# Cutaneous Malignant Melanoma Management Algorithm

Adapted from Australian Cancer Network (ACN) Melanoma Guidelines 2008 (currently under revision) and European Society for Medical Oncology (ESMO) updated guidelines 2016.

## DIAGNOSIS

Suspicious lesion:

**ABCDE**

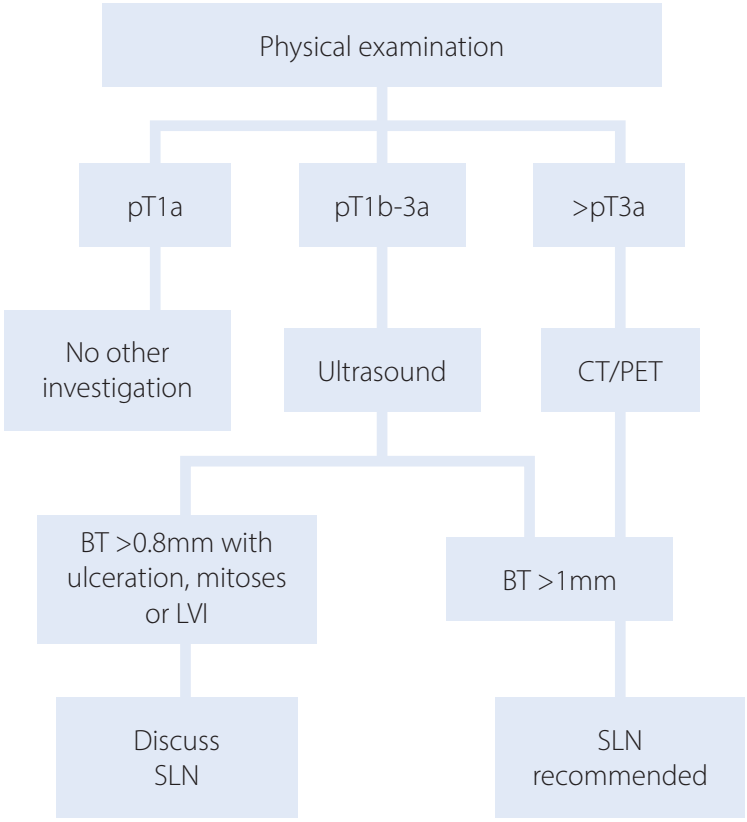
Excisional biopsy with narrow margins (1-3mm)

**Histological assessment**

- Subtype including absence or presence of any desmoplastic melanoma component
- Breslow thickness (BT)
- Clark level
- Dermal mitoses/mm2
- Ulceration and extent
- Intermediate/late regression including extent and clearance from margin
- Tumour-infiltrating lymphocytes (early regression)
- Microsatellites
- Perineural and lymphovascular invasion
- Histological clearance

## STAGING

(See overleaf for AJCC staging)




## FORMAL SURGICAL EXCISION MARGINS

**(cumulative margin measured clinically from the edge of the lesion, as per current ACN guidelines)**

| | |
|---|---|
| pTis/melanoma in situ: | 5 - 10mm* |
| pT1/ BT < 1.0mm: | 10mm |
| pT2/ BT 1.0-2.0mm**: | 10-20mm |
| pT3/ BT 2.0-4.0mm**: | 10-20mm |
| pT4/ BT > 4.0mm: | 20mm |

*Adapt according to subtype and histological margin status on excision biopsy. Lentigo maligna and lentiginous subtypes have a propensity to extend beyond the clinically detectable boundaries.

**The evidence for optimal margins for melanomas 2 to 4mm thick is unclear and the margins used should be selected based on site and surgeon/patient preference. In some sites, margins greater than 10mm may not be possible.

# AJCC Melanoma of the Skin Staging 8th Edition - Definitions

## Primary Tumour (T)

| | |
|---|---|
| **TX** | Primary tumour cannot be assessed (e.g. diagnosis by curettage) |
| **T0** | No evidence of primary tumour |
| **Tis** | Melanoma in situ |
| **T1** | Melanomas 1.0mm or less in thickness |
| **T2** | Melanomas 1.1 – 2.0mm |
| **T3** | Melanomas 2.1 – 4.0 mm |
| **T4** | Melanomas more than 4.0mm |

**NOTE:** a and b subcategories of T are assigned based ulceration and thickness as shown below:

| T Classification | Thickness (mm) | Ulceration Status |
|---|---|---|
| **T1** | ≤1.0 | a: Breslow <0.8mm w/o ulceration<br>b: Breslow 0.8 – 1.0mm w/o ulceration or ≤1.0mm w/ ulceration |
| **T2** | 1.01-2.0 | a: w/o ulceration<br>b: w/ ulceration |
| **T3** | 2.1 – 4.0 | |
| **T4** | >4.0 | |

## Regional Lymph Nodes (N)

| | |
|---|---|
| **NX** | Patients in whom the regional nodes cannot be assessed (for example, previously removed for another reason) |
| **N0** | No regional metastases detected |
| **N1-3** | Based on number of clinically detectable/occult[1] involved nodes and the presence/absence of NLM[2] |

**NOTE:** N1-3 and a-c subcategories assigned as shown below:

| N Classification | No of Nodes | Clinical detectability/ NLM status |
|---|---|---|
| **N1** | 1 or 0 with NLM | a: 1 clinically occult, no NLM<br>b: 1 clinically occult, no NLM<br>c: No nodal disease but NLM present |
| **N2** | 2 – 3 or 1 with NLM | a: 2-3 clinically occult nodes, no NLM<br>b: 2-3 nodes, at least 1 clinically detected, no NLM<br>c: 1 node, clinically detected or occult, NLM present |
| **N3** | >3 or >1 with NLM | a: >3 nodes, all clinically occult, no NLM<br>b: >3 nodes, >=1 clinically detected, or any number of matted nodes, no NLM<br>c: >1 node, clinically detected or occult, NLM present |

## Distant Metastasis (M)

| | |
|---|---|
| **M0** | No evidence of distant metastasis |
| **M1a** | Metastases to skin, soft tissue (including muscle) &/or non-regional nodes |
| **M1b** | Metastases to lung |
| **M1c** | Metastases to all other (non-CNS) visceral sites |
| **M1d** | Metastases to CNS |

**NOTE:** Serum LDH is incorporated into the M category as below:

| M Classification | Serum LDH |
|---|---|
| **M1a-d** | Not assessed |
| **M1a-d(0)** | Normal |
| **M1a-d(1)** | Elevated |

## Anatomic Stage/Prognostic Groups

| | Clinical Staging[3] | | | Pathologic Staging[4] | | | |
|---|---|---|---|---|---|---|---|
| Stage 0 | Tis | N0 | M0 | 0 | Tis | N0 | M0 |
| Stage IA | T1a | N0 | M0 | IA | T1a | N0 | M0 |
| Stage IB | T1b | N0 | M0 | IB | T1b | N0 | M0 |
| | T2a | N0 | M0 | | T2a | N0 | M0 |
| Stage IIA | T2b | N0 | M0 | IIA | T2b | N0 | M0 |
| | T3a | N0 | M0 | | T3a | N0 | M0 |
| Stage IIB | T3b | N0 | M0 | IIB | T3b | N0 | M0 |
| | T4a | N0 | M0 | | T4a | N0 | M0 |
| Stage IIC | T4b | N0 | M0 | IIC | T4b | N0 | M0 |
| Stage III | Any T | ≥N1 | M0 | IIIA | T1-2a | N1a | M0 |
| | | | | | T1-2a | N2a | M0 |
| | | | | IIIB | T0 | N1b-c | M0 |
| | | | | | T1-2a | N1b-c | M0 |
| | | | | | T1-2a | N2b | M0 |
| | | | | | T2b-3a | N1a-2b | M0 |
| | | | | IIIC | T0 | N2b-c | M0 |
| | | | | | T0 | N3b-c | M0 |
| | | | | | T1a-3a | N2c-3c | M0 |
| | | | | | T3b-4a | Any N | M0 |
| | | | | | T4b | N1a-2c | M0 |
| | - | - | - | IIID | T4b | N3a-c | M0 |
| Stage IV | Any T | Any N | M1 | IV | Any T | Any N | M1 |

1: Nodes are designated as 'clinically detectable' if they can be palpated on physical exam and metastatic melanoma is confirmed on biopsy/excision. Clinically occult nodes are detected only on SLN biopsy.
2: NLM = non-nodal locoregional metastasis.
3: Clinical staging includes micro staging of the primary melanoma and clinical/radiologic evaluation for metastases. By convention it should be used after complete excision of the primary melanoma with clinical assessment for regional and distant metastases.
4: Pathologic staging includes micro staging of the primary melanoma and pathologic information about the regional lymph nodes after partial or complete lymphadenectomy. Pathologic Stage 0 and 1 patients are the exceptions; they do not necessarily require pathologic evaluation of their lymph nodes. Physicians should 'discuss and consider' SLNB for patients with T1b Stage IA and Stage IB disease.



Specialist Diagnostic Services Pty Ltd (ABN 84 007 190 043) t/a QML Pathology PUB/MR/1023_V4_Mar20