Melanoma vs. Pigmented Lesions (a practical approach)

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Learning Objectives

- Brief overview statistics
- Clinical presentation – what is suspicious?
- When and where to refer
- How to counsel your patients

- No disclosures nor conflict of interests

Canadian Cancer Society | Government of Canada / Gouvernement du Canada

Cancer-specific stats 2021

Snapshot of incidence, mortality and survival estimates by cancer type*

Both sexes combined	Incidence			Mortality			Survival
	Rank	Cases	Trend	Rank	Deaths	Trend	5-year (%)
All cancers	—	**229,200**	↓	—	**84,600**	↓	**64**
Lung and bronchus	1	29,600	↓	1	21,000	↓	22
Breast	2	28,000	↓	4	5,500	↓	89
Colorectal	3	24,800	↓	2	9,600	↓	67
Prostate	4	24,000	↓	5	4,500	↓	91
Bladder	5	12,500	→	8	2,600	→	77
Melanoma	7	8,700	↑	18	1,250	↓	89
Kidney and renal pelvis	9	7,800	→	12,13,14	1,950	↓	73
Head and neck	10	7,400	↑	11	2,100	→	64
Pancreas	11,12,13	6,700	→	3	5,600	→	10
Leukemia	11,12,13	6,700	↓	6	3,100	↓	61
Thyroid	11,12,13	6,700	↓	20	240	→	97
Stomach	14	4,000	↓	12,13,14	1,950	↓	29
Multiple myeloma	15	3,800	↑	15,16	1,600	↓	50
Liver	16	3,300	→	15,16	1,600	→	22
Brain/CNS	17	3,100	↓	9	2,400	↓	22
Ovary	18	3,000	↓	12,13,14	1,950	↓	44
Esophagus	19	2,400	↓	10	2,300	→	16
Cervix	20	1,450	↓	19	380	→	74
Testis	21	1,200	↑	22	35	↓	97
Hodgkin lymphoma	22	1,050	↓	21	110	↓	85
All other cancers	NA	23,800	↑		10,500	↓	NA

CNS=central nervous system; NOS=not otherwise specified; NA=not applicable

***Source:** Canadian Cancer Statistics 2021 (Tables 1.2, 2.2 and 3.1). Both are available through cancer.ca/statistics and are accompanied by details on the data sources and methods used to obtain the estimates. Please reference accordingly. Email any questions to stats@cancer.ca.

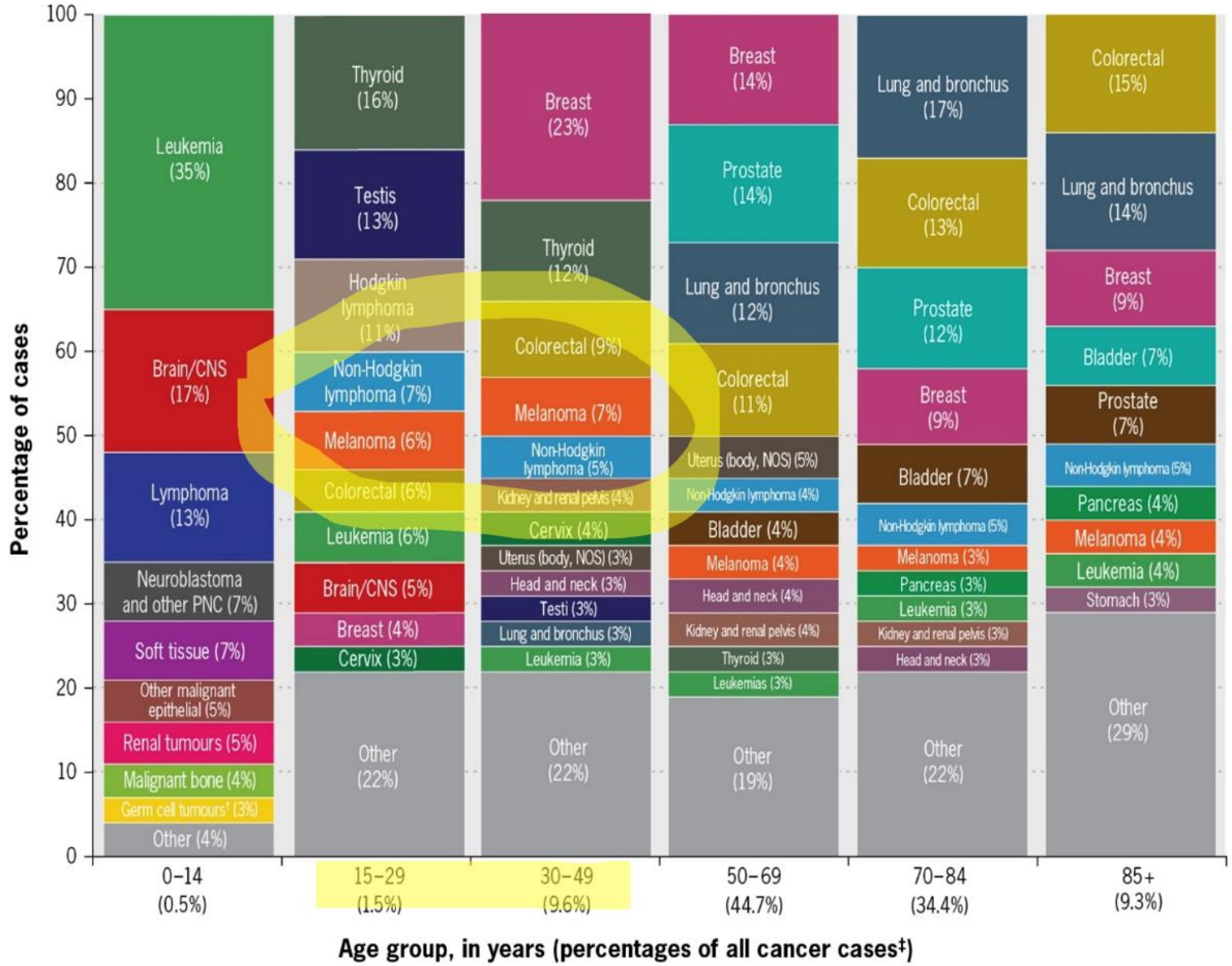
Cases	Projected number of cancer diagnoses in Canada in 2021 (based on data to 2017)
Deaths	Projected number of cancer deaths in Canada in 2021 (based on data to 2018)
Rank	Relative ranking of the 22 cancers from highest (1) to lowest (22) projected cases or deaths in 2021
Survival	Predicted 5-year net survival for cases diagnosed in 2015—2017
Trend	Direction of most recent trend in incidence or mortality rate using data from 1984 to 2019; reflects statistically significant increase (↑) or decrease (↓) or no change (→)

2021 ranked 8th

2021 ranked 17, 18

Annual deaths
M 803 F 440

FIGURE 1.4 Distribution of new cancer cases for selected cancers, by age group, Canada (excluding Quebec*), 2013–2017

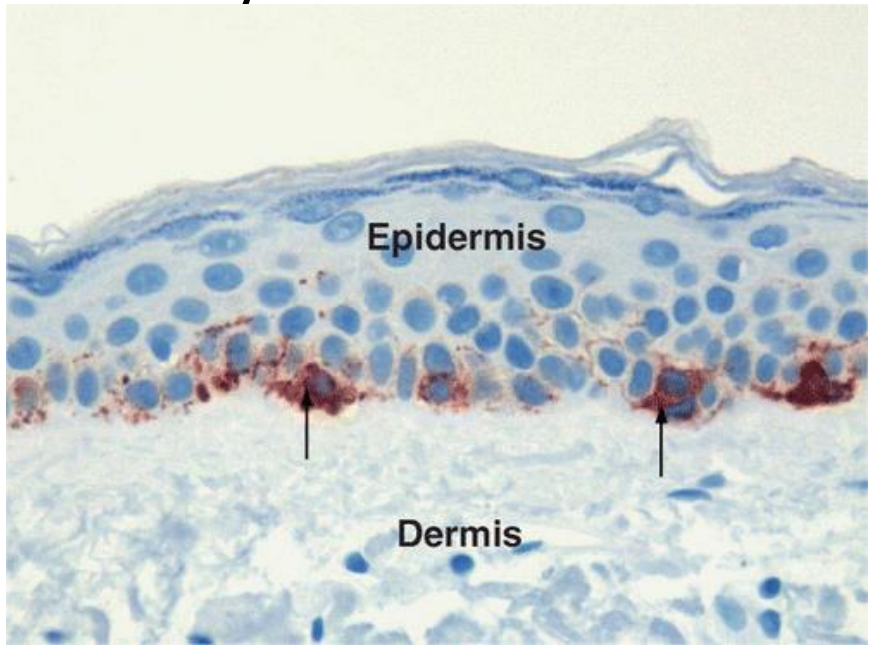


CNS=central nervous system; PNC=peripheral nervous cell tumours; NOS=not otherwise specified

* Quebec is excluded because cases diagnosed in Quebec from 2011 onward had not been submitted to the Canadian Cancer Registry.

Melanocytes

- Neural crest derived cells, migrate to skin, eye, and other tissues
- Melanocytes produce melanosomes which are cytoplasmic pigment particles containing melanin that gives skin color
- Synthesize tyrosinase that initiates events that start the synthesis and deposition of melanin in keratinocytes
- Function of melanin
  - Screen for solar UV radiation
  - Prevents DNA damage of basal cells and dermis



Melanocytic lesions are:

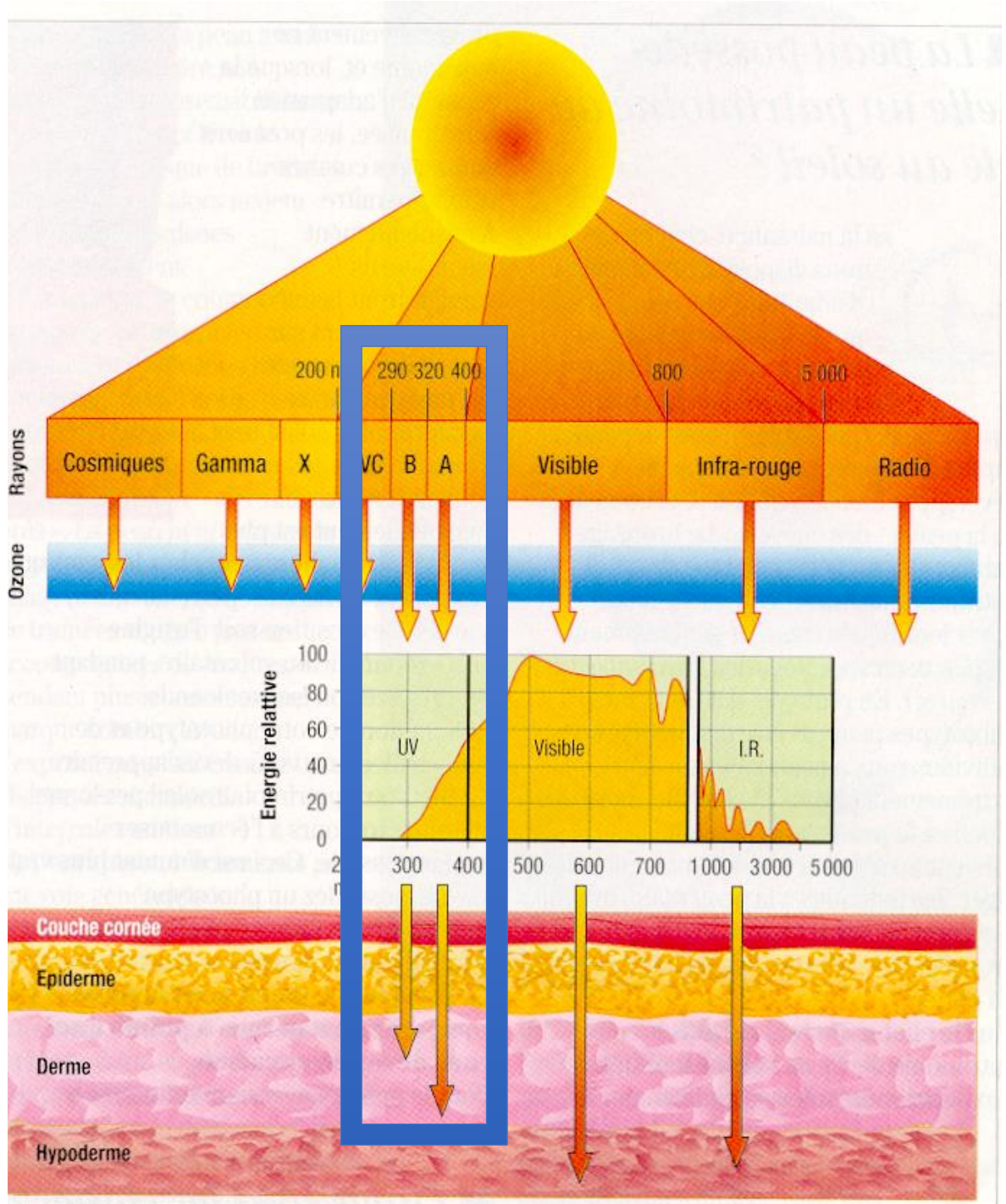
- Benign = nevi
- Malignant = melanoma

Melanocytes at different areas (skin vs. eye) give rise to phenotypically diverse types of melanoma

Majority of melanomas are found on sun exposed skin

Risk Factors for Melanoma

- UV radiation exposure
  - Actinic damage
  - Other non melanoma skin cancers
- Clinical phenotype
  - Fair skinned, light colored or red hair
  - Burns easily, does not tan
- Genetic risks
  - Number of pre-existing nevi, dysplastic nevi
  - Family history of melanoma
  - Genetic mutations (rare)s


Rayons
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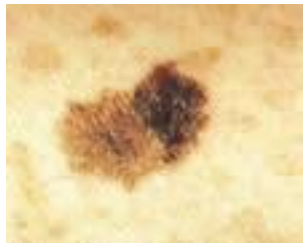
700
1000
3000
5000
Couche cornée
Epiderme
Derme
Hypoderme

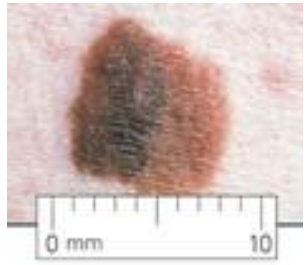
ABCDE rule



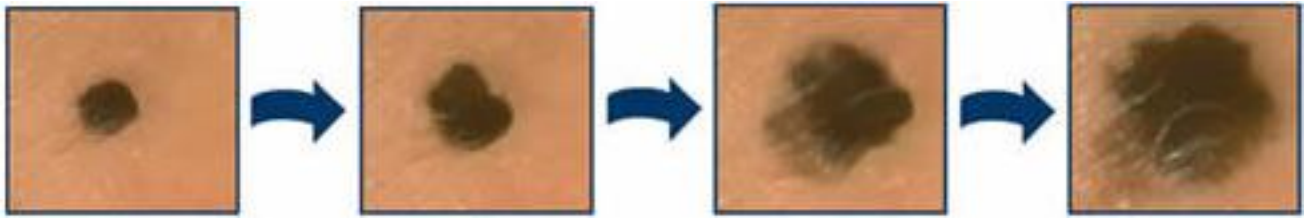
ASYMMETRY

BORDER

COLOR



DIAMETER



EVOLVING

American Academy of Dermatology, http://www.aad.org/public/publications/pamphlets/sun_malignant.html

Seborrheic Keratoses

- Can appear anywhere on the skin
- Can be any color
- Begin as flat patches, fairly regular in contour
- Can become rough, “greasy”, keratotic, “stuck on”, warty
- Can develop quickly
- Increase in number with age
- Benign clonal proliferation
- NO MALIGNANT POTENTIAL, PURELY COSMETIC ISSUE

Solar Lentigo

- In heavily sundamaged skin, keep in the differential lentigo maligna
- LM is slow growing, patients may not be aware
- Solar lentigos are multiple, similar in color
- LM is solitary, darker lesion
- Keep high level of suspicion for “outlier”, “ugly duckling”

Vascular Lesions

- Subungual hematoma
- Varicocele
- Thrombosed vein
- Angiokeratoma (scrotum, vulva)

- Color may be blue, dark purple, brown or black but usually some residual red
- Glass slide test
- History taking important

Dysplastic Nevus Syndrome

- FAMMM (Familial Atypical Multiple Mole Melanoma syndrome)
- > 50 nevi
- Most will fit ABCD criteria – so E is most important
- “Ugly duckling”, “outlier”, changing lesion
- Insist on monthly self skin exam
- Insist on DAILY sun protection
- Majority of dysplastic nevi will remain quiescent or even revert to benign histopathology with time
- DO NOT recommend preventative excision of dysplastic nevi

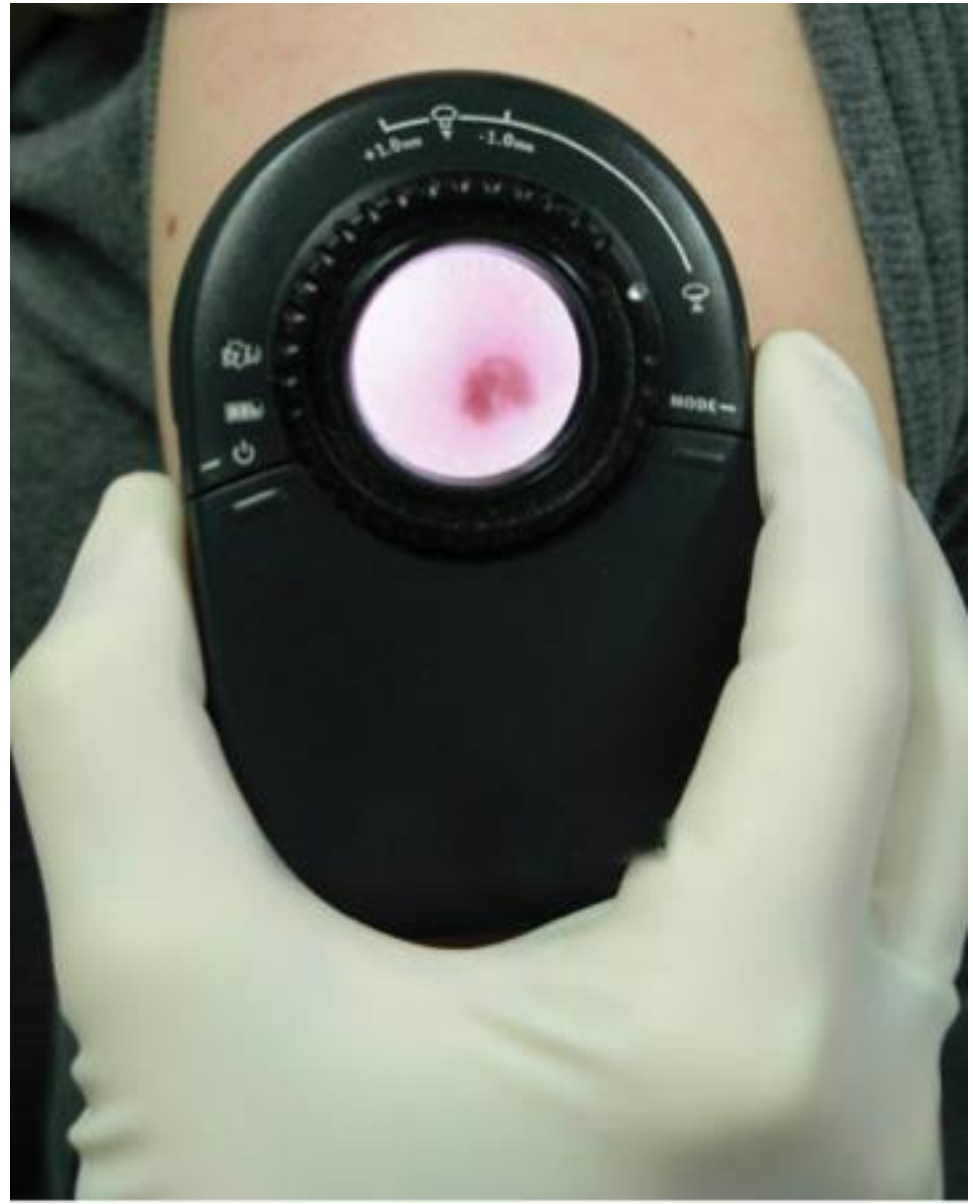
Congenital Nevi

- Can be small (<1.5cm), medium, large (>20 cm)
- Present or develop shortly after birth
- Will grow proportionally with age
- Can become more rugose, hypertrichotic with time
- Risk of melanoma elevated only with large CN (5-10% est.)
- Do not recommend prophylactic surgical removal of small, medium CN
- Large CN should be followed, difficult to excise

Melanoma Clinical Subtypes

Subtype	Frequency	Characteristic
Superficial spreading	70%	May arise from existing nevus (1/3)
Nodular	5%	Absence of a radial growth phase, variable presentation, and robust vertical invasion.
Lentigo maligna	4–15%	Slow progression, frequently appears in sun-exposed areas (i.e., face, head, etc.)
Acral lentiginous	5%	higher incidence in patients with darker skin pigmentation and frequently occur on the palms, soles, and subungual spaces.
Amelanotic	4%	Characteristic absence of pigmentation and are considered rare.
Desmoplastic	Less than 4%	Rare melanoma seen in older adults that is characterized by scant spindle cells and minimal cellular atypia.

Cutaneous Melanoma: Etiology and Therapy [Internet].
Ward WH, Farma JM, editors. 2017


+1.0
-1.0
MODE

Biopsy

Excisional biopsy-preferred

- FULL THICKNESS – punch biopsy to fat or deep Dermablade shave
- Minimal margins laterally but MUST have clear deep margins for optimal management
- If you suspect melanoma, write it on Pathology referral
- Dermatopathology – MUHC, JGH

When to Refer

AJCC Staging of Melanoma

Stage 0	In situ / Lentigo Maligna (no invasion of dermis)
Stage I	Melanoma < 1.0 mm
Stage II	Melanoma >1.0 mm
Stage III	Any depth
	Node positive
Stage IV	Distant metastases

Referral Guidelines

- Stage 0, I melanomas can be treated in community (surgical dermatologists, surgeons)

- Stage II and higher (>0.8mm depth) SHOULD be referred to Melanoma Centre
  - Accurate staging (SLNB)
  - Availability of adjuvant therapy
  - Clinical trials

MUHC Melanoma Clinic

Dr. Beatrice Wang, Director, Dermatology

Dr. Amina Bougrine, Dermatology (on leave)

Dr. Sarkis Meterissian, Surgical Oncology

Dr. Ari Meguerditchian, Surgical Oncology

Dr. Catalin Mihalcioiu, Medical Oncology

Ms. Cora Trinidad, RN, IPO Melanoma

Wednesday 13h-16h30 Cancer Center Glen

Melanoma Tumor Board 16h30-17h30 (Zoom)

Fax: 514 843 1713

For consults WITH biopsy proven melanoma

Associated Staff MUHC Melanoma Clinic

Dr. Keith Richardson, Head and Neck Surgery

Dr. Nader Sadeghi, Head and Neck Surgery

Dr. Fabio Cury, Radio-Oncology

Dr. Valerie Panet-Raymond, Neuro-Oncology/ Radio-Oncology

Dr. Peter Davison, Plastic Surgery

Dr. Stephanie Thibaudeau, Hand Surgery

Dr. May Chergui, Dermatopathology

Dr. Kevin Watters, Dermatopathology

Dr. Ian Watson, PhD, Canada Research Chair II, Functional genomics of melanoma,

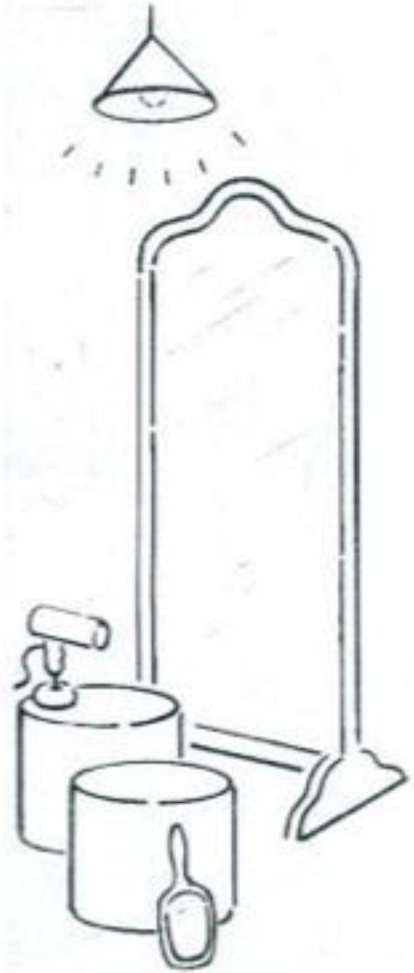
Co-PI Montreal Cancer Consortium Terry Fox Research Institute Marathon of Hope

Conclusion

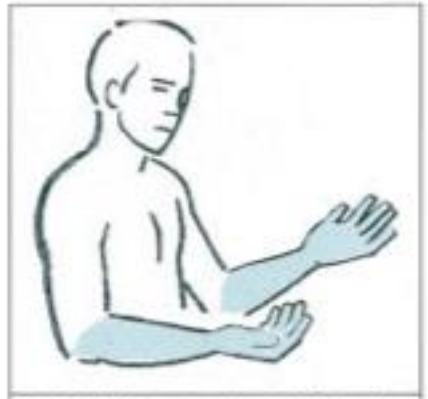
- Differential of Melanoma
  - Seborrheic Keratosis
  - Solar Lentigo
  - Vascular lesion
- Increased risk of Melanoma
  - Dysplastic nevus syndrome
  - Giant congenital nevus
  - Marked sun damage
  - Previous melanomas
- Multiple lesions, similar
- More regular in appearance
- Counsel daily sun protection
- Monthly self skin exam
- May need annual screening

Prevention

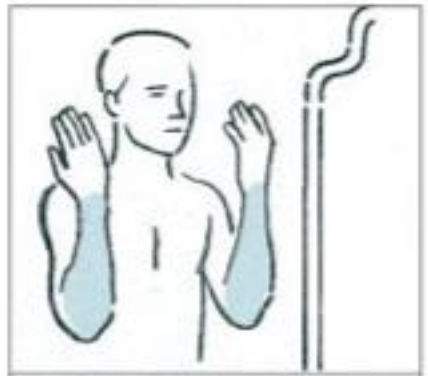
- Sun protection
  - Behavior modification
  - Sunscreens and physical blockers
- Monthly self examination
  - Systematic, head to toe, front to back
  - Searching for “ugly duckling”, “outlier”
- Limit screening to patients at high risk
- NO benefit of genetic testing



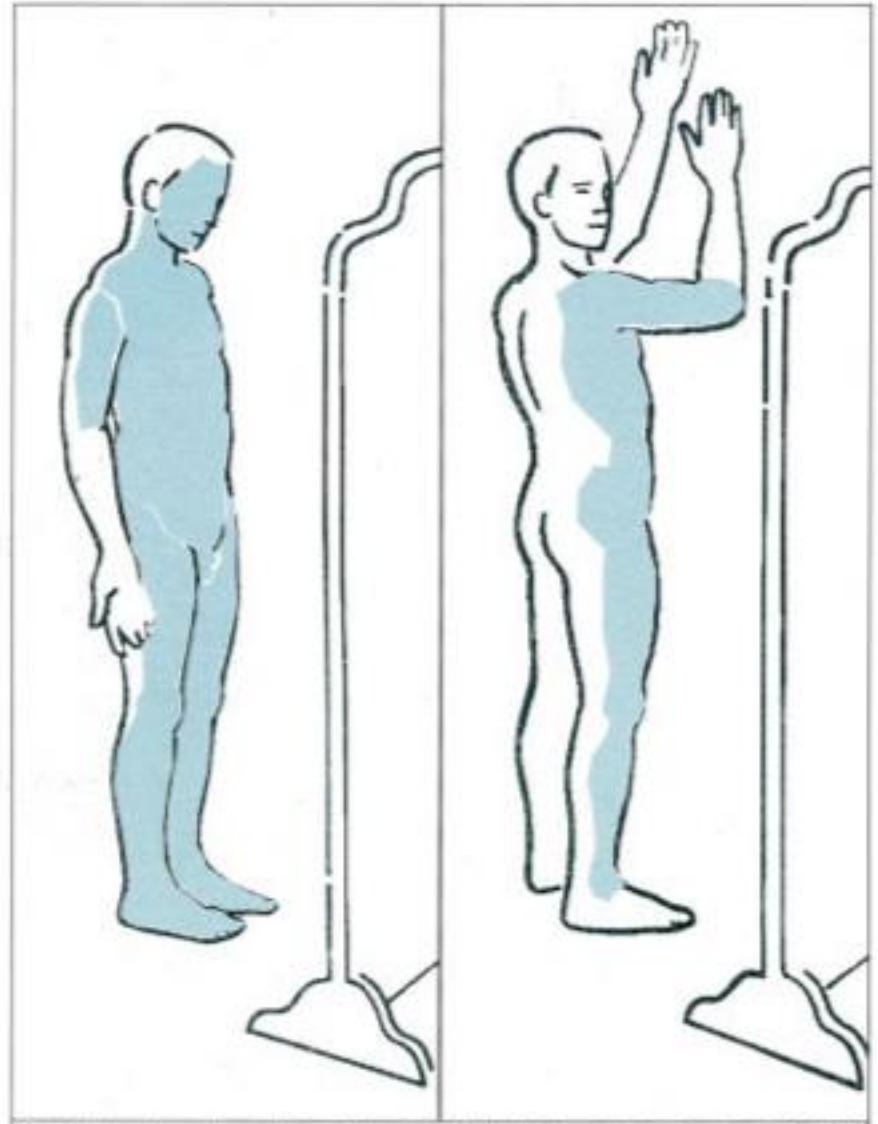
Step 1: Make sure you have good lighting. You will need a full-length mirror, a hand-held mirror, a hand-held blow dryer, and two chairs or stools. Undress completely.



Step 2: Hold your hands out in front of you with your palms facing up, as shown. Look at your palms, fingers, the spaces between your fingers, and your forearms. Now turn your hands over and examine the backs of your hands, fingers, the spaces between fingers, your fingernails, and your forearms.

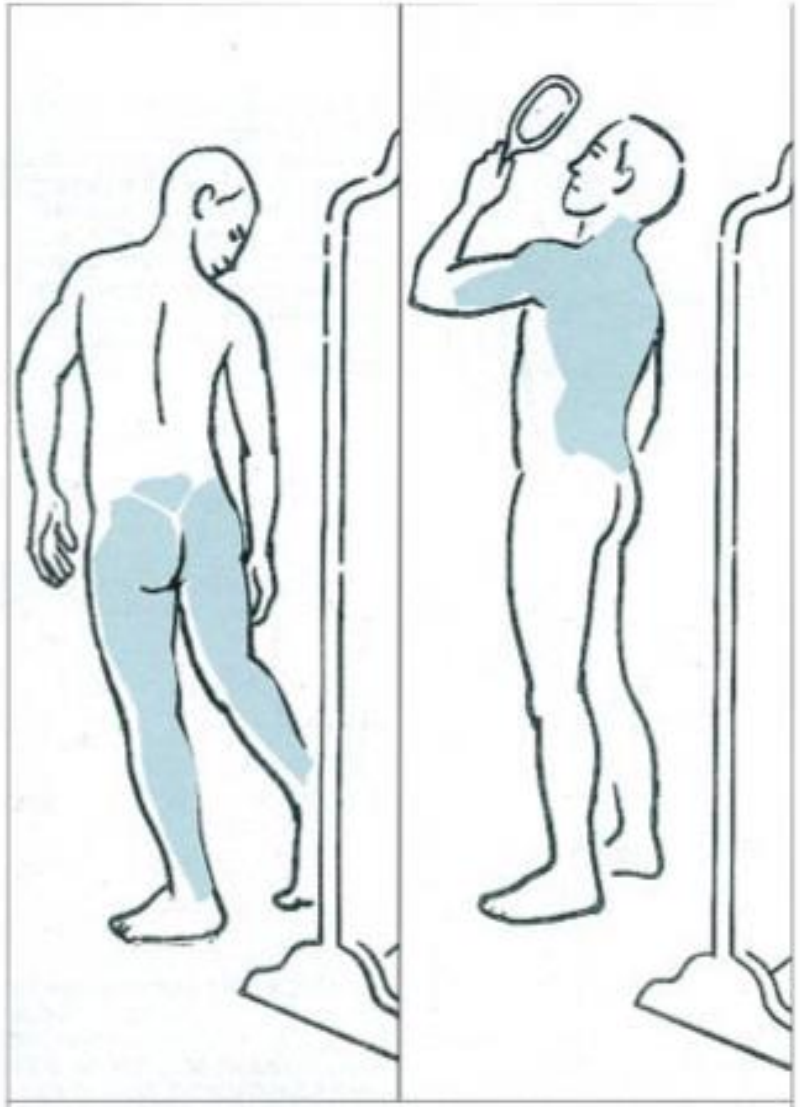


Step 3: Now stand in front of the full-length mirror. Holding your arms up and bent at the elbows, with palms facing you (as shown), examine the backs of your forearms and elbows in the mirror.



Step 4: Now observe the entire front of your body in the full-length mirror. Examine the front of your face and both sides. Look at your eyes, lips, hairline. Turn your palms toward the mirror and look at your upper arms; your chest; your abdomen; pubic area; thighs; and lower legs.

Step 5: Lift your arms over your head with the palms facing each other. Turn so that you can see your right side in the full-length mirror and look at the entire side of your body—your hands and arms, underarms, sides of your trunk, thighs, and lower legs. Turn and repeat the process, looking at your left side.

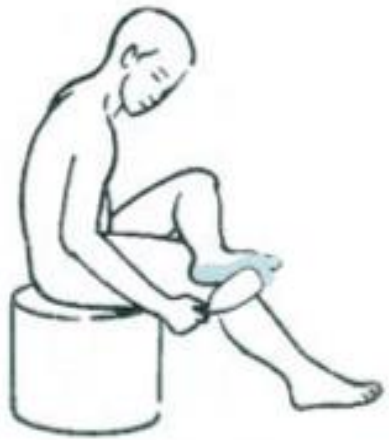


Step 6: Turn around and, with your back toward the full-length mirror, look at your buttocks and the backs of your thighs and lower legs.

Step 7: Now, using the hand-held mirror angled to help you see in the full-length mirror (as shown), examine the back of your neck, your back, and buttocks. You may also be able to examine the backs of your arms this way. Some areas are hard to see. You may find it helpful to ask your spouse or a friend to assist you.

Step 8: Continue using the hand-held mirror to look at your ears and scalp. The scalp is difficult to examine, especially if you have thick hair. You may use the hand-held blow dryer to lift the hair from the scalp. While some people are able to hold the mirror in one hand, the dryer in the other, and look in the full-length mirror, many cannot. It may be particularly useful to ask a spouse or friend to assist you with this part of the examination.

Step 9: Sit down and prop one leg up in front of you on a chair or stool, as shown. Using the hand-held mirror, look at the inside of the propped-up leg, beginning at the groin area and moving the mirror down the leg to your foot. Repeat this procedure with your other leg.



Step 10: Still sitting, cross one leg over the other. Use the hand-held mirror to examine the top of your foot, the toes, toenails, and spaces between the toes. Then look at the sole or bottom of your foot. Repeat the procedure for the other foot.

CA Cancer J Clin 2010;60:301-316.