#### The American Joint Committee on Cancer (AJCC) staging system

#### Primary tumor (T)

- TX: Primary tumor cannot be assessed
- T0: No evidence of primary tumor
- Tis: Intraductal carcinoma, lobular carcinoma in situ, or Paget disease of the nipple with no associated invasion of normal breast tissue
  - Tis (DCIS): Ductal carcinoma in situ
  - Tis (LCIS): Lobular carcinoma in situ
  - Tis (Paget): Paget disease of the nipple with no tumor. [Note: Paget disease associated with a tumor is classified according to the size of the tumor.]
- T1: Tumor not larger than 2.0 cm in greatest dimension
  - T1mic: Microinvasion not larger than 0.1 cm in greatest dimension
  - T1a: Tumor larger than 0.1 cm but not larger than 0.5 cm in greatest dimension
  - T1b: Tumor larger than 0.5 cm but not larger than 1.0 cm in greatest dimension
  - T1c: Tumor larger than 1.0 cm but not larger than 2.0 cm in greatest dimension
- T2: Tumor larger than 2.0 cm but not larger than 5.0 cm in greatest dimension
- T3: Tumor larger than 5.0 cm in greatest dimension
- T4: Tumor of any size with direct extension to (a) chest wall or (b) skin, only as described below
  - T4a: Extension to chest wall, not including pectoralis muscle
  - T4b: Edema (including peau d'orange) or ulceration of the skin of the breast, or satellite skin nodules confined to the same breast
  - T4c: Both T4a and T4b
  - T4d: Inflammatory carcinoma

#### Regional lymph nodes (N)

- NX: Regional lymph nodes cannot be assessed (e.g., previously removed)
- No: No regional lymph node metastasis
- N1: Metastasis to movable ipsilateral axillary lymph node(s)
- N2: Metastasis to ipsilateral axillary lymph node(s) fixed or matted, or in clinically apparent\*
  ipsilateral internal mammary nodes in the absence of clinically evident lymph node metastasis
  - N2a: Metastasis in ipsilateral axillary lymph nodes fixed to one another (matted) or to other structures
  - N2b: Metastasis only in clinically apparent\* ipsilateral internal mammary nodes and in the absence of clinically evident axillary lymph node metastasis
- N3: Metastasis in ipsilateral infraclavicular lymph node(s) with or without axillary lymph node
  involvement, or in clinically apparent\* ipsilateral internal mammary lymph node(s) and in the presence
  of clinically evident axillary lymph node metastasis; or, metastasis in ipsilateral supraclavicular lymph
  node(s) with or without axillary or internal mammary lymph node involvement
  - N3a: Metastasis in ipsilateral infraclavicular lymph node(s)
  - N3b: Metastasis in ipsilateral internal mammary lymph node(s) and axillary lymph node(s)
  - N3c: Metastasis in ipsilateral supraclavicular lymph node(s)

#### Pathologic classification (pN)\*

 pNX: Regional lymph nodes cannot be assessed (e.g., not removed for pathologic study or previously removed)

<sup>\* [</sup>Note: Clinically apparent is defined as detected by imaging studies (excluding lymphoscintigraphy) or by clinical examination or grossly visible pathologically.]

 pN0: No regional lymph node metastasis histologically, and no additional examination for isolated tumor cells (ITC)

[Note: ITCs are defined as single tumor cells or small cell clusters not larger than 0.2 mm, usually detected only by immunohistochemical (IHC) or molecular methods but that may be verified on hematoloxylin & eosin (H&E) stains. ITCs do not usually show evidence of malignant activity, e.g., proliferation or stromal reaction.]

- pN0(i-): No regional lymph node metastasis histologically, negative IHC
- pN0(i+): No regional lymph node metastasis histologically, positive IHC, and no IHC cluster larger than 0.2 mm
- pN0(mol-): No regional lymph node metastasis histologically, and negative molecular findings (RT-PCR)\*\*
- pN0(mol+): No regionally lymph node metastasis histologically, and positive molecular findings (RT-PCR)\*\*
  - \* [Note: Classification is based on axillary lymph node dissection with or without sentinel lymph node (SLN) dissection. Classification based solely on SLN dissection without subsequent axillary lymph node dissection is designated (sn) for sentinel node, e.g., pN0(I+) (sn).]
  - \*\* [Note: RT-PCR: reverse transcriptase-polymerase chain reaction.]
- pN1: Metastasis in one to three axillary lymph nodes, and/or in internal mammary nodes with microscopic disease detected by SLN dissection but not clinically apparent\*\*
  - pN1mi: Micrometastasis (larger than 0.2 mm but not larger than 2.0 mm)
  - pN1a: Metastasis in one to three axillary lymph nodes
  - pN1b: Metastasis in internal mammary nodes with microscopic disease detected by SLN dissection but not clinically apparent\*\*
  - pN1c: Metastasis in one to three axillary lymph nodes and in internal mammary lymph nodes with microscopic disease detected by SLN dissection but not clinically apparent\*\* (If associated with more than three positive axillary lymph nodes, the internal mammary nodes are classified as pN3b to reflect increased tumor burden.)
- pN2: Metastasis in four to nine axillary lymph nodes, or in clinically apparent \*\* internal mammary lymph nodes in the absence of axillary lymph node metastasis to ipsilateral axillary lymph node(s) fixed to each other or to other structures
  - pN2a: Metastasis in four to nine axillary lymph nodes (at least one tumor deposit larger than 2.0 mm)
  - pN2b: Metastasis in clinically apparent\* internal mammary lymph nodes in the absence of axillary lymph node metastasis
- pN3: Metastasis in ten or more axillary lymph nodes, or in infraclavicular lymph nodes, or in clinically apparent\* ipsilateral internal mammary lymph node(s) in the *presence* of one or more positive axillary lymph node(s); or, in more than three axillary lymph nodes with clinically negative microscopic metastasis in internal mammary lymph nodes; or, in ipsilateral supraclavicular lymph nodes
  - pN3a: Metastasis in ten or more axillary lymph nodes (at least one tumor deposit larger than 2.0 mm); or, metastasis to the infraclavicular lymph nodes
  - pN3b: Metastasis in clinically apparent\* ipsilateral internal mammary lymph nodes in the
    presence of one or more positive axillary lymph node(s); or, in more than three axillary lymph
    nodes and in internal mammary lymph nodes with microscopic disease detected by sentinel
    lymph node dissection but not clinically apparent\*\*
  - pN3c: Metastasis in ipsilateral supraclavicular lymph nodes
- \* [Note: Clinically apparent is defined as detected by imaging studies (excluding lymphoscintigraphy) or by clinical examination.]
- \*\* [Note: Not clinically apparent is defined as not detected by imaging studies (excluding lymphoscintigraphy) or by clinical examination.]

# Distant metastasis (M)

- MX: Presence of distant metastasis cannot be assessed
- M0: No distant metastasis
- M1: Distant metastasis

# **AJCC Stage Groupings**

# Stage 0

• Tis, N0, M0

# Stage I

T1\*, N0, M0

# Stage IIA

- T0, N1, M0
- T1\*, N1, M0
- T2, N0, M0

# Stage IIB

- T2, N1, M0
- T3, N0, M0

# Stage IIIA

- T0, N2, M0
- T1\*, N2, M0
- T2, N2, M0
- T3, N1, M0
- T3, N2, M0

# Stage IIIB

- T4, N0, M0
- T4, N1, M0
- T4, N2, M0

# Stage IIIC\*\*

Any T, N3, M0

# Stage IV

Any T, Any N, M1

<sup>\* [</sup>Note: T1 includes T1mic.]

#### References

- 1. Breast. In: American Joint Committee on Cancer.: AJCC Cancer Staging Manual. 6th ed. New York, NY: Springer, 2002, pp 171-180.
- 2. Singletary SE, Allred C, Ashley P, et al.: Revision of the American Joint Committee on Cancer staging system for breast cancer. J Clin Oncol 20 (17): 3628-36, 2002.
- 3. Woodward WA, Strom EA, Tucker SL, et al.: Changes in the 2003 American Joint Committee on Cancer staging for breast cancer dramatically affect stage-specific survival. J Clin Oncol 21 (17): 3244-8, 2003.