Melanoma and Dermoscopy

Richard P. Usatine, MD, FAAFP
Professor, Family and Community Medicine
Professor, Dermatology and Cutaneous Surgery
Medical Director, University Skin Clinic
University of Texas HSC, San Antonio

Disclosure Statement:

- Co-President, Usatine Media
  - medical app development company
- Author, medical books

ABCDE's of melanoma.

- A - asymmetry.
- B - Border irregular.
- C - Color variation.
- D - Diameter > 6mm (pencil eraser).
- E - Evolving, elevated, enlarging
Melanoma types

- **Superficial spreading melanoma** - most common type, representing 70%
- **Nodular melanoma** - 15-30%
- **Lentigo maligna melanoma** - 4-15%
- **Acral lentiginous melanoma** - 2-8%
- **Amelanotic melanoma** - rare

Melanoma in-situ
The National Comprehensive Cancer Network (NCCN) Melanoma Guidelines on the principles of biopsy

- Excisional biopsy (elliptical, punch [when whole lesion is small], or saucerization) with 1-3 mm margins is preferred. Avoid wider margins to permit accurate subsequent lymphatic mapping.
- Full-thickness incisional or punch biopsy of clinically thickest portion of the lesion is acceptable in certain anatomic areas (e.g., palm/sole, digit, face and ear) or for very large lesions.
- Shave biopsy [not saucerization or deep shave] may compromise pathologic diagnosis and complete assessment of Breslow thickness, but is acceptable when the index of suspicion is low.


Saucerization was done

Saucerization of whole suspected melanoma is a recommended technique.
Punch biopsy

- The impact of partial biopsy on histopathologic diagnosis of cutaneous melanoma has been studied extensively by Ng, et al. in Australia.
- They found increased odds of histopathologic misdiagnosis were associated with punch biopsy of part of the melanoma (Odds Ratio, 16.6) and shallow shave biopsy (OR, 2.6) compared with excisional biopsy (including saucerization).
- Punch biopsy of part of the melanoma was also associated with increased odds of misdiagnosis with an adverse outcome (OR, 20).

Melanoma in-situ

Melanoma in-situ
Superficial spreading melanoma
Nodular melanoma
Breslow depth is 8.5 mm with Clark's level V.
Clark’s Level V – 22 mm

Lentigo maligna melanoma
Q: The best biopsy method for this suspected lentigo maligna melanoma is:

1. An elliptical excision with 3 mm margins
2. A 4 mm punch biopsy of the darkest portion
3. Three 2 mm punch biopsies
4. A broad shave biopsy

The National Comprehensive Cancer Network (NCCN) Melanoma Guidelines on the principles of biopsy state:

• “For lentigo maligna melanoma in situ, broad shave biopsy may help to optimize diagnosis.”


Lentigo maligna melanoma scalp 0.9 mm – diagnosed with saucerization
Acral lentiginous melanoma

Acrolentiginous melanoma of the thumb.

Hyperpigmentation of the proximal nail fold (Hutchinson's sign)

(Courtesy of Dr. Dubin at www.skinatlas.com)

Amelanotic melanoma

Courtesy of EJ Mayeaux, MD
Melanoma - 1.5 mm depth on back of young Hispanic woman

Dermoscopy

FIGURE 32-1 (A) Nonpolarized contact dermoscopes from Heine and Welch Allyn. (B) An assortment of polarized and hybrid dermoscopes from 3Gen.

How can dermoscopy help?

- Helps differentiate benign from malignant lesions
- Miss less melanomas
- Biopsy less benign lesions
- Improves malignant to benign biopsy ratio
Pathology diagnosis: Melanoma 0.55mm
This process is hardwired in all of us
Surgery Literature

- Dogma about needing to do a whole elliptical excision for suspected melanoma is gone.
- There is evidence that a saucerization (scoop or deep shave biopsy) leads to an accurate diagnosis and staging 97% of the time

Biopsy to Diagnose Melanoma

- Excise full lesion if it is small using a punch biopsy or saucerization
- If lesion is large, perform a punch biopsy or saucerization of the darkest and thickest portion (or directed by dermoscopy)
- If partial biopsy is negative and lesion is still suspicious, excise the whole lesion to avoid a false negative
- Tumor depth will then determine the width of the margins needed
Margins for Tx Melanoma

- WHO recommendations:
  - 5 mm for *in situ* lesions
  - 1 cm for malignant lesions less than 1.5 mm in depth
  - 2 cm margins for melanomas greater than 1.5 mm in thickness
    - Some groups use 1 mm cut-off for change in margin from 1 to 2 cm

Sentinel lymph node biopsies

- For tumors of greater than or equal to 1 mm in depth. (SOR= A)
- Melanomas with ulceration or areas of regression
- Metastatic workup if lymph node is positive

Regular sunscreen use by white adults decreases the occurrence of:
- invasive cutaneous melanoma
- SCC
- Not proven for BCC
**SLIP, SLOP, SLAP!!!**

*SLIP on a shirt

*SLOP on sunscreen

*SLAP on a hat
and *POP* some Vitamin D

---

**Conclusion**

- Prevent skin cancers by risk factor reduction
- Early detection of pre-cancers and skin cancers can prevent morbidity and mortality
- Biopsy suspicious lesions and don’t be afraid to do a deep shave (saucerization)
  - It is fast and easy and will keep you from missing melanomas because you didn’t have the time or equipment to do a full elliptical excision.
- Consider learning dermoscopy to increase your accuracy in diagnosis

---

**Online resources**

- INFORMED: Melanoma and Skin Cancer Early Detection education series:
- National Cancer Institute—
- The Skin Cancer Foundation -
  - [http://www.skincancer.org](http://www.skincancer.org)
- American Cancer Society -
Additional References