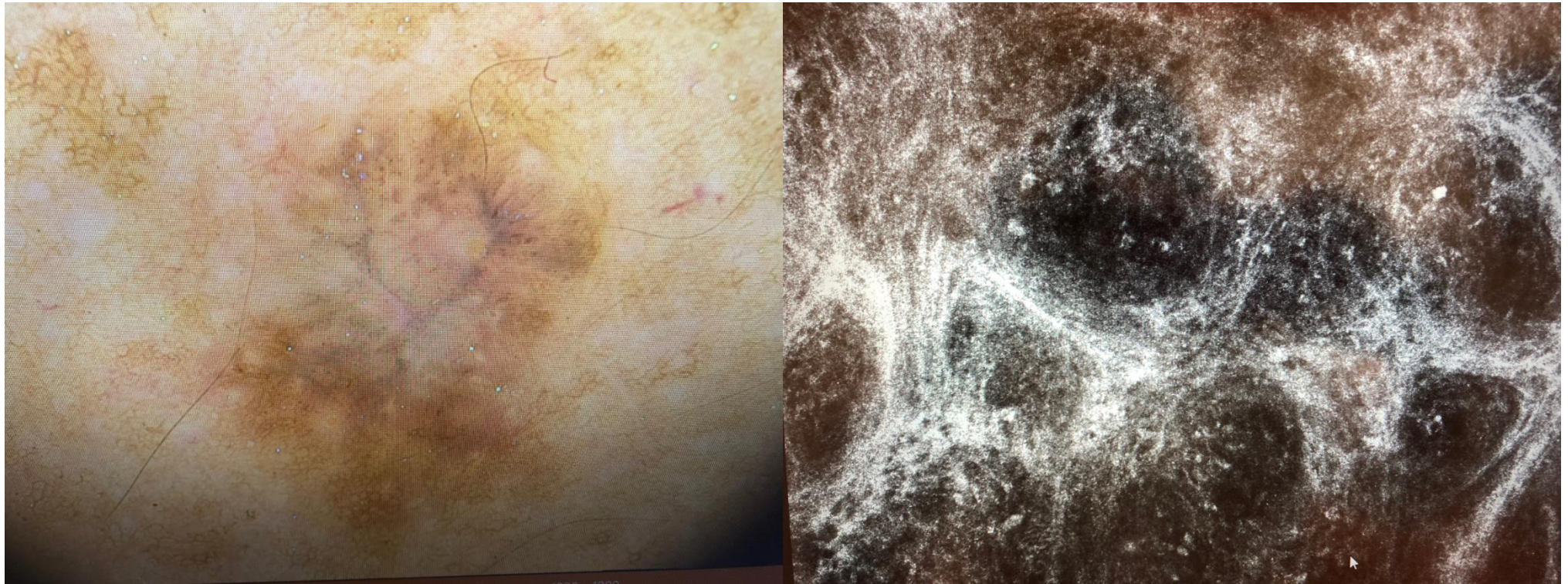
Quasi-histologic imaging

High-reliable patterns for benign lesions

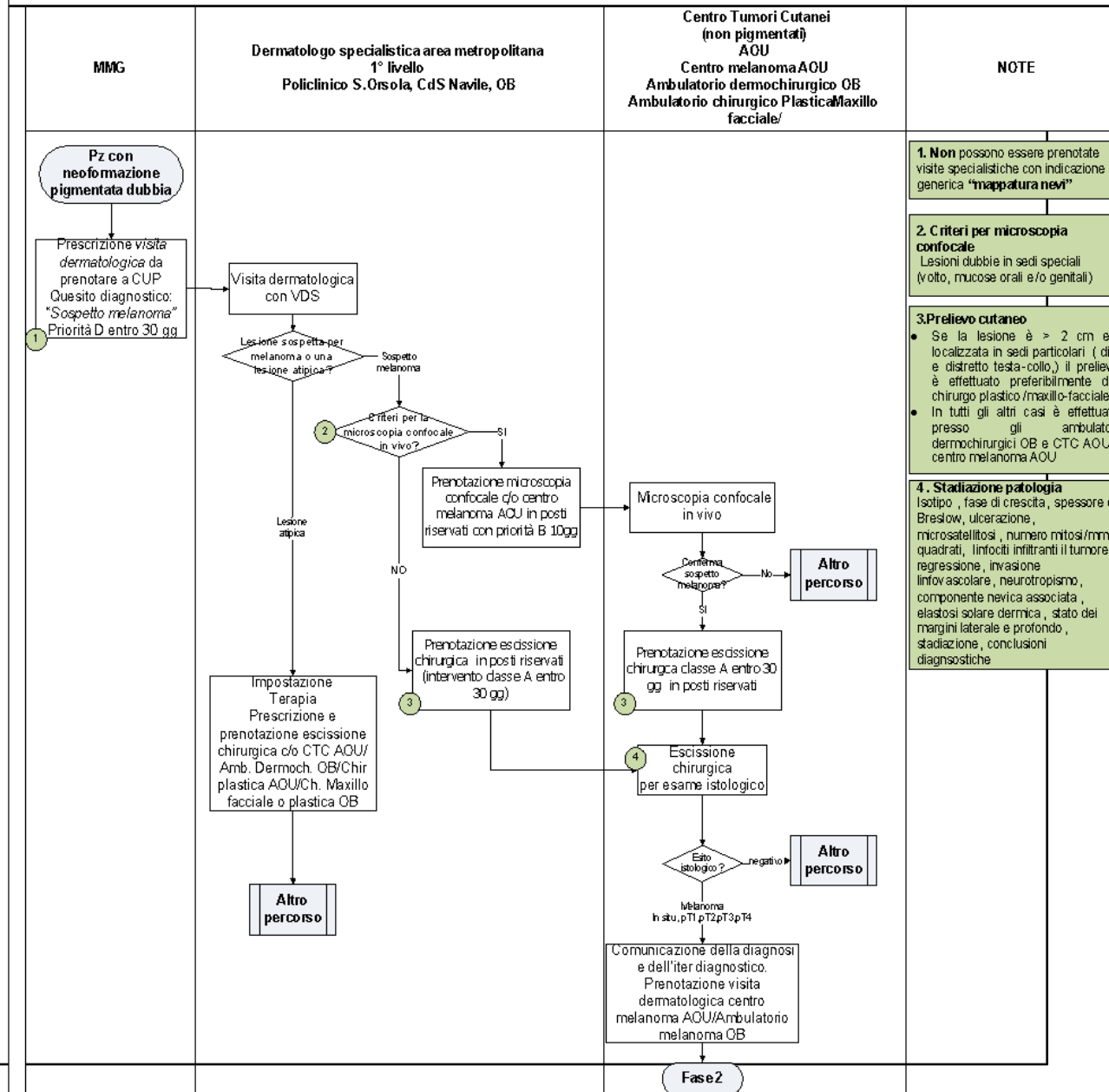
HIGH CONFIDENCE

NNE= 3-6

Dermatoscopia combinata a microscopia confocale



PDTA melanoma cutaneo
Fase 1: Accesso e diagnosi



PDTAi melanoma

L'accesso al percorso avviene tramite il MMG che prescrive al paziente con lesione pigmentata dubbia :

una visita dermatologica con videodermatoscopia da prenotare tramite CUP metropolitano, con quesito diagnostico "sospetto melanoma" (Priorità "D" entro 30 giorni, presso gli ambulatori dermatologici di I livello del Policlinico di S.Orsola, dell'Ospedale Bellaria (OB) o della CdS Navile dell'AUSL di Bologna.

Tutte le strutture sono dotate di VDS.

Accuratezza diagnostica delle neoformazioni melanocitarie	
Ambito di osservazione	Assistiti in AUSL BO (residenti)
Denominatore (in)	Numero totali di lesioni melanocitarie (nevi+melanoma) istologicamente diagnosticati 1698 (NEVI+MELANOMA PRIMA DIAGNOSI)
Denominatore (out)	
Fonte dati	Athena
Numeratore	Numero melanomi cutanei (istologicamente diagnosticati) 613
Fonte dati	Athena
Target	> 10% (36,1%)
Responsabile rilevazione	Responsabile clinico PDTAI

Obiettivi della rete metropolitana –hub IRCCS Sant’orsola Malpighi SSD Dermatologia Oncologica

-Migliorare l’accuratezza diagnostica del melanoma tramite l’utilizzo di tecnologie innovative non invasive

-Creazione della rete metropolitana con l’utilizzo di macchinari interconnessi tra loro (videodermatoscopi)

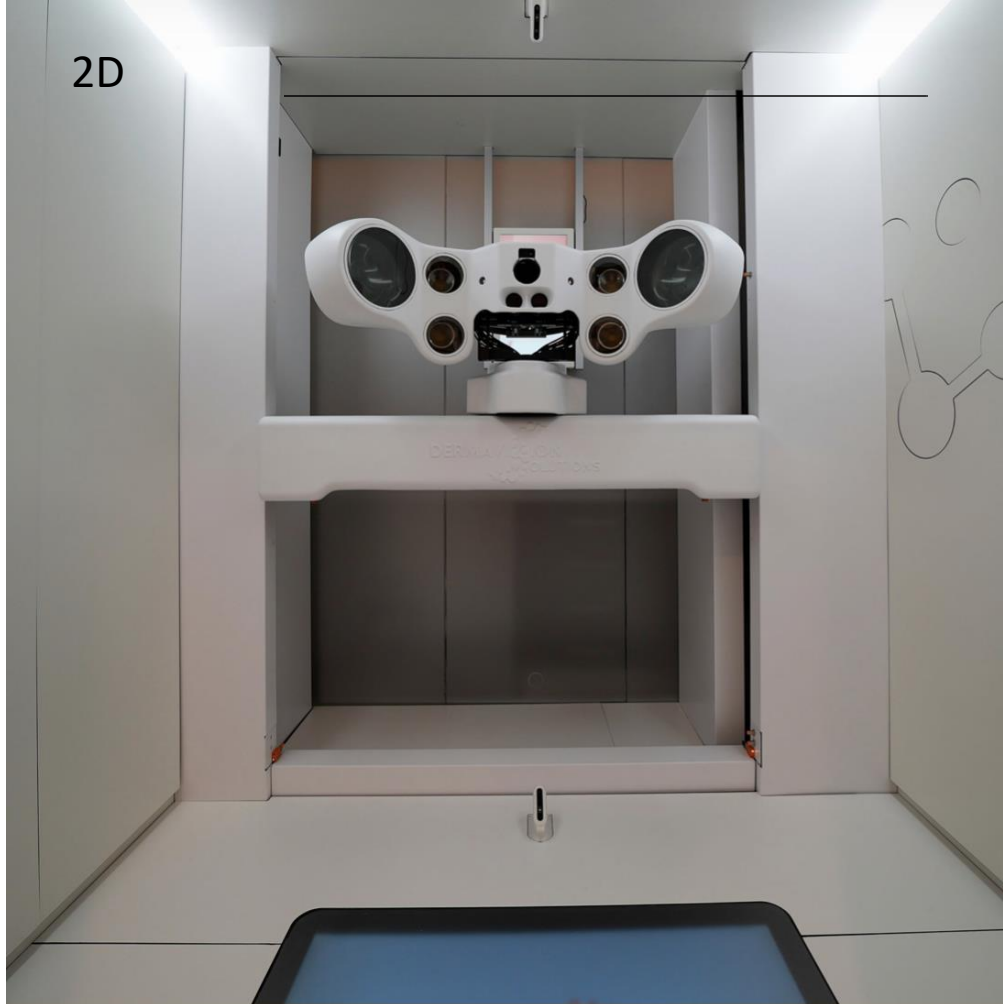
Obiettivi della rete metropolitana –hub IRCCS Sant’orsola Malpighi SSD Dermatologia Oncologica

*Valutazione congiunta di lesioni dubbie da parte di più specialisti
e un confronto di questi ultimi.*

*Prenotazione diretta da parte degli specialisti territoriali
l'intervento chirurgico per il paziente con neoplasia fortemente
sospetta*

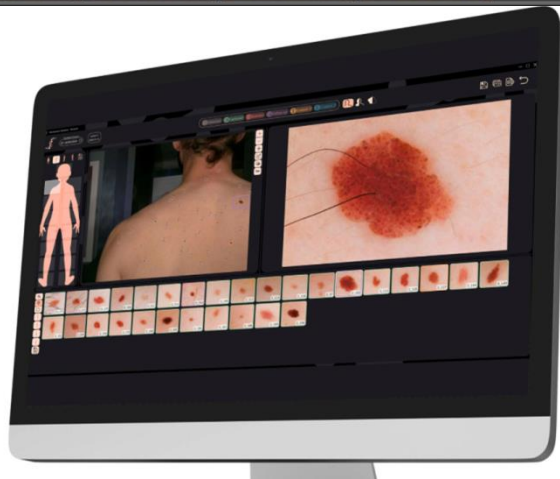
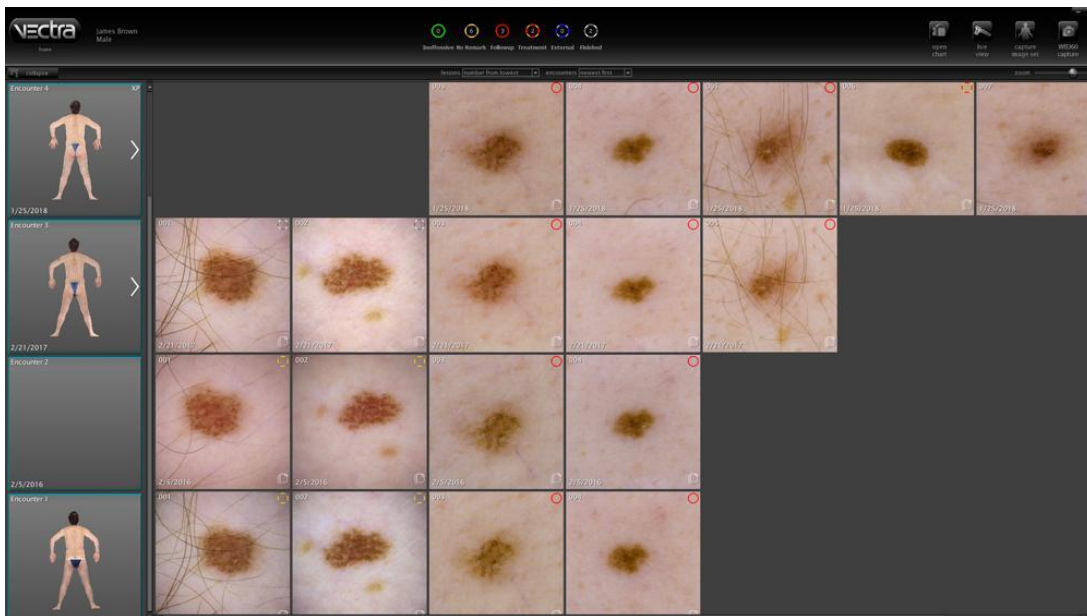
How to improve our clinical
practice and minimize the
error rate?

TOTAL BODY PHOTOGRAPHY



Primiero CA et al. A Narrative Review: Opportunities and Challenges in Artificial Intelligence Skin Image Analyses Using Total Body Photography. *J Invest Dermatol.* 2024 Jun;144(6):1200-1207. doi: 10.1016/j.jid.2023.11.007. Epub 2024 Jan 16. PMID: 38231164.

Hona TWPT et al.; ACEMID group. Consumer views of melanoma early detection using 3D total-body photography: cross-sectional survey. *Int J Dermatol.* 2023 Apr;62(4):524-533. doi: 10.1111/ijd.16578. Epub 2023 Jan 27. PMID: 36707877.



End-to-end Solutions

Achieve total body mapping and digital dermoscopy in a single step.



Scale up your clinic

Visit more patients than ever before.



Optimize your workflow

Complete explorations in under 10 minutes.



Enhance image quality

Benefit from consistent capture for superior image clarity.



Seamless Comparison

Effortlessly compare different explorations.



Teledermatology

Utilize Amazon's secure, cloud-based technology for remote dermatology services.

Rete metropolitana –hub IRCCS Sant’orsola Malpighi SSD Dermatologia Oncologica CONCLUSIONI

Diagnosi precoce del melanoma laddove ci sia un dubbio, anche iniziale, portando a tassi di sopravvivenza del 93 – 98 % per gli stadi I;

Riduzione delle asportazioni non necessarie, riducendo le sequele correlate ad un intervento chirurgico al paziente (cicatrici, deficit funzionali correlati).

Per il SSN, entrambi gli scenari consentono un risparmio in termini economici: evitando gli altissimi costi di cura di un paziente affetto da melanoma in stadio avanzato

consentendo un utilizzo oculato e appropriato delle sale operatorie.

Rete metropolitana –hub IRCCS Sant’orsola Malpighi SSD Dermatologia Oncologica

RINGRAZIAMENTI

DIREZIONE IRCCS Azienda Ospedaliero-Universitaria di Bologna Policlinico di Sant’Orsola
DIREZIONE Azienda Unità Sanitaria Locale Bologna

TUTTI I COLLEGHI DERMATOLOGI E NON CHE COLLABORANO CON NOI
NELLA GRANDE RETE