Management of Early Stage Melanoma: Who Should Undergo Sentinel Lymph Node Biopsy?

18th Focus On Melanoma
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Disclosures

- I have no disclosures relevant to the content of this presentation

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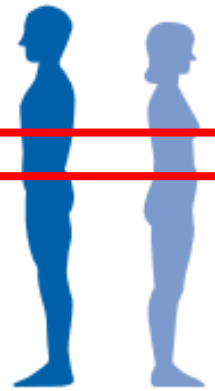
Background

- Growing incidence of invasive melanoma
- In 2021, an estimated 106,110 new cases will be diagnosed in the US

Figure 3. Leading Sites of New Cancer Cases and Deaths – 2021 Estimates

Estimated New Cases	Male			Female		
	Prostate	248,530	26%	Breast	281,550	30%
	Lung & bronchus	119,100	12%	Lung & bronchus	116,660	13%
	Colon & rectum	79,520	8%	Colon & rectum	69,980	8%
	Urinary bladder	64,280	7%	Uterine corpus	66,570	7%
	Melanoma of the skin	62,260	6%	Melanoma of the skin	43,850	5%
	Kidney & renal pelvis	48,780	5%	Non-Hodgkin lymphoma	35,930	4%
	Non-Hodgkin lymphoma	45,630	5%	Thyroid	32,130	3%
	Oral cavity & pharynx	38,800	4%	Pancreas	28,480	3%
	Leukemia	35,530	4%	Kidney & renal pelvis	27,300	3%
	Pancreas	31,950	3%	Leukemia	25,560	3%
	All sites	**970,250**		**All sites**	**927,910**	



American Cancer Society, *Facts and Figures*, 2021

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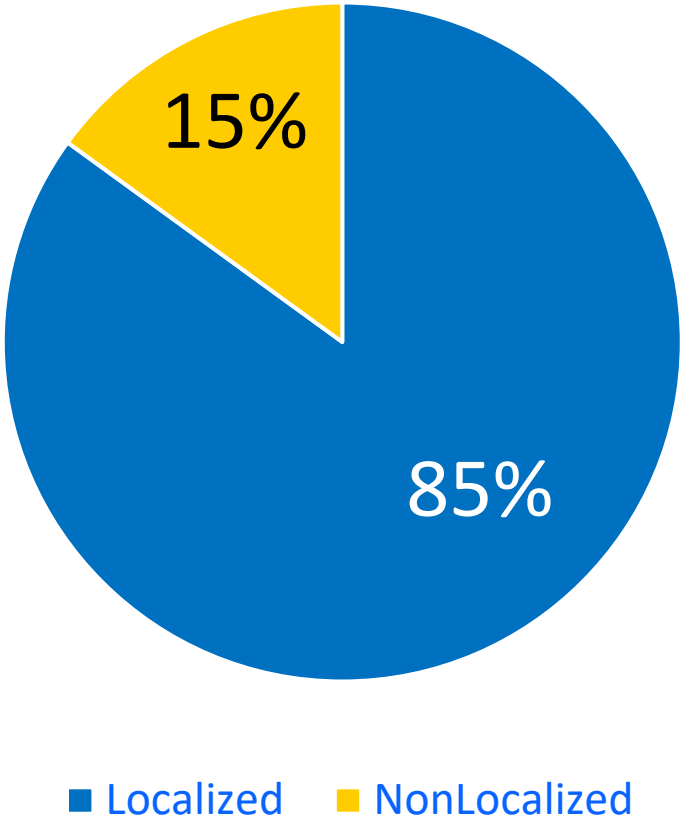
Background

- **Majority of patients (~85%+) present with localized (clinical Stage I and II) disease**

- **Management of localized melanoma typically involves <u>wide excision ± sentinel lymph node (SLN) biopsy</u>**



Surveillance and Epidemiology and End Results Program (SEER)

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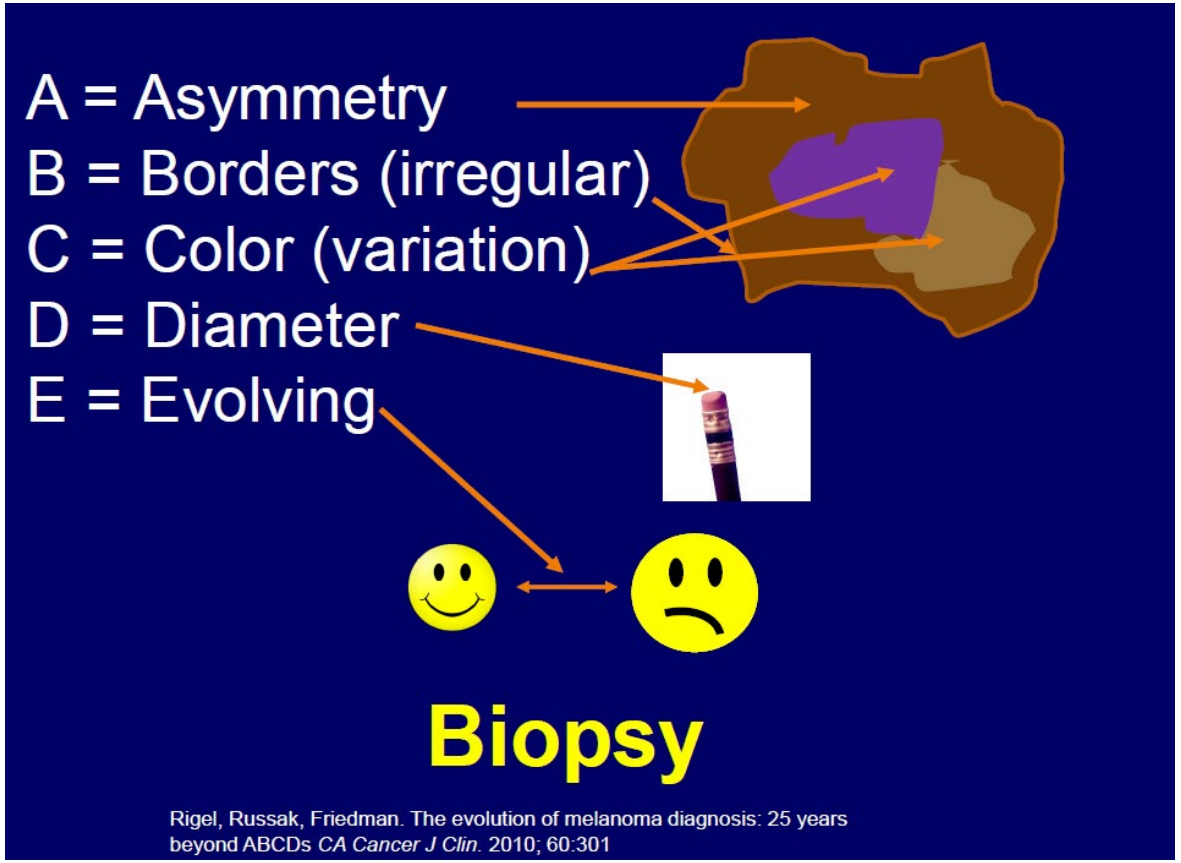
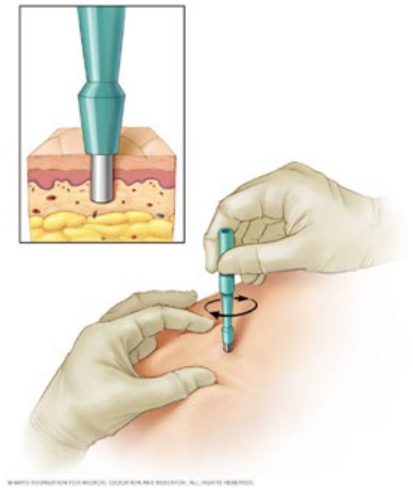
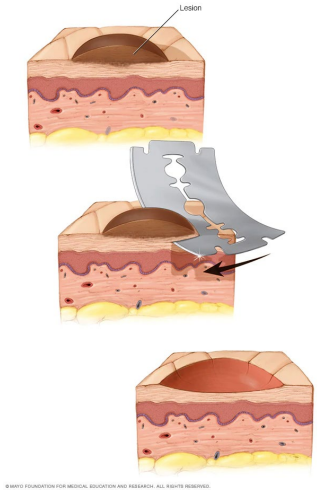
Workup



Biopsy Technique





Punch Biopsy

Shave Biopsy

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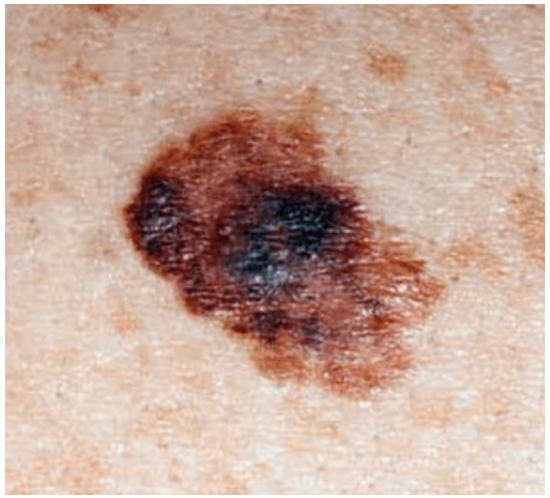
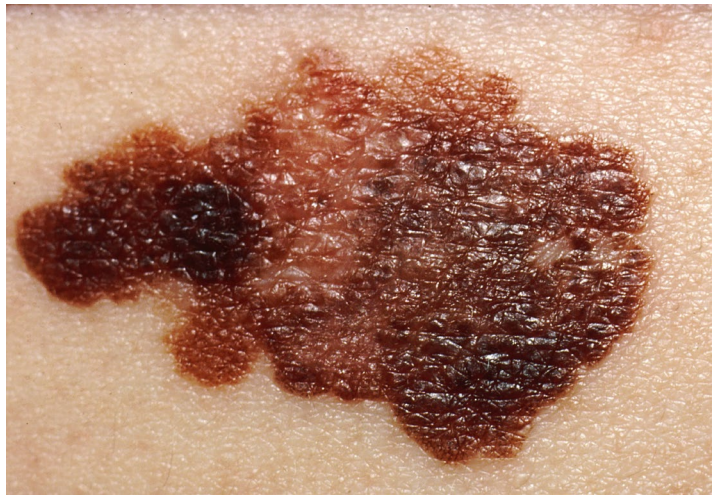
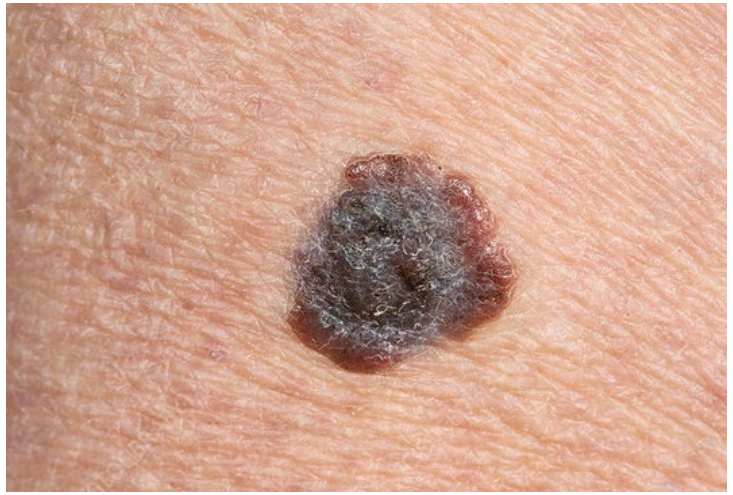
Management of Early Stage Melanoma (Clinical Stage I/II







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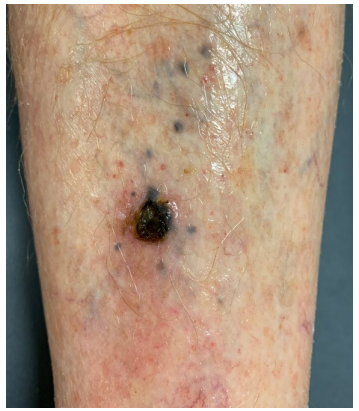
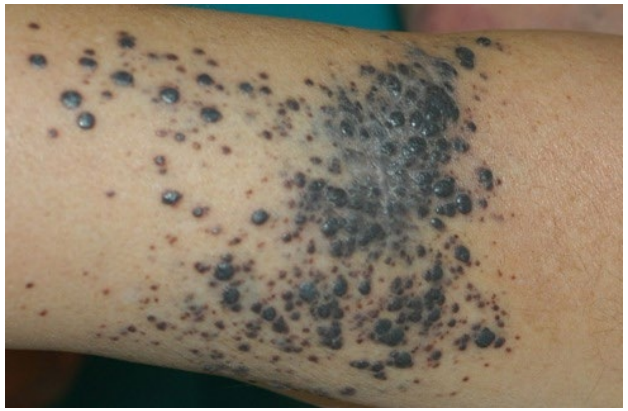
Once melanoma is diagnosed…

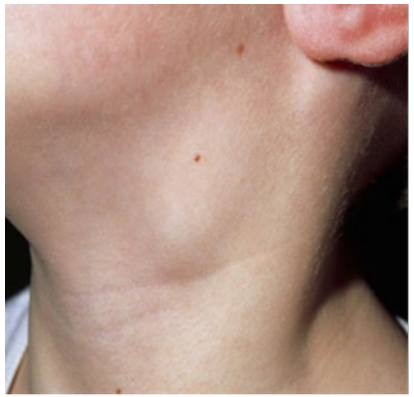
- Referral for surgical evaluation
- Evaluation includes a thorough history and physical
  - Suspicious exam findings include:



Satellitosis



In-transit Disease



Swollen Lymph Nodes

- Type and extent of surgery influenced by biopsy results and exam findings

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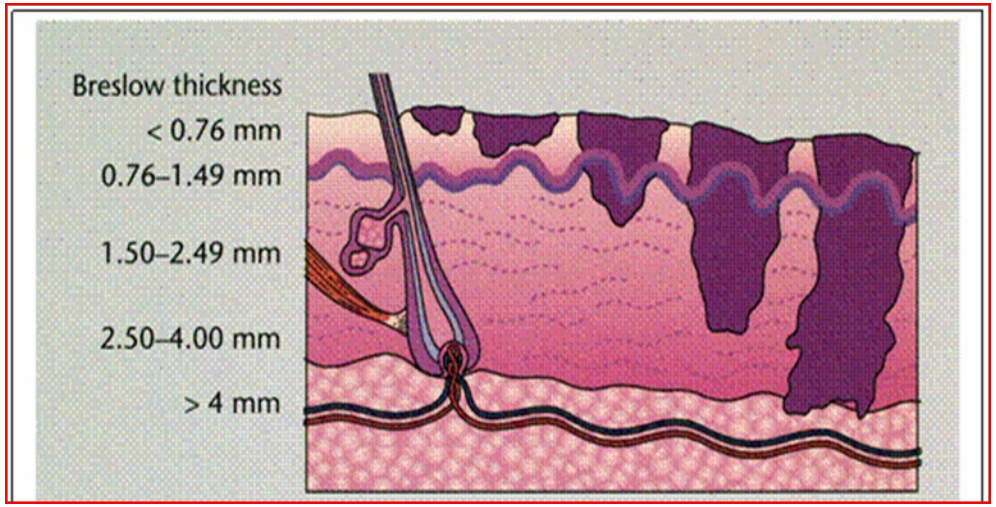
Melanoma Pathology Essentials

- ***Breslow thickness****
  - *most important prognostic factor*
- Clarks level
  - Should not be confused with disease stage
- ***Ulceration status****
- Mitotic rate
- Margin status
- Microsatellitosis
- Regression
- Lymphovascular invasion
- Perineural invasion
- Tumor-infiltrating lymphocytes
- Histologic subtype



*** Components involved in determining T Stage (AJCC 8th Edition)**

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Surgery For Melanoma

Trials Evaluating Surgical Margins for Melanoma

Study	Year	Thickness (mm)	Margin (cm)	LR	OS
WHO	1991	≤ 2	1 vs 3	NS	NS
Sweden	2000	>0.8-2.0	2 vs 5	NS	NS
Intergroup	2001	1-4	2 vs 4	NS	NS
France	2003	≤ 2	2 vs 5	NS	NS
UK	2016	>2	1 vs 3	NS	NS
Sweden	2011	>2	2 vs 4	NS	NS

"No difference in survival with narrower margins"

- **Recommended Clinical Margins**
  - MIS 0.5 cm
  - ≤ 1mm 1 cm
  - 1-2mm 1-2 cm
  - >2mm 2 cm

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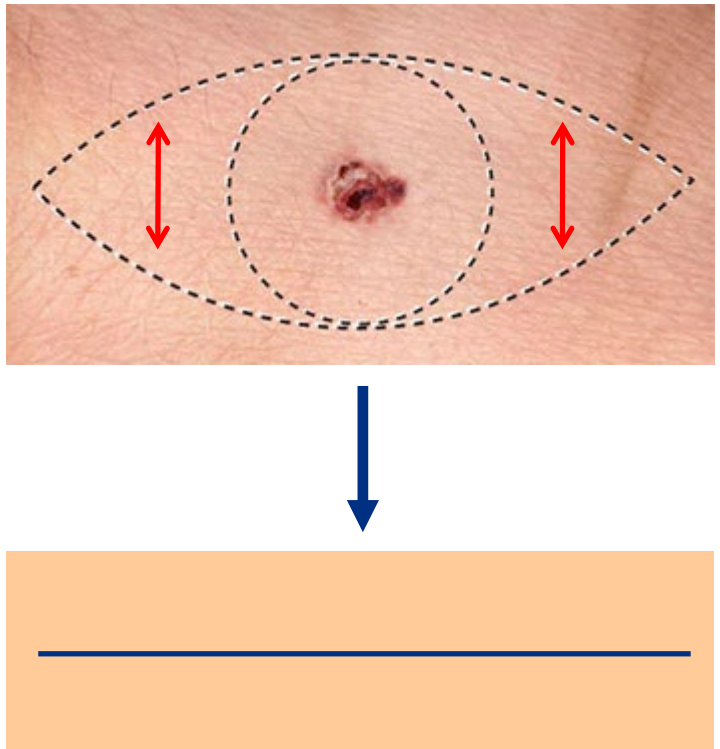
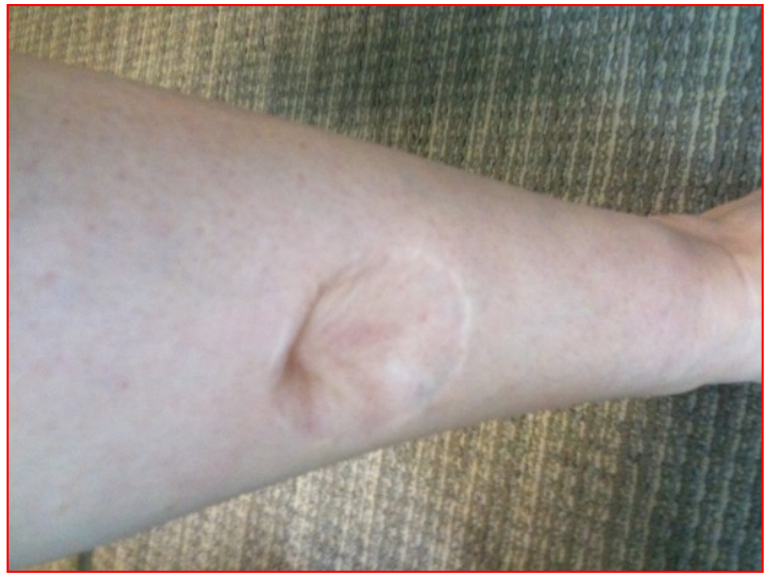
Surgery For Melanoma

Wide Excision

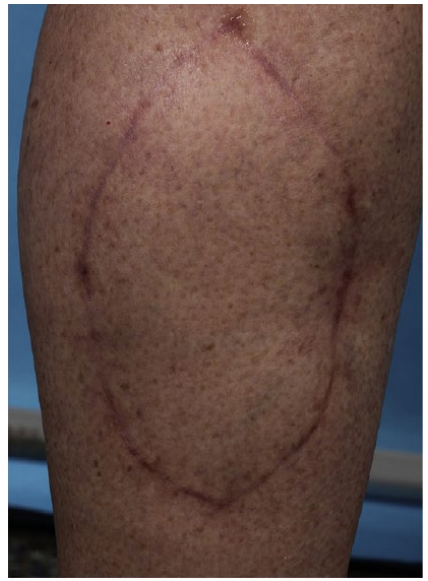
Primary closure



Skin graft



Keystone flap



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Sentinel Lymph Node Biopsy (SLNB)

- History of the procedure
- What is it
- How is it performed
- For whom is it recommended for?

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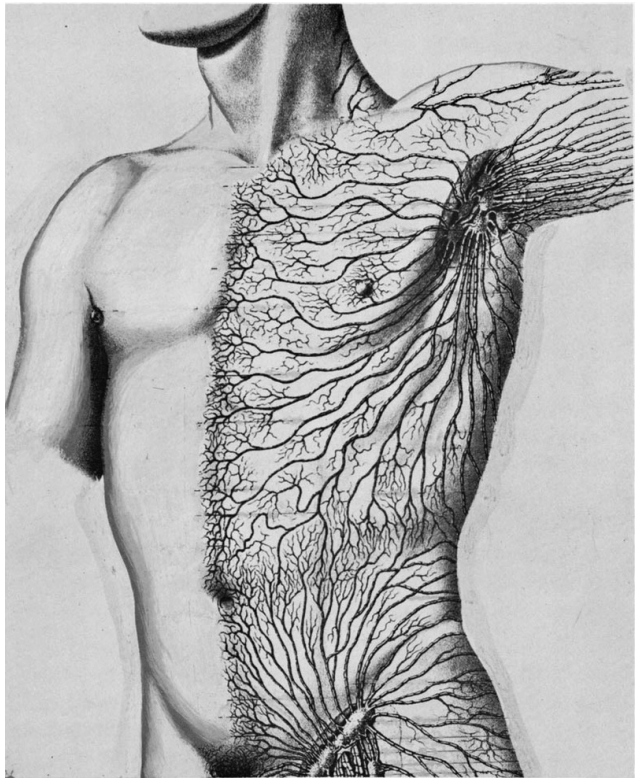
History of Sentinel Lymph Node Biopsy (SLNB)

- Mid 19th Century
  - The relationship between the lymphatic system and cancer dissemination was first described

- 1992- SLNB first proposed by Morton and Cochran



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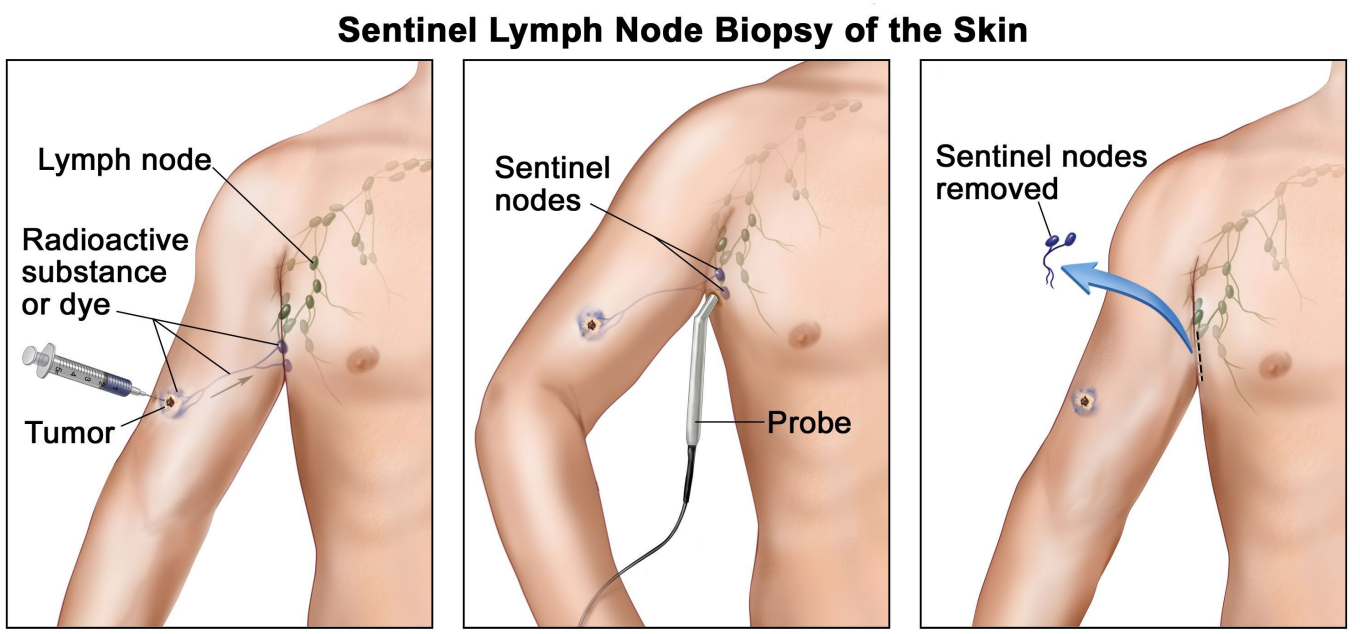
Sentinel Lymph Node Biopsy (SLNB)

- What is it
  - Minimally invasive, low-morbidity staging procedure
- How is it done
  - Uses blue dye and radiolabeled colloids to generate a road map of which lymph nodes a tumor would travel to first



www.cancer.gov

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Sentinel Lymph Node Biopsy 2021

- Who Should Get the Procedure?
  - Consider SLNB if risk of micrometastasis is >5%
  - Rate of SLN Positivity for lesions ≥ 0.8 mm – 1.0 mm: ~8%

Thickness	Not routinely recommended	Discuss and consider	Discuss and offer
<0.8 mm without ulceration*	√		
0.8-1.0 mm or ulcerated ≤1 mm		√	
>1.0 mm			√

NCCN
ASCO/SSO

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But what if my SLN is positive?

- Before: Completion Lymph Node Dissection

- Now: Close monitoring of the regional nodal basin by ultrasound

Ultrasound

Complete lymph node dissection versus no dissection in patients with sentinel lymph node biopsy positive melanoma (DeCOG-SLT): a multicentre, randomised, phase 3 trial

Ulrike Leiter, Rudolf Stadler*, Cornelia Mauch, Werner Hohenberger, Norbert Brockmeyer, Carola Berking, Cord Sunderkötter, Martin Kaatz, Klaus-Werner Schulte, Percy Lehmann, Thomas Vogt, Jens Ulrich, Rudolf Herbst, Wolfgang Gehring, Jan-Christoph Simon, Ulrike Keim, Peter Martus, Claus Garbe, for the German Dermatologic Cooperative Oncology Group (DeCOG)*

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JUNE 8, 2017 VOL. 376 NO. 23

Completion Dissection or Observation for Sentinel-Node Metastasis in Melanoma

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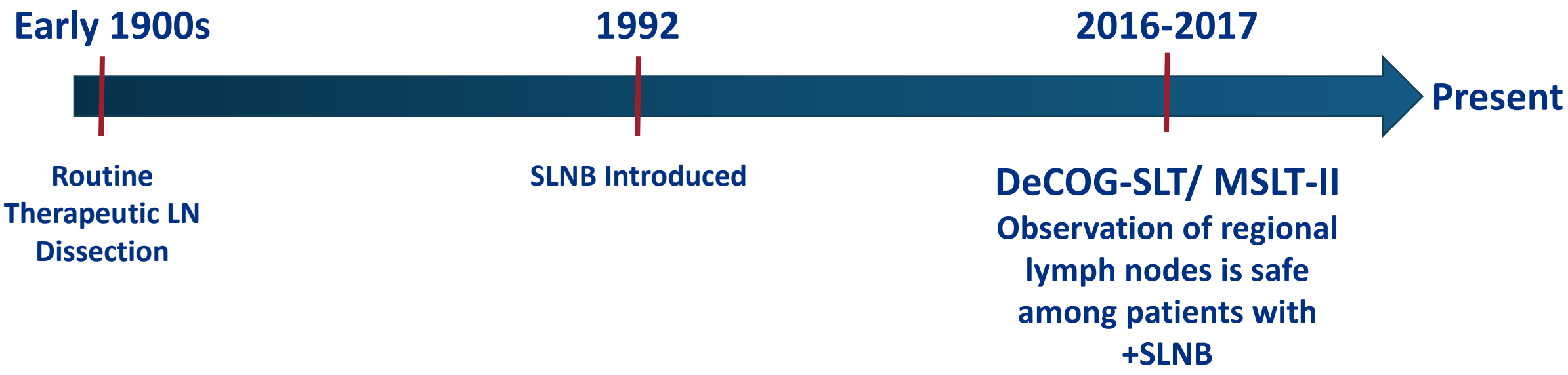
Management of Regional Lymph Nodes For Localized Melanoma



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Future Directions

- Many patients with earlier stage disease (particularly high risk stage II) still recur after undergoing surgery alone

- Ongoing investigation at Penn:
  - Integrating systemic therapy with surgery for early stage patients

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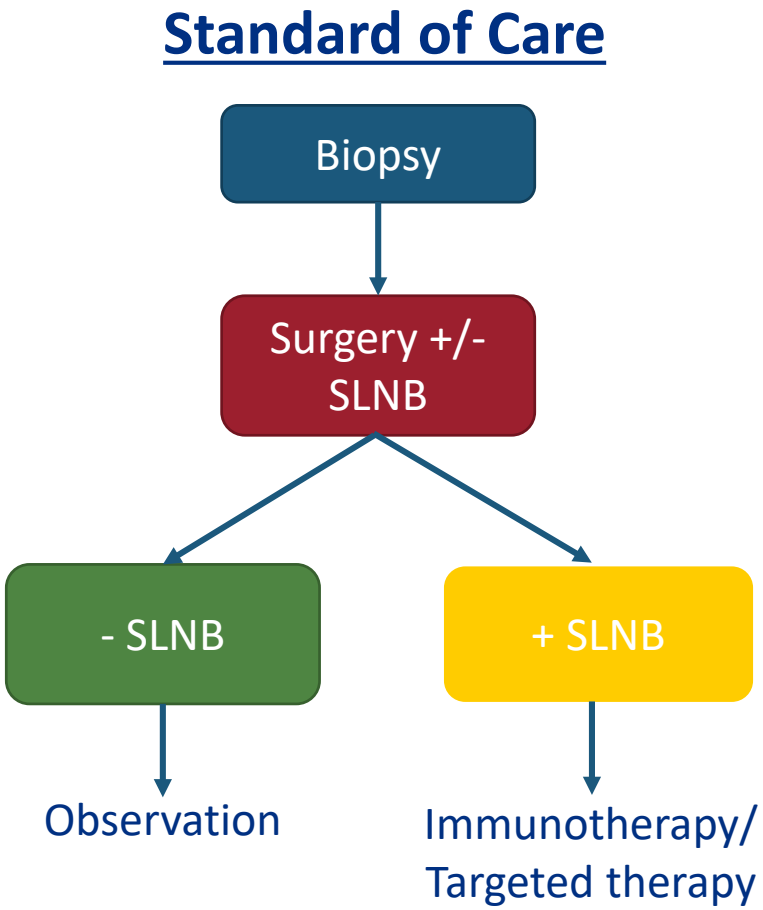
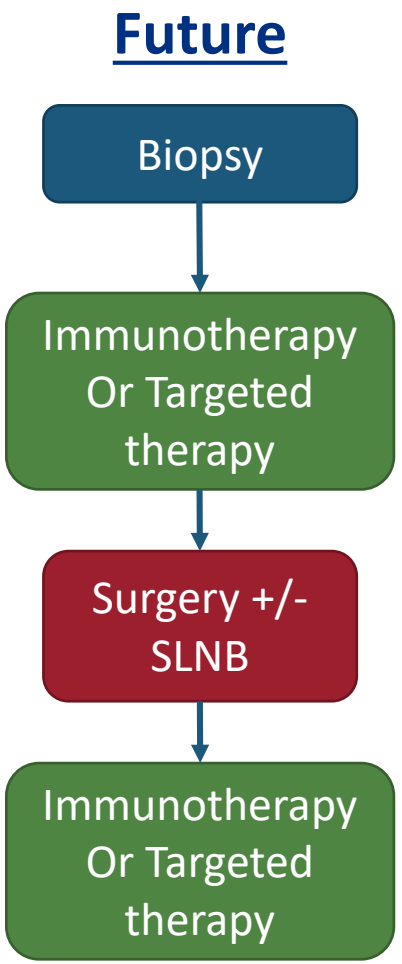
Future Directions For Early Stage Disease





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Surgical management of melanoma: What it's all about…

- Safer surgery
- More precise surgery

- Overall goal: More effective treatments=> IMPROVED OUTCOMES!

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Thank you

Questions? john.miura@pennmedicine.upenn.edu

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