A guide to Colorectal Cancer Histopathology Reporting

Includes the ICCR International Collaboration on Cancer reporting dataset denoted by *

Clinical details

S1.02	**Clinical info. on request form** (complete as narrative or use the structured format below)	Text
	*Known polyposis syndrome	See p2
	*Lynch syndrome	Text
	*Chronic inflammatory bowel disease	Ulcerative colitis Crohn disease
	*Previous polyp(s)	Text
	*Previous colorectal cancer	Text
	*Other	Text
	***Neoadjuvant therapy**	Info not provided Not administered Administered, *describe*
G1.01	Copy to doctor	Text
S1.03	**Pathology accession number**	Text
S1.04	**Principal clinician**	Text
G1.02	Other clinical information	Text

Macroscopic findings

S2.01	**Specimen labelled as**	Text
S2.02	**Clinical information**	
S2.03	***Operative procedure**	See p2
S2.04	**Specimen length**	__ mm
S2.05	***Tumour site**	See p2
S2.06	***Tumour dimensions** *Repeat tumour identification and maximum dimension for each tumour identified	Can't be assess'd, *specify* Tumour identification __mm max dimension (largest tumour)
	*Additional dimensions (largest tumour)	__mm x __mm
S2.07	**Distance of tumour to the nearer proximal or distal 'cut end'**	Can't be assess'd __ mm
S2.08	**Distance of tumour to the nonperitonealised circumferential margin**	Can't be assess'd __mm
S2.09	***Tumour perforation** (defined as a macroscopically visible full thickness defect in the wall)	See p2
S2.10	***Relation of tumour to anterior peritoneal reflection** (rectal cancer specimens only)	See p2
S2.11	***Plane of mesorectal excision** (rectal cancer specimens only)	See p2
G2.01	*Plane of sphincter excision (abdominoperineal excision specimens only)	See p2
G2.02	*Plane of mesocolic excision (colon cancer specimens only)	See p2
G2.03	Peritoneum	See p2
G2.04	Other macroscopic comment	Text

Microscopic findings

S3.01	***Histological tumour type**	See p2
S3.02	***Histologic tumour grade**	See p2
S3.03	***Extent of invasion**	See p2
G3.01	*Measurement of invasion beyond muscularis propria (for pT3 tumours) Dist. beyond muscularis propria	Can't be assess'd, OR __ mm
G3.02	Inflammatory cell infiltrate	Text
S3.04	***Lymphatic and venous invasion**	See p3
S3.05	***Perineural invasion**	Not identified Present
S3.06	***Lymph node (LN) status** **No. of LNs examined** **No. of positive LNs**	No nodes submitted of found OR __ Not involved Involved __
G3.03	Apical node involvement	Not applicable Absent Present
G3.04	Ratio of involved/total LNs	Involved LNs _ / total LNs _
S3.07	***Tumour deposits** ***Number of tumour deposits***	See p3 __
G3.05	*Tumour budding	See p3
S3.08	***Response to neoadjuvant therapy**	See p3
S3.09	***Margin status**	See p3
	Longitudinal margin status** ***Distance to closer margin ***Proximal or distal margin***	__mm __mm
	Circumferential margin status** ***Not involved - Dist. to nearest 1 mm or ≥10 mm ***Involved (≤1 mm) - specify 0 mm or dist. to nearest 0.1 mm***	See p3 __mm OR ≥10 mm __mm OR By primary tumour By other, *specify*
S3.10	***Distant metastases**	Not identified Present, *specify sites(s)*
G3.06	*Coexistent pathology	None identified OR Polyp(s), *specify* Synchronous carcinoma(s), *specify* Other, *specify*
S3.11	Microscopic residual tumour status (completeness of resection)	Text
G3.07	Additional microscopic comment	Text

Ancillary test findings		
G4.01	*Ancillary studies **MMR IHC**	See p3
G4.02	**BRAF* (V600E) mutation testing **MLH1 promoter methylation testing*	See p3
G4.03	*MMR status by microsatellite instability testing	See p3
G4.04	*RAS* gene mutation testing *(KRAS exons 2, 3 or 4, NRS exons 2, 3 or 4 or RAS mutation)*	See p3
	Comments	Text
	Laboratory performing test and report number	Text
G4.05	*Neuroendocrine neoplasm markers	Text
	Ki-67 (labelling index)	__ %
	Other	Text

Synthesis and overview		
S5.01	***PATHOLOGICAL STAGING**	See p3
S5.02	**Residual tumour status**	See p4
S5.03	**Year and edition of staging system**	Text
G5.01	Diagnostic summary Include: Specimen label; Tumour site; Histological tumour type; Margin status; Tumour stage.	Text
S5.04	**Overarching comment**	Text
G5.02	Edition/version of RCPA protocol	Text

S1.02 Clinical information

Text
OR
Information not provided

Known polyposis syndrome

(Select all that apply)

- Familial adenomatous polyposis (FAP)
- *MUTYH*-associated polyposis (MAP)
- Serrated polyposis
- Other, *specify*

S2.03 Operative procedure

Not specified

OR

Select all that apply:

- Total colectomy
- Proctocolectomy
- Right hemicolectomy
- Extended right hemicolectomy
- Transverse colectomy
- Left hemicolectomy
- Anterior resection *(specify if possible)*
  - o High
  - o Low/ultralow
- Abdominoperineal resection
- Other, *specify*

S2.06 Tumour site*

If multiple tumours are present, separate protocols should be used to record this and all following elements for each tumour.

- Not specified
- Caecum
- Ascending colon
- Hepatic flexure
- Transverse colon
- Splenic flexure
- Descending colon
- Sigmoid colon
- Rectosigmoid*
- Rectum
- Other, *specify*

**Note: Reserved for cases in which an accurate determination between rectum and sigmoid cannot be made by pathological assessment and clinical information regarding site is not available.*

S2.09 Tumour perforation

(defined as a macroscopically visible full thickness defect in the wall)

- Not identified
- Present
  - o Through tumour (tumour perforation)
  - o Not involving tumour

S2.10 Relation of tumour to anterior peritoneal reflection

(rectal cancer specimens only)

- Not applicable
- Entirely above
- Entirely below
- Astride

S2.11 Plane of mesorectal excision

(rectal cancer specimens only)

- Not applicable
- Mesorectal fascia (complete)
- Intramesorectal (near complete)
- Muscularis propria (incomplete)

G2.01 Plane of sphincter excision

(abdominoperineal excision specimens only)

- Extralevator plane
- Sphincter plane
- Intrasphincter plane
-

G2.02 Plane of mesocolic excision

(colon cancer specimens only)

- Mesocolic plane
- Intramesocolic plane
- Muscularis propria plane

G2.03 Peritoneum

- Tumour invades to the peritoneal surface
- Tumour has formed nodule(s) discrete from the tumour mass along the serosal surface

S3.01 Histological tumour type

- Adenocarcinoma, not otherwise specified (NOS)
- Mucinous adenocarcinoma
- Signet-ring cell adenocarcinoma
- Medullary carcinomar
- Serrated adenocarcinoma
- Micropapillary adenocarcinoma
- Adenoma-like adenocarcinoma
- Other, *specify*

S3.02 Histological tumour grade

- Not applicable
- Low grade ≥50% (formerly well to moderately differentiated
- High grade <50% (formerly poorly differentated and undifferentiated)

S3.03 Extent of invasion

Cannot be assessed

No evidence of primary tumour

OR

Select all that apply:

- High grade dysplasia/non-invasive neoplasia
- Invasion into submucosa
- Invasion into muscularis propria
- Invasion into subserosa or into periocolic or perirectal tissues
- Invasion onto the surface of the visceral peritoneum
- Invasion directly into other structures/organs, *specify*

S3.04 Lymphatic and venous invasion

- Not identified
- Present
  - Small vessel (lymphatic, capillary or venular)
  - Large vessel (venous)
    - Intramural
    - Extramural

S3.07 Tumour deposits

- Not identified
- Present, *specify type*
  - Vascular
  - Other

G3.05 Tumour budding

Cannot be assessed

OR

Number of tumour buds __

*Note: After scanning 10 fields on a 20x objective lens, the hotspot field normalised to represent a field of 0.785 mm^2

Tumour budding score

- Bd1 - low budding (0-4 buds)
- Bd2 - intermediate budding (5-9 buds)
- Bd3 - high budding (≥10 buds)

S3.08 Response to neoadjuvant therapy

- No neoadjuvant treatment
- Complete response - No viable cancer cells (score 0)
- Near complete response - Single cells or rare small groups of cancer cells (score 1)
- Partial response - Residual cancer with evident tumour regression, but more than single cells or rare small groups of cancer cells (score 2)
- Poor or no response - Extensive resideual cancer with no evident tumour regression (score 3)
- Cannot be assessed, *specify*

S3.09 Margin status

Longitudinal margin status

- Cannot be assessed
- Not involved
- Involved

Note: Includes assessment of any separately submitted anastromotic ring(s).

Circumferential margin status

- Cannot be assessed
- Not involved
- Involved

G4.01 Ancillary studies

Mismatch repair (MMR) immunohistochemistry

Not tested
OR
Not interpretable
OR

- MMR proficient
- MMR deficient
  - *MLH1/PMS2* loss
  - *MSH2/MSH6* loss
  - *MSH6* loss
  - *PMS2* loss
  - Other, *specify*

G4.02 *BRAF* (V600E) mutation testing

Not tested
OR

- Test failed
- Mutated
- Wild type

MLH1 promoter methylation testing

Not tested
OR

- Test failed
- Methylated
- Not methylated
- Inconclusive

G4.03 MMR status by microsatellite instability (MSI) testing

Not tested
OR

- Test failed
- MSI-high
- MSI-low
- MSI-stable

G4.04 *RAS* gene mutation testing *(KRAS exons 2, 3 or 4, NRAS exons 2, 3 or 4 or RAS mutation)*

- Mutated
- Wild type
- Not tested

S5.01 Stage & stage group##

Suffixes

m - multiple primary tumours; y - post therapy; r - recurrent

Primary Tumour (T)

TX	Primary tumour cannot be assessed
T0	No evidence of primary tumour
Tis	Carcinoma in situ, intramucosal carcinoma (involvement of lamina propria with no extension through muscularis mucosae)
T1	Tumour invades the submucosa (through the muscularis mucosa but not into the muscularis propria)
T2	Tumour invades the muscularis propria
T3	Tumour invades through the muscularis propria into pericolorectal tissues
T4	Tumour invades* the visceral peritoneum or invades or adheres** to adjacent organ or structure
T4a	Tumour invades* through the visceral peritoneum (including gross perforation of the bowel through tumour and continuous invasion of tumour through areas of inflammation to the surface of the visceral peritoneum)
T4b	Tumour directly invades* or adheres** to adjacent organs or structures

**Direct invasion in T4 includes invasion of other organs or other segments of the colorectum as a result of direct extension through the serosa, as confirmed on microscopic examination (for example, invasion of the sigmoid colon by a carcinoma of the cecum) or, for cancers in a retroperitoneal or subperitoneal location, direct invasion of other organs or structures by virtue of extension beyond the muscularis propria (i.e., respectively, a tumour on the posterior wall of the descending colon invading the left kidney or lateral abdominal wall; or a mid or distal rectal cancer with invasion of prostate, seminal vesicles, cervix, or vagina).

**Tumour that is adherent to other organs or structures, grossly, is classified cT4b. However, if no tumour is present in the adhesion, microscopically, the classification should be pT1-4a depending on the anatomical depth of wall invasion. The V and L classification should be used to identify the presence or absence of vascular or lymphatic invasion whereas the PN prognostic factor should be used for perineural invasion.

Regional lymph node (pN)

NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	One to three regional lymph nodes are positive (tumour in lymph nodes measuring ≥0.2 mm), or any number of tumour deposits are present and all identifiable lymph nodes are negative
N1a	One regional lymph node is positive
N1b	Two or three regional lymph nodes are positive
N1c	No regional lymph nodes are positive, but there are tumour deposits in the subserosa mesentery or nonperitonealized pericolic, or perirectal/mesorectal tissues.
N2	Four or more regional nodes are positive
N2a	Four to six regional lymph nodes are positive
N2b	Seven or more regional lymph nodes are positive

Distant metastasis (pM)

M0	No distant metastases by imaging, etc.; no evidence of tumour in distant sites or organs (This category is not assigned by pathologists.)
M1	Metastasis to one or more distant sites or organs or peritoneal metastasis is identified
M1a	Metastasis to one site or organ is identified without peritoneal metastasis
M1b	Metastasis to two or more sites or organs is identified without peritoneal metastasis
M1c	Metastasis to the peritoneal surface is identified alone or with other site or organ metastases

S5.02 Residual tumour status

RX	Presence of residual tumour cannot be assessed
R0	No residual tumour
R1	Microscopic residual tumour
R2	Macroscopic residual tumour at the primary cancer site or regional nodal sites. (This designation is not used to indicate metastatic disease identified but not resected at surgical exploration.)