Current Role Of Sentinel Node Biopsy in Melanoma Patients

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• Historical Perspective
• Technical Details
• Current Recommendations
“Silent” National Epidemic

- The incidence per year is rising faster than any other cancer!
Melanoma in situ
Melanoma in situ

Cannot spread. Skin Problem ONLY!
Invasive Melanoma
Invasive Melanoma

Can spread to lymph nodes and vital organs. Which ones?
Elective Lymph Node Dissection

- World Health Organization (WHO) (Veronesi, NEJM 1977)
- Mayo Study (Sims, Cancer 1978)
- Intergroup Melanoma Trial (Balch, Arch Surg 1996)
Routine ELND in melanoma patients has no therapeutic role, only diagnostic
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Demonstrated feasibility of intraoperative lymphatic mapping and sentinel lymphadenectomy (blue dye) for early stage melanoma patients

Morton, Arch Surg 1992
Lymphatic Mapping of the Sentinel Node
The sentinel node is the *most* likely node to harbor a metastasis.
Sentinel Lymph Node Evaluation

Lymph node serially sectioned while fresh

Alternate sections paraffin-embedded; remainder snap frozen

Five H&E-stained sections flanked by two S-100 sections
Patients with T2 and T3 melanomas and nodal metastases derive a 20% absolute survival advantage with a SN procedure and CLND as compared to watchful waiting.

**CAVEAT:** DSMB advised release of data to physicians and public because of multiple significant endpoints had been reached, but not overall survival.
(MSLT-I) Compares Immediate vs. Delayed CLND for Nodal Metastases Melanoma ≥ 1.2-3.5mm

Randomized

WEX + SNB 60%

SN(-)
Observation

SN(+)
Immediate CLND

WEX + Watch & Wait 40%

Nodal Recurrence

Delayed CLND

5 year Overall Survival: 72.3±4.6% 52.4±5.9%

HR 0.51; 95CI, 0.32 to 0.81; P=0.004
(MSLT-I) Compares Immediate vs. Delayed CLND for Nodal Metastases Melanoma $\geq 1.2$-$3.5$mm

- WEX + SNB 60%
  - SN(-) Observation
  - SN(+) Immediate CLND Mean # Nodes: 1.4
- WEX + Watch & Wait Observ. 40%
  - Nodal Recurrence Delayed CLND Mean # Nodes: 3.3

10 year Melanoma Survival:
- Immediate CLND: 63.2%
  - HR 3.07; p<0.001
- Delayed CLND: 36.5%
  - HR 0.51; p<0.001
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Indications for SN Biopsy in Melanoma Patients

- Thin melanomas (< 1 mm)
  - Risk: 5% (Annals of Surgical Oncology Oct 2004)
  - UNC: balanced discussion 0.5-1.0 mm

- Intermediate thickness melanomas (1-4 mm)
  - Risk: 18-20%
  - UNC: All patients (NEJM 2006)

- Thick melanomas (>4 mm)
  - Risk: 40%+ nodal, 15-20% systemic
  - UNC: All patients