**Appendix D TNM classification of tumours of the breast (UICC TNM 8)**

This update to Appendix D provides updated information on staging using UICC TNM 8, which should be used for all tumours diagnosed after 1 January 2018.

UICC TNM 8 is essentially unchanged from UICC TNM 7. Please note that it is recommended to use UICC TNM8 (not AJCC TNM8) as there are significant differences between the two staging systems.

**Primary tumour (T)**

Designation should be made with the subscript ‘c’ or ‘p’ modifier to indicate whether the T classification was determined by clinical (physical examination or radiological) or pathological measurements, respectively.

If the tumour size is slightly less than or greater than a cut-off for a given T classification, it is recommended that the size be rounded to the millimetre reading that is closest to the cut-off, e.g. size of 1.1 mm is reported as 1 mm, or a size of 2.01 cm is reported as 2.0 cm.

TX Primary tumour cannot be assessed

T0 No evidence of primary tumour

Tis Carcinoma in situ

Tis (DCIS) DCIS

Tis (LCIS) LCIS

Tis (Paget’s) Paget’s disease of the nipple NOT associated with invasive carcinoma and/or carcinoma in situ(DCIS and/or LCIS) in the underlying breast parenchyma

Carcinomas in the breast parenchyma associated with Paget’s disease are categorised based on the size and characteristics of the parenchymal disease, but presence of Paget’s disease should still be noted

T1 Tumour ≤20 mm in greatest dimension

T1mi Tumour ≤1 mm in greatest dimension

T1a Tumour >1 mm but ≤5 mm in greatest dimension

T1b Tumour >5 mm but ≤10 mm in greatest dimension

T1c Tumour >10 mm but ≤20 mm in greatest dimension

T2 Tumour >20 mm but ≤50 mm in greatest dimension

T3 Tumour >50 mm in greatest dimension

T4Tumour of any size with direct extension to the chest wall and/or to the skin (ulceration or skin nodules)(NB: Invasion of the dermis alone does not qualify as T4)

T4a Extension to the chest wall, not including only pectoralis muscle adherence/invasion

T4b Ulceration and/or ipsilateral satellite nodules and/or oedema (including peau d'orange) of the skin, which do not meet the criteria for inflammatory carcinoma

T4c Both T4a and T4b

T4d Inflammatory carcinoma

**Nodes (pN)**

Classification is based on axillary lymph node dissection with or without sentinel lymph node biopsy. Classification based solely on sentinel lymph node biopsy without subsequent axillary lymph node dissection is designated (SN) for ‘sentinel node,’ e.g. pN0(SN).

pNX Regional lymph nodes cannot be assessed (e.g. previously removed or not removed for histological assessment)

pN0No regional lymph node metastasis identified histologically

NB: ITCs are defined as small clusters of cells ≤0.2 mm, or single tumour cells, or a cluster of <200 cells in a single histologic cross section. ITCs may be detected by routine H&E or by IHC. Nodes containing only ITCs are excluded from the total positive node count for purposes of N classification but should be included in the total number of nodes evaluated.

pN0(i–) No regional lymph node metastases histologically, negative IHC

pN0(i+) Malignant cells in regional lymph node(s) ≤0.2 mm (detected by H&E or IHC including ITC)

pN0(mol–)No regional lymph node metastases histologically, negative molecular findings (RT-PCR)

pN0(mol+)Positive molecular findings (RT-PCR), but no regional lymph node metastases detected by histology or IHC

pN1Micrometastases OR

Metastases in 1–3 axillary lymph nodes AND/OR

Metastases in internal mammary nodes with metastases detected by sentinel lymph node biopsy but not clinically detected

pN1mi Micrometastases (>0.2 mm and/or >200 cells but none >2.0 mm)

pN1a Metastases in 1–3 axillary lymph nodes, **at least one** metastasis >2.0 mm

pN1b Metastases in internal mammary nodes with micrometastases or macrometastases detected by sentinel lymph node biopsy but not clinically detected

pN1c Metastases in 1–3 axillary lymph nodes **and** in internal mammary lymph nodes with micrometastases or macrometastases detected by sentinel lymph node biopsy but not clinically detected

pN2 Metastases in 4–9 axillary lymph nodes OR

  Metastases in clinically detected internal mammary lymph nodes in the **absence** of axillary lymph node metastases.

pN2a Metastases in 4–9 axillary lymph nodes (at least 1 deposit >2 mm)

pN2b Metastases in clinically detected internal mammary lymph nodes in the **absence** of axillary lymph node metastases

pN3 Metastases in ≥10 axillary lymph nodes OR

  Metastases in infraclavicular (level III axillary) lymph nodes OR

  Metastases in clinically detected ipsilateral internal mammary lymph nodes in the **presence** of one or more positive level I, II axillary lymph nodes OR

  Metastases in >3 axillary lymph nodes **and** in internal mammary lymph nodes with micrometastases or macrometastases detected by sentinel lymph node biopsy but not clinically detected OR

Metastases in ipsilateral supraclavicular lymph nodes

pN3a Metastases in ≥10 axillary lymph nodes (at least 1 tumour deposit >2.0 mm) OR

  Metastases in the infraclavicular (level III axillary lymph) nodes

pN3b Metastases in clinically detected ipsilateral internal mammary lymph nodes in the **presence** of one or more positive axillary lymph nodes OR

  Metastases in >3 axillary lymph nodes and in internal mammary lymph nodes with micrometastases or macrometastases detected by sentinel lymph node biopsy but not clinically detected

pN3c Metastases in ipsilateral supraclavicular lymph nodes

**Post-treatment ypN classification**

Post-treatment yp ‘N’ should be evaluated as for clinical (pre-treatment) ‘N’ methods above. The modifier ‘SN’ is used only if a sentinel node evaluation was performed after treatment. If no subscript is attached, it is assumed that the axillary nodal evaluation was by ALND.

The X classification should be used (ypNX) if no yp post-treatment SN or ALND was performed.

N categories are the same as those used for pN.

**Distant metastases (M)**

This is generally not assessable by the pathologist and cannot therefore be included on surgical specimen histology reports.

M0 No clinical or radiological evidence of distant metastases

cM0(i+) No clinical or radiological evidence of distant metastases, but deposits of molecularly or microscopically detected tumour cells in circulating blood, bone marrow, or other non-regional nodal tissue that are ≤0.2 mm in a patient without symptoms or signs of metastases

M1 Distant detectable metastases as determined by classic clinical and radiographic means and/or histologically proven >0.2 mm

**Post-treatment ypM classification**

The M category for patients treated with neoadjuvant therapy is the category assigned in the clinical stage, prior to initiation of neoadjuvant therapy. Identification of distant metastases after the start of therapy in cases where pre-therapy evaluation showed no metastases is considered progression of disease. If a patient was designated to have detectable distant metastases (M1) before chemotherapy, the patient will be designated as M1 throughout.

**Helpful rules of thumb for TNM stage**

In the case of multiple simultaneous tumours in one organ, the tumour with the highest T category should be classified and the multiplicity or the number of tumours should be indicated in parentheses, e.g. T2(m) or T2(5). In simultaneous bilateral cancers of paired organs, each tumour should be classified independently.

If there is doubt concerning the correct T, N or M category to which a particular case should be allotted, then the lower (i.e. less advanced) category should be chosen. This will also be reflected in the stage grouping.

**Anatomic stage/prognostic groups**

\*T0 and T1 tumours with nodal micrometastases only are excluded from Stage IIA and are classified Stage IB.

* M0 includes M0(i+)
* The designation pM0 is not valid; any M0 should be clinical
* If a patient presents with M1 prior to neoadjuvant systemic therapy, the stage is considered Stage IV and remains Stage IV regardless of response to neoadjuvant therapy
* Post-neoadjuvant therapy is designated with ‘yc’ or ‘yp’ prefix.

Of note, no stage group is assigned if there is a complete pathological response (pCR) to neoadjuvant therapy, e.g. ypT0ypN0cM0.

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| --- | --- | --- | --- |
| **Stage**  | **T**  | **N**  | **M**  |
| 0 | Tis | N0 | M0 |
| IA | T1 *(includes T1mi)* | N0 | M0 |
| IB  | T0 | N1mi | M0 |
| T1 *(includes T1mi)* | N1mi | M0 |
| IIA   | T0 | N1*\** | M0 |
| T1*(includes T1mi)* | N1*\** | M0 |
| T2 | N0 | M0 |
| IIB  | T2 | N1 | M0 |
| T3 | N0 | M0 |
| IIIA     | T0 | N2 | M0 |
| T1*(includes T1mi)* | N2 | M0 |
| T2 | N2 | M0 |
| T3 | N1 | M0 |
| T3 | N2 | M0 |
| IIIB   | T4 | N0 | M0 |
| T4 | N1 | M0 |
| T4 | N2 | M0 |
| IIIC | Any T | N3 | M0 |
| IV | Any T | Any N | M1 |

**Reference**

1. Breast. *In*: Brierley JD, Gospodarowicz MK, Wittekind C (eds.). *TNM Classification of Malignant Tumours (8th edition).* Oxford, UK: Wiley-Blackwell, 2017.