

# A guide to Intrahepatic Cholangiocarcinoma, Perihilar Cholangiocarcinoma and Hepatocellular Carcinoma Histopathology Reporting



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

Clinical details			Macroscopic findings (cont.)		
<a href="#">S1.02</a>	<b>Clinical info. on request form</b> (complete as narrative or use the structured format below)	Text	<a href="#">G2.07</a>	Minimum distance of tumour to liver capsule (Applicable to intrahepatic tumour specimens)	__mm
	<b>New primary cancer or recurrence</b>	New primary Recurrence-regional Recurrence-distant	<a href="#">G2.08</a>	Distance of tumour to closest resection margin	__mm AND Text (margin, if possible)
	<b>Radiological / imaging information</b>	Text	<a href="#">G2.09</a>	Macroscopic involvement of vessels (Applicable to intrahepatic tumour specimens)	Not identified Present, <i>specify vessel(s) involved</i>
	<b>Operative procedure</b>	Text	<a href="#">G2.10</a>	Extent of invasion into biliary tree (Applicable to hilar cholangiocarcinoma specimens)	Text
<a href="#">G1.01</a>	Copy to doctor	Text	<a href="#">G2.11</a>	Depth of invasion beyond biliary tree (Applicable to hilar cholangiocarcinoma specimens)	Text
<a href="#">S1.03</a>	<b>Pathology accession number</b>	Text	<a href="#">G2.12</a>	Background parenchyma	Normal Abnormal, <i>describe</i>
<a href="#">S1.04</a>	<b>Principal clinician</b>	Text	<a href="#">S2.05</a>	<b>*Block identification key</b>	Text
<a href="#">G1.02</a>	Other relevant details	Text	<a href="#">G2.13</a>	Additional macroscopic comments	Text
Macroscopic findings			Microscopic findings		
<a href="#">S2.01</a>	<b>Specimen labelled as</b>	Text	<a href="#">S3.01</a>	<b>*Histological tumour type</b>	See p2
<a href="#">G2.01</a>	Operative procedure	Text	<a href="#">G3.01</a>	<b>*Tumour growth pattern</b>	See p2
<a href="#">S2.02</a>	<b>*Specimens submitted</b>	See p2	<a href="#">S3.02</a>	<b>*Histological grade</b>	N/A Can't be assessed Well differentiated/G1 Moderately differentiated/G2 Poorly differentiated/G3
<a href="#">G2.02</a>	Liver capsule	Normal Abnormal - Breached by tumour / Nodular / Evidence of prior biopsy or surgery	<a href="#">S3.03</a>	<b>*Extent of invasion</b>	See p2
<a href="#">G2.03</a>	<b>*Specimen dimensions</b> (Indicate greatest measurement for each parameter in an irregularly shaped specimen) <b>*Length of extrahepatic bile duct</b>	__x__x__mm __mm	<a href="#">S3.04</a>	<b>*Vascular invasion</b>	Not identified Indeterminate Present macroscopically (large portal or hepatic veins) Present microscopically (small portal or hepatic veins)
<a href="#">G2.04</a>	<b>*Specimen weight</b>	__g	<a href="#">G3.02</a>	<b>*Perineural invasion</b> (Applicable to intrahepatic and perihilar cholangiocarcinoma)	Not identified Indeterminate Present
<a href="#">G2.05</a>	<b>*Satellitosis</b> (Applicable to hepatocellular carcinoma only)	Cannot be assessed Not identified Present	<a href="#">G3.03</a>	Loco-regional therapy, <i>(for hepatocellular carcinoma)</i> <i>Percentage necrosis</i>	See p2 __%
<a href="#">G2.06</a>	<b>*Macroscopic tumour rupture</b> (Applicable to hepatocellular carcinoma and perihilar cholangiocarcinoma only)	Fragmented specimen Ruptured Intact	<a href="#">G3.04</a>	<b>*Response to neoadjuvant therapy</b> <i>(for cholangiocarcinoma)</i> <i>Percentage necrosis</i>	See p2 __%
<a href="#">S2.03</a>	<b>*Tumour site and number</b> (Repeat site and number of tumours per site for each tumour site identified)	No macroscopic residual tumour OR Text: specify site AND __ number of tumours per site (if possible)			
<a href="#">S2.04</a>	<b>*Maximum tumour dimension</b> (Repeat tumour identification and maximum dimension for each tumour identified. OR For a large number of tumours include a range: __mm to __mm)	Cannot be assessed OR Tumour identification** AND __ mm max dimension**			

## Microscopic findings (cont.)

<a href="#">S3.05</a>	<p><b>*Margin status</b>  <b>For each margin, specify:</b>            If not involved by invasive carcinoma, record the distance of tumour to closest margin.</p> <p>If involved by invasive carcinoma or involved by high-grade dysplasia/carcinoma in situ (<i>Applicable to cholangiocarcinoma only</i>), specify the margins, if possible.</p>	<p>Can't be assessed            Not involved by invasive carcinoma            Involved by invasive carcinoma            Involved by high-grade dysplasia/carcinoma in situ (<i>Applicable to cholangiocarcinoma only</i>)</p>
	<p><b>*Distance of tumour to margin</b></p>	<p>___mm            OR            Clearance is ≥10mm</p>
	<p><b>*Margin(s) involved</b></p>	<p>Text</p>
<a href="#">S3.06</a>	<p><b>*Lymph node status</b>            If involved record the number of LN examined and number of positive LN</p>	<p>No nodes submitted or found            Not involved            Involved</p>
	<p><b>*Number of LNs examined</b></p>	<p>Number cannot be determined            OR            —</p>
	<p><b>*Number of positive LNs</b>            Not required if number cannot be determined is entered above.</p>	<p>—</p>
<a href="#">S3.07</a>	<p><b>*Coexistent pathology</b></p>	<p>None identified            OR            See p3</p>
<a href="#">G3.05</a>	<p><i>Fibrosis - staging system</i></p>	
	<p><b>*ISHAK stage</b></p>	<p>___/6</p>
	<p><b>*KLEINER stage</b></p>	<p>___/4</p>
	<p><b>*MEAVIR stage</b></p>	<p>___/4</p>
	<p><b>*BATTS-LUDWIG stage</b></p>	<p>___/</p>
	<p><b>BRUNT stage</b></p>	<p>Text (<i>specify system and result</i>)</p>
	<p><b>Other stage</b></p>	<p>Text (<i>specify system and result</i>)</p>
<a href="#">G3.06</a>	<p>Other microscopic comment</p>	<p>Text</p>
<h2>Ancillary test findings</h2>		
<a href="#">G4.01</a>	<p><b>*Ancillary studies</b></p>	<p>Not performed            Performed, describe</p>
<h2>Synthesis and overview</h2>		
<a href="#">S5.01</a>	<p><b>*PATHOLOGICAL STAGING</b></p>	<p>See p3</p>
<a href="#">S5.02</a>	<p><b>Year of publication &amp; edition of cancer staging system</b></p>	<p>Text</p>
<a href="#">G5.01</a>	<p>Diagnostic summary</p> <p>Include: Specimen submitted (S2.02); tumour type (S3.01); tumour stage (S5.01 &amp; 5.02); whether or not the specimen margins are involved (S3.05).</p>	<p>Text</p>
<a href="#">S5.03</a>	<p><b>Overarching comment</b></p>	<p>Text</p>
<a href="#">G5.02</a>	<p>Edition/version of RCPA protocol</p>	<p>Text</p>

## S2.02 Specimen(s) submitted

- Not specified
- Indeterminate

OR

Select all that apply

- Liver
  - Total hepatectomy
  - Segmental resection, list segments or type or segmentectomy
  - Wedge resection, Describe site/segment
- Extrahepatic bile duct
- Gallbladder
- Diaphragm
- Lymph nodes, specify site/s
- Other (specify)

## S3.01 Histological tumour type

Primary tumour

- Hepatocellular carcinoma
- Hepatocellular carcinoma, fibrolamellar variant
- Cholangiocarcinoma
- Combined hepatocellular - cholangiocarcinoma
- Intraductal papillary neoplasm with an associated invasive carcinoma
- Mucinous cystic neoplasm with an associated invasive carcinoma
- Undifferentiated carcinoma
- Carcinoma, type cannot be determined

## G3.01 Tumour growth pattern

Hepatocellular carcinoma

- Cannot be determined
- Small nodular type with indistinct margin
- Margin distinct
  - Simple nodular type
  - Simple nodular type with extranodular growth
  - Confluent multinodular type
- Margin irregular (infiltrative type)

Intrahepatic, and perihilar cholangiocarcinoma

- Cannot be determined
- Mass-forming
- Intraductal-growth
- Periductal infiltrating
- Mixed mass-forming and periductal infiltrating

## S3.03 Extent of invasion

- No evidence of primary tumours
- Cannot be assessed
- Macroscopic invasion
  - Tumour confined to liver
  - Tumour confined to the extrahepatic bile ducts histologically (carcinoma in situ/high-grade dysplasia) (*Applicable to perihilar cholangiocarcinoma only*)
  - Tumour involves visceral peritoneum
  - Tumour directly invades gallbladder
  - Tumour directly invades other adjacent organs
- Microscopic invasion
  - Tumour confined to the liver
  - Tumour confined to the bile duct mucosa histologically (carcinoma in situ/high-grade dysplasia) (*Applicable to cholangiocarcinoma only*)
  - Tumour involves visceral peritoneum
  - Tumour directly invades gallbladder
  - Tumour directly invades other adjacent organs

## G3.03 Loco-regional therapy

(for Hepatocellular carcinoma)

- Complete necrosis (no viable tumour)
  - Incomplete necrosis (viable tumour present)
  - No necrosis
  - No prior treatment
  - Response cannot be assessed, explain reasons
- If incomplete, record the percentage necrosis

## G3.04 Response for neoadjuvant therapy

(for Cholangiocarcinoma)

- Complete necrosis (no viable tumour)
  - Incomplete necrosis (viable tumour present)
  - No necrosis
  - No prior treatment
  - Response cannot be assessed, explain reasons
- If incomplete, record the percentage necrosis

### S3.07 Coexistent pathology

None identified

OR

Other histopathological features (select all that apply):

- Steatosis
- Steatohepatitis
- Iron overload
- Biliary disease, *specify if known*
- Chronic hepatitis, *specify type if known*
- Other, *specify*

Fibrosis

- Not identified
- Indeterminate
- Present

Dysplastic/pre-malignant lesions

Non identified

OR

Biliary intra-epithelial neoplasia (BilIN)

- Absent
- Present
  - o BilIN-1
  - o BilIN-2
  - o BilIN-3

Low-grade hepatocellular dysplastic nodule

- Absent
- Present

High-grade hepatocellular dysplastic nodule

- Absent
- Present

Other

### S5.01 Pathological Staging (AJCC 8th Ed.)##

#### Primary Tumour (T)

##### Liver

- TX Primary tumour cannot be assessed  
T0 No evidence of primary tumour  
T1 Solitary tumour  $\leq 2$  cm, or  $>2$  cm without vascular invasion  
T1a Solitary tumour  $\leq 2$  cm  
T1b Solitary tumour  $>2$  cm without vascular invasion  
T2 Solitary tumour  $>2$  cm with vascular invasion, or multiple tumours, none  $>5$  cm  
T3 Multiple tumours, at least one of which is  $>5$  cm  
T4 Single tumour or multiple tumours of any size involving a major branch of the portal vein or hepatic vein, or tumour(s) with direct invasion of adjacent organs other than the gallbladder or with perforation of visceral peritoneum

##### Intrahepatic bile ducts

- TX Primary tumour cannot be assessed  
T0 No evidence of primary tumour  
Tis Carcinoma *in situ* (intraductal tumour)  
T1 Solitary tumour without vascular invasion,  $\leq 5$  cm or  $>5$  cm  
T1a Solitary tumour  $\leq 5$  cm without vascular invasion  
T1b Solitary tumour  $>5$  cm without vascular invasion  
T2 Solitary tumour with intrahepatic vascular invasion or multiple tumours, with or without vascular invasion  
T3 Tumour perforating the visceral peritoneum  
T4 Tumour involving local extrahepatic structures by direct invasion

##### Perihilar bile ducts

- TX Primary tumour cannot be assessed  
T0 No evidence of primary tumour  
Tis Carcinoma *in situ*/high-grade dysplasia  
T1 Tumour confined to the bile duct, with extension up to the muscle layer or fibrous tissue  
T2 Tumour invades beyond the wall of the bile duct to surrounding adipose tissue, or tumour invades adjacent hepatic parenchyma  
T2a Tumour invades beyond the wall of the bile duct to surrounding adipose tissue  
T2b Tumour invades adjacent hepatic parenchyma  
T3 Tumour invades unilateral branches of the portal vein or hepatic artery  
T4 Tumour invades the main portal vein or its branches bilaterally, or the common hepatic artery; or unilateral second-order biliary radicals with contralateral portal vein or hepatic artery involvement

##### Regional lymph nodes (N)

No nodes submitted or found

OR

##### Liver including intrahepatic bile ducts

- NX Regional lymph nodes cannot be assessed  
N0 No regional lymph node metastasis  
N1 Regional lymph node metastasis

##### Perihilar bile ducts

- NX Regional lymph nodes cannot be assessed  
N0 No regional lymph node metastasis  
N1 One to three positive lymph nodes typically involving the hilar, cystic duct, common bile duct, hepatic artery, posterior pancreaticoduodenal, and portal vein lymph nodes.  
N2 Four or more positive lymph nodes from the sites described for N1.

##### Distant metastasis (M)

Not applicable

OR

- M1 Distant metastasis

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