Invasive Breast Cancer Histopathology Reporting Proforma

Mandatory questions (i.e. protocol standards) are in bold (e.g. **S1.01**).

S1.01 Identification

Family name

Given name(s)

Date of birth

DD – MM – YYYY

Sex

- ☐ Male
- ☐ Female
- ☐ Intersex/indeterminate

Ethnicity

- ☐ Unknown
- ☐ Aboriginal/Torres Strait Islander
- ☐ Other ethnicity:

Patient identifiers
e.g. MRN, IHI or NHI (please indicate which)

Date of request

DD – MM – YYYY

S1.03 Accession number

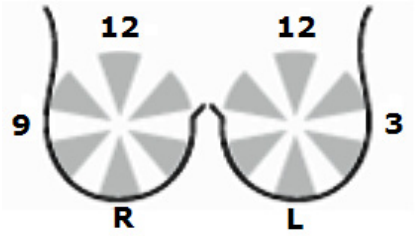
Requesting doctor - name and contact details

S1.02 Clinical details

Specimen type (select all that apply)

- ☐ diagnostic open biopsy
- ☐ wide local excision (partial mastectomy, quadrantectomy or segmentectomy)
- ☐ re-excision
- ☐ mastectomy
- ☐ mastectomy post neoadjuvant therapy
- ☐ lymph node biopsy - non-sentinel
- ☐ axillary sample
- ☐ axillary clearance
- ☐ lymph node biopsy - sentinel

Tumour site and laterality



Method of localisation

- ☐ Carbon track
- ☐ Hook wire

New primary cancer or recurrence

- ☐ New primary
- ☐ Regional (local) recurrence
- ☐ Distant metastases

Sentinel nodes

Location:

Number: Colour:

Radioactive count:

Location:

Number: Colour:

Radioactive count:

S1.04 Principal clinician

G1.01 Record other relevant information

Macroscopic findings

S2.01 Number of specimens submitted

S2.02 Specimen laterality

- ☐ Right
- ☐ Left

S2.03 Specimen type

- diagnostic open biopsy ☐
- wide local excision (partial mastectomy, quadrantectomy or segmentectomy) ☐
- re-excision ☐
- mastectomy ☐
- mastectomy post neoadjuvant therapy ☐
- other ☐

Lymph tissue (select all that apply)

- Not submitted ☐
- Lymph node biopsy - sentinel ☐
- Lymph node biopsy - non-sentinel ☐
- Axillary sample ☐
- Axillary clearance ☐

Intraoperative consultation

- Not performed ☐
- Performed ☐

Type (select all that apply)

- frozen section imprint ☐
- cytology ☐
- gross examination for margin assessment ☐
- other ☐

S2.04 Specimen orientation

- Not oriented ☐
- Oriented ☐

Markers and locations:

S2.05 Method of localisation

- Carbon track ☐
- Hook wire ☐
- N/A ☐

S2.06 Specimen size

length mm x width mm x thickness mm

If oriented use the following 3 measures:

Medial-lateral length

mm

Superficial-deep length

mm

Superior-inferior length

mm

S2.07 Specimen weight

g

S2.08 Macroscopically visible tumours?

- Absent ☐
- Present ☐

Number of foci:

S2.09 GROSS DESCRIPTION OF TUMOUR(S)

Complete for EACH tumour identified above.

Tumour 1

Nature of tumour

Tumour size

length mm x width mm x thickness mm

Distance to nearest separate tumour foci

mm

Minimum macroscopic margin clearance from any tumour deposit

mm From which margin?

Tumour 2

Nature of tumour

Tumour 2 (cont.)

Tumour size

length mm x width mm x thickness mm

Distance to nearest separate tumour foci

mm

Minimum macroscopic margin clearance from any tumour deposit

mm From which margin? ▼

Tumour 3

Nature of tumour

Tumour size

length mm x width mm x thickness mm

Distance to nearest separate tumour foci

mm

Minimum macroscopic margin clearance from any tumour deposit

mm From which margin? ▼

S2.10 Skin

Absent ☐
Present ☐ ▼

Skin dimensions

length mm x width mm

Skin abnormalities

Absent ☐ or choose all that apply:

Ulceration ☐
Paget disease ☐
Satellite nodules ☐
Other ☐ ▼

S2.11 Muscle

Absent ☐
Present ☐

S2.12 SENTINEL NODES

NODE 1

Site

Axilla ☐
Internal mammary chain ☐

Radioactive count

Uptake of dye

No ☐
Yes - Blue ☐

Size

length mm x width mm x thickness mm

NODE 2

Site

Axilla ☐
Internal mammary chain ☐

Radioactive count

Uptake of dye

No ☐
Yes - Blue ☐

Size

length mm x width mm x thickness mm

NODE 3

Site

Axilla ☐
Internal mammary chain ☐

Radioactive count

Uptake of dye

No ☐
Yes - Blue ☐

Size

length mm x width mm x thickness mm

NON - SENTINEL NODES/TISSUE

Total number of nodes

Size range

mm to mm

NON - SENTINEL NODES/TISSUE (Cont)

Description

S2.13 Block identification key

G2.01 Other macroscopic comment

Microscopic findings

S3.01 Multiple tumours?

Absent ☐
Present ☐

Quadrants involved

Total no. of tumour deposits

If >2 record the following..

Max. span of multifocal tumour bed involved

length mm x width mm

For EACH tumour identified above complete S3.02-S3.04 and consider recording G3.01

Tumour 1

S3.02 MAXIMUM INVASIVE TUMOUR SIZE

Whole tumour size mm

Maximum size of invasive tumour mm

G3.01 Other invasive tumour dimensions

length mm x width mm

S3.03 HISTOLOGIC GRADE INVASIVE CARCINOMA

Score for nuclear grade

- ☐ Score 1: Size equivalent to normal breast epithelial cells, regular outlines, uniform chromatin; inconspicuous nucleoli, little size variation
- ☐ Score 2: Larger nuclei, open vesicular chromatin; visible nucleoli, moderate variability is size and shape
- ☐ Score 3: Vesicular nuclei; often with prominent nucleoli; exhibiting marked variation in size and shape, occasionally very large and bizarre forms

Score for tubule differentiation

- ☐ Score 1: >75% of invasive carcinoma forming tubular or glandular structures
- ☐ Score 2: 10–75% of invasive carcinoma forming tubular or glandular structures
- ☐ Score 3: <10% of invasive carcinoma forming tubular or glandular structures
- ☐ Not assessable*

* microinvasion only (each focus ≤ 1mm)

Score for mitotic rate

[ ] which is a score of [ ]

Number of mitoses per 10 HPF

OR ☐ Not assessable**

** microinvasion only (each focus ≤ 1mm)

Total Score

- ☐ Grade 1 - Total score of 3–5
- ☐ Grade 2 - Total score of 6 or 7
- ☐ Grade 3 - Total score of 8 or 9
- ☐ Not assessable*

* microinvasion only (each focus ≤ 1mm)

S3.04 Invasive carcinoma subtype

- ☐ Invasive carcinoma of No Special Type (Ductal)
  - ☐ Pleomorphic carcinoma
  - ☐ Carcinoma with osteoclast like stromal giant cells
  - ☐ Carcinoma with choriocarcinomatous features
  - ☐ Carcinoma with melanotic features
- ☐ Invasive lobular carcinoma
  - ☐ Classical ☐ Tubulolobular
  - ☐ Alveolar ☐ Solid
  - ☐ Pleomorphic ☐ Mixed
  - ☐ Others – signet ring, histiocytoid, etc
- ☐ Tubular carcinoma
- ☐ Cribriform carcinoma
- ☐ Mucinous carcinoma
- ☐ Carcinoma with medullary features
  - ☐ Medullary ☐ Atypical medullary
  - ☐ Inv. carcinoma NST (ductal) with medullary features
- ☐ Carcinoma with apocrine differentiation
- ☐ Carcinoma with signet ring cell differentiation
- ☐ Invasive micropapillary carcinoma
- ☐ Metaplastic carcinoma
  - ☐ Low grade adenosquamous carcinoma
  - ☐ Fibromatosis-like metaplastic carcinoma
  - ☐ Squamous cell carcinoma
  - ☐ Spindle cell carcinoma
  - ☐ Metaplastic carcinoma with mesenchymal differentiation
    - ☐ Chondroid differentiation
    - ☐ Osseous differentiation
    - ☐ Other types of mesenchymal diff.
  - ☐ Mixed metaplastic carcinoma
  - ☐ Myoepithelial carcinoma

Rare Types of Invasive Cancer:

- ☐ Carcinomas with Neuroendocrine features
  - ☐ Neuroendocrine tumour, well differentiated
  - ☐ Neuroendocrine tumour, poorly differentiated (small cell carcinoma)
  - ☐ Carcinoma with neuroendocrine differentiat'n
- ☐ Secretory carcinoma
- ☐ Invasive papillary carcinoma
- ☐ Acinic cell carcinoma
- ☐ Mucoepidermoid carcinoma
- ☐ Polymorphous carcinoma
- ☐ Oncocytic carcinoma
- ☐ Lipid rich carcinoma
- ☐ Glycogen rich/Clear cell carcinoma
- ☐ Sebaceous carcinoma
- ☐ Salivary gland/skin adnexal type tumours
- ☐ Adenoid cystic carcinoma
- ☐ Adenomyoepithelioma with carcinoma

Tumour 2

S3.02 MAXIMUM INVASIVE TUMOUR SIZE

Whole tumour size [ ] mm

Maximum size of invasive tumour [ ] mm

G3.01 Other invasive tumour dimensions

[ ] mm x [ ] mm

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Tumour 2 (cont.)

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- ☐ Oncocytic carcinoma
- ☐ Lipid rich carcinoma
- ☐ Glycogen rich/Clear cell carcinoma
- ☐ Sebaceous carcinoma
- ☐ Salivary gland/skin adnexal type tumours
- ☐ Adenoid cystic carcinoma
- ☐ Adenomyoepithelioma with carcinoma

Tumour 3

S3.02 MAXIMUM INVASIVE TUMOUR SIZE

Whole tumour size _____ mm

Maximum size of invasive tumour _____ mm

G3.01 Other invasive tumour dimensions

length _____ mm x width _____ mm

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  - ☐ Medullary ☐ Atypical medullary
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- ☐ Carcinoma with signet ring cell differentiation
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Tumour 3 (cont.)

S3.04 Invasive carcinoma subtype

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  - ☐ Fibromatosis-like metaplastic carcinoma
  - ☐ Squamous cell carcinoma
  - ☐ Spindle cell carcinoma
  - ☐ Metaplastic carcinoma with mesenchymal differentiation
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- ☐ Oncocytic carcinoma
- ☐ Lipid rich carcinoma
- ☐ Glycogen rich/Clear cell carcinoma
- ☐ Sebaceous carcinoma
- ☐ Salivary gland/skin adnexal type tumours
- ☐ Adenoid cystic carcinoma
- ☐ Adenomyoepithelioma with carcinoma

S3.05 Peritumoural lymphovascular invasion

Not identified ☐
Present ☐
Suspicious ☐
Block ____

S3.06 Skin

- ☐ Not involved
- ☐ Paget disease of the nipple (DCIS extending to skin contiguous with lactiferous sinuses)
- ☐ Invasive carcinoma involving dermis or epidermis without ulceration
- ☐ Invasive carcinoma involving dermis or epidermis with ulceration
- ☐ Ipsilateral satellite skin nodules, ie dermal deposits of invasive carcinoma, separate from the main tumour

S3.07 Muscle

Not involved ☐
Involved ☐

S3.08 Treatment effect (after neoadjuvant hormonal or chemotherapy)

- ☐ No definite response to pre-surgical therapy in the invasive carcinoma
- ☐ Partial response to pre-surgical therapy in the invasive carcinoma, residual carcinoma identified.
- ☐ Complete pathologic response in breast and lymph nodes: No residual invasive carcinoma is present in the breast or lymph nodes after pre-surgical therapy
- ☐ Not applicable

Estimate of overall level of cellularity for invasive cancer ____ %

Specify neoadjuvant response classification system used

Result of treatment

S3.09 DCIS

- ☐ Absent
- ☐ Present only in conjunction with invasive carcinoma
- ☐ Present only as pure DCIS
- ☐ Present as both pure DCIS and in conjunction with invasive carcinoma

S3.10 Max extent of breast involved by DCIS

____ mm

S3.11 Maximum dimension pure DCIS

____ mm

S3.12 Highest nuclear grade of DCIS

- ☐ Low
- ☐ Intermediate
- ☐ High

G3.02 Nuclear grade heterogeneity of DCIS

- ☐ Absent
- ☐ Present

Next most prevalent grade

- ☐ Low
- ☐ Intermediate
- ☐ High

S3.13 Necrosis in DCIS

- ☐ Absent
- ☐ Present

S3.14 Architecture of DCIS (select all that apply)

- ☐ comedo
- ☐ solid
- ☐ cribriform
- ☐ micropapillary
- ☐ apocrine
- ☐ papillary
- ☐ other

S3.15 Microcalcification

- ☐ Absent
- ☐ Present ▶ Choose all that apply:
  - ☐ in DCIS
  - ☐ in benign tissue
  - ☐ in invasive cancer

Lesion(s) with microcalcification

Associated with necrosis?

- ☐ No
- ☐ Yes

Size and extent of microcalcification (if required)

S3.16 Paget disease

- ☐ Absent
- ☐ Present

S3.17 Margin involvement by invasive carcinoma or DCIS

- ☐ Margins not involved

Margin 1

Clearance mm OR ☐ >10mm

and if DCIS is closer to the margin ..

mm to DCIS

Margin 2

Clearance mm OR ☐ >10mm

and if DCIS is closer to the margin ....

mm to DCIS

Margin 3

Clearance mm OR ☐ >10mm

and if DCIS is closer to the margin ....

mm to DCIS

- ☐ Margins involved

Margin 1

Type of involvement

- ☐ DCIS
- ☐ Invasive carcinoma
- ☐ DCIS and invasive carcinoma

Orientation of margin

Extent of involvement

mm OR ☐ Focal

Margin 2

Type of involvement

- ☐ DCIS
- ☐ Invasive carcinoma
- ☐ DCIS and invasive carcinoma

Orientation of margin

Extent of involvement

mm OR ☐ Focal

Margin 3

Type of involvement

- ☐ DCIS
- ☐ Invasive carcinoma
- ☐ DCIS and invasive carcinoma

Orientation of margin

Extent of involvement

mm OR ☐ Focal

S3.18 Lobular neoplasia

- ☐ Absent
- ☐ Present

Type

- ☐ Classical
- ☐ Variant (pleomorphic, signet ring)

Extent

- ☐ Focal
- ☐ Extensive

G3.03 LCIS at the margin (select all that apply)

- ☐ LCIS with comedo necrosis present
- ☐ Pleomorphic LCIS present

S3.19 Associated breast changes

- ☐ atypical ductal hyperplasia
- ☐ flat epithelial atypia
- ☐ lobular neoplasia (ALH/ LCIS)
- ☐ radial scars
- ☐ sclerosing adenosis
- ☐ fibrocystic change
- ☐ other breast changes (eg calcification)

LYMPH NODES

S3.20 SENTINEL NODES

Total number of sentinel nodes	
No.of sentinel nodes with macrometastases	
No. of sentinel nodes with micrometastases	
No. of sentinel nodes with isolated tumour cells	

S3.21 NON-SENTINEL NODES

Total number of non-sentinel nodes	
Number of non-sentinel nodes with metastases	

S3.22 Extranodal spread

- ☐ Absent
- ☐ Present

S3.23 Treatment effect in LN

- ☐ nodes negative, no treatment effect
- ☐ nodes negative, with treatment effect
- ☐ nodes positive, with treatment effect
- ☐ nodes positive, no treatment effect
- ☐ Not applicable

G3.04 Other microscopic comments

Ancillary test findings

S4.01 Oestrogen receptors

- ☐ Not performed ☐ Pending
- ☐ Performed

Percentage of nuclei staining

% to %

Predominant staining intensity

- ☐ 1+ Low
- ☐ 2+ Intermediate
- ☐ 3+ High

ER result

- ☐ Negative
- ☐ Positive

Progesterone receptors

- ☐ Not performed ☐ Pending
- ☐ Performed

Percentage of nuclei staining

% to %

Predominant staining intensity

- ☐ 1+ Low
- ☐ 2+ Intermediate
- ☐ 3+ High

ER result

- ☐ Negative
- ☐ Positive

S4.03 HER2 (ISH)

- ☐ Not performed ☐ Pending
- ☐ Performed

Number of copies of HER2

Number of copies of CEP17

☐ Not assessed OR

HER2 Result

- ☐ Amplified
- ☐ Non-amplified diploid
- ☐ Non-amplified polysomic
- ☐ Indeterminate

HER2 IHC (if performed)

- ☐ 0
- ☐ 1+
- ☐ 2+
- ☐ 3+
- ☐ Not performed

Synthesis and overview

S5.01 AJCC Tumour staging
(See opposite and next page)

AJCC Tumour staging grouping
(see next page)

S5.02 Year and edition of staging system

G5.01 Diagnostic comment
Include: Specimen type and laterality; Histological grade Maximum tumour size; Margin status; Lymph node status; Lymphovascular invasion

S5.03 Overarching comment

S5.01 Tumour stage and group#

TNM descriptors (Only if applicable; select all that apply)

m- multiple foci of invasive carcinoma

r - recurrent

y - post treatment

Primary Tumour (Invasive Ca) (pT)

TX	Primary tumour cannot be assessed
T0	No evidence of primary tumour
Tis (DCIS)	Ductal carcinoma in situ
Tis (LCIS)	Lobular carcinoma in situ
Tis (Paget's)	Paget 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 categorized based on size and characteristics of the parenchymal disease, although the 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
T4	Tumour of any size with direct extension to the chest wall and/or to the skin (ulceration or skin nodules) Note: Invasion of the dermis alone does not qualify as pT4
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 criteria for inflammatory carcinoma
T4c	Both T4a and T4b
T4d	Inflammatory carcinoma

Regional Lymph Nodes (pN)*

*Note: 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" for example, pN0(sn)

pNX	Regional lymph nodes cannot be assessed (eg previously removed, or not removed for pathologic study)
pN0	No regional lymph node metastasis identified histologically. Note: isolated tumour cell clusters (ITC) are defined as small clusters of cells not greater than 0.2mm, or single tumour cells, or a cluster of fewer than 200 cells in a single histologic cross-section. ITCs may be detected by routine histology or by immunohistochemical (IHC) methods. 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) no greater than 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

Regional Lymph Nodes (pN)* (cont.)

pN1	Micrometastases; or metastases in 1-3 axillary lymph nodes; and/or in internal mammary nodes with metastases detected by sentinel lymph node biopsy but not clinically detected.***
pN1mi	Micrometastases (greater than 0.2 mm and/or more than 200 cells, but none greater than 2.0 mm)
pN1a	Metastases in 1-3 axillary lymph nodes, at least 1 metastasis greater than 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 clinically detected**** internal mammary lymph nodes in the absence of axillary lymph node metastases
pN2a	Metastases in 4-9 axillary lymph nodes (at least one tumour deposit greater than 2.0 mm)
pN2b	Metastases in clinically detected**** internal mammary lymph nodes in the absence of axillary lymph node metastases
pN3	Metastases in ten or more axillary lymph nodes; or in infraclavicular (level III axillary) lymph nodes; or in clinically detected**** ipsilateral internal mammary lymph nodes in the presence of one or more positive level I, II axillary lymph nodes; or in more than three axillary lymph nodes and in internal mammary lymph nodes with micrometastases or macrometastases detected by sentinel lymph node biopsy but not clinically detected***; or in ipsilateral supraclavicular lymph nodes
pN3a	Metastases in 10 or more axillary lymph nodes (at least one tumour deposit greater than 2.0 mm); or metastases to 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 in more than three 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

Notes:

**RT-PCR: reverse transcriptase/polymerase chain reaction

***'Not clinically detected' is defined as not detected by imaging studies (excluding lymphoscintigraphy) or not detected by clinical examination

****'Clinically detected' is defined as detected by imaging studies (excluding lymphoscintigraphy) or by clinical examination and having characteristics highly suspicious for malignancy or a presumed pathologic macrometastasis based on fine needle aspiration biopsy with cytologic examination.

Distant Metastasis (M)

M0	No clinical or radiographic evidence of distant metastases
cM0(i+)	No clinical or radiographic evidence of distant metastases, but deposits of molecularly or microscopically detected tumour cells in circulating blood, bone marrow, or other nonregional nodal tissue that are no larger than 0.2 mm in a patient without symptoms or signs of metastasis
M1	Distant detectable metastases as determined by classic clinical and radiographic means and/or histologically proven larger than 0.2 mm

Stage Grouping*

Stage	T	N	M
0	Tis	N0	M0
IA	T1*	N0	M0
IB	T0	N1mi	M0
	T1*	N1mi	M0
IIA	T0	N1†	MO
	T1*	N1†	M0
	T2	N0	M0
IIB	T2	N1	M0
	T3	N0	M0
IIIA	T0	N2	M0
	T1*	N2	M0
	T2	N2	M0
	T3	N1	M0
	T3	N2	M0
IIIB	T4	N0, N1, N2	M0
IIIC	Any T	N3	M0
IV	Any T	Any N	M1

*T1 includes T1mic

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

Notes:

- 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.
- Stage designation may be changed if postsurgical imaging studies reveal the presence of distant metastases, provided that the studies are carried out within 4 months of diagnosis in the absence of disease progression and provided that the patient has not received neoadjuvant therapy.
- Post-neoadjuvant therapy is designated with "yc" or "yp" prefi x. No stage group is assigned if there is a complete pathologic response (CR) to neoadjuvant therapy, for example, ypT0ypN0cM0.