Intrahepatic Cholangiocarcinoma, Perihilar Cholangiocarcinoma and Hepatocellular Carcinoma Structured Pathology Reporting Proforma

Includes the International Collaboration on Cancer reporting dataset denoted by *

**Clinical information**

- **Family name**
- **Given name(s)**
- **Date of birth**
- **Sex**
  - Male
  - Female
  - Intersex/indeterminate
- **Ethnicity**
  - Unknown
  - Aboriginal/Torres Strait Islander (AU)
  - Maori (NZ)
  - Other ethnicity:
- **Patient identifiers**
  - e.g. MRN, IHI or NHI (please indicate which)
- **Date of request**
- **Accession number**
- **Requesting doctor - name and contact details**

**Macroscopic findings**

**S2.01 SPECIMEN LABELLED AS**

**G2.01 OPERATIVE PROCEDURE**

**S2.02 *SPECIMEN(S) SUBMITTED* (select all that apply)**

- Not specified
- Indeterminate
- Liver
  - Total hepatectomy
  - Segmental resection (List segments or type of segmentectomy)
- Wedge resection (Describe site/segment)
- Extrahepatic bile duct
- Gallbladder
- Diaphragm
- Lymph nodes (Specify site/s)
- Other (Specify)

**G2.02 LIVER CAPSULE**

- Abnormal
  - Breached by tumour
  - Nodular
  - Evidence of previous biopsy or surgery

**S1.02 NEW PRIMARY LESION OR RECURRENCE**

- New primary
- Recurrence - regional, describe
- Recurrence - distant, describe

**Radiological / imaging information**

**Operative procedure**

**S1.04 PRINCIPAL CLINICIAN**

**G1.02 COMMENTS**
**G2.03 **SPECIMEN DIMENSIONS  
*(Indicate greatest measurement for each parameter in an irregularly shaped specimen)*  

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Width (mm)</th>
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**G2.04 **SPECIMEN WEIGHT  

| g |

**G2.05 **SATELLITOSIS  
*(Applicable to hepatocellular carcinoma only)*  

- Cannot be assessed  
- Not identified  
- Present  

**G2.06 **MACROSCOPIC TUMOUR RUPTURE  
*(Applicable to hepatocellular carcinoma and perihilar cholangiocarcinoma only)*  

- Fragmented specimen  
- Ruptured  
- Intact  

**S2.03 **TUMOUR SITE AND NUMBER  

- No macroscopic residual tumour  
- Specify site  
- Specify number of tumours  

**S2.04 **MAXIMUM TUMOUR DIMENSION  

- Cannot be assessed  
- Tumour ID  
- Max dimension (mm)  

For a large number of tumours include a range to (mm)  

**G2.07 **MINIMUM DISTANCE OF TUMOUR TO LIVER CAPSULE  
*(Applicable to intrahepatic tumour specimens)*  

| mm |

**G2.08 **DISTANCE OF TUMOUR TO CLOSEST RESECTION MARGIN  

| mm | Closest margin |

**G2.09 **MACROSCOPIC INVOLVEMENT OF VESSELS  
*(Applicable to intrahepatic tumour specimens)*  

- Not identified  
- Present, specify vessel(s) involved  

**G2.10 **EXTENT OF INVASION INTO BILIARY TREE  
*(Applicable to hilar cholangiocarcinoma specimens)*  

**G2.11 **DEPTH OF INVASION BEYOND BILIARY TREE  
*(Applicable to hilar cholangiocarcinoma specimens)*  

**G2.12 **BACKGROUND PARENCHYMA  

- Normal  
- Abnormal, describe eg cirrhotic/fibrotic/fatty change/nutmeg  

**S2.05 **BLOCK IDENTIFICATION KEY  

**G2.13 **OTHER MACROSCOPIC COMMENTS  

**Microscopic findings**  

**S3.01 **HISTOLOGICAL TUMOUR TYPE  

- 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:
- Mass-forming
- Intraductal-growth
- Periductal infiltrating
- Mixed mass-forming and periductal infiltrating

S3.03 EXTENT OF INVASION
- No evidence of primary tumour
- 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 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

S3.04 VASCULAR INVASION
- Not identified
- Indeterminate
- Present macroscopically (large portal or hepatic veins)
- Present microscopically (small portal or hepatic veins)

G3.02 PERINEURAL INVASION
*(Applicable to intrahepatic and perihilar cholangiocarcinoma)*
- Not identified
- Indeterminate
- Present

G3.03 LOCO-REGIONAL THERAPY
*(for hepatocellular carcinoma)*
- Complete necrosis (no viable tumour)
- Incomplete necrosis (viable tumour present)
- No necrosis
- Percentage necrosis
- No prior treatment
- Response cannot be assessed, explain reasons

G3.03 RESPONSE TO 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)

S3.05 MARGIN STATUS
- Cannot be assessed
- Not involved by invasive carcinoma
- Involved by invasive carcinoma
  - Distance of tumour to closest margin
  - Involved by high-grade dysplasia/carcinoma in situ
    *(Applicable to cholangiocarcinoma only)*
  - Specify margin/s, if possible

S3.06 LYMPH NODE STATUS
- No nodes submitted or found
- Not involved
- Involved
  - Number of lymph nodes examined
  - Number of positive lymph nodes
  - Number cannot be determined

S3.07 COEXISTENT PATHOLOGY
Other histopathological features
- Steatosis
- Steatohepatitis
- Iron overload
- Biliary disease (Specify, if known)
- Chronic hepatitis (Specify type, if known)
- Other (Specify)
- Fibrosis *(If present consider recording G3.05)*
  - Not identified
  - Indeterminate
  - Present
**SYNTHESIS AND OVERVIEW**

**S5.01 *PATHOLOGICAL STAGING (TNM 8th Ed)***

(see p5)

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<th>N</th>
<th>M</th>
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**Stage Grouping**

**S5.02 Year of publication and edition of cancer staging system**

**G5.01 Diagnostic summary**

Include: Specimen submitted (S2.02); Tumour type (S3.01); Tumour stage (S5.01 & S5.02); Whether or not the specimen margins are involved (S3.05).

**S5.03 Overarching comment**

**G5.02 Structured Reporting for Intrahepatic Cholangiocarcinoma, Perihilar Cholangiocarcinoma and Hepatocellular Carcinoma (1st Edition 2019).**

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**S3.07 *COEXISTENT PATHOLOGY (Cont.)***

**Dysplastic/pre-malignant lesions**

☐ None identified

**BILIARY INTRA-EPITHELIAL NEOPLASIA (BiIN)**

☐ Absent  ☐ Present

↓

☐ BiIN-1  
☐ BiIN-2  
☐ BiIN-3

**LOW-GRADE HEPATOCELLULAR DYSPLASTIC NODULE**

☐ Absent  ☐ Present

**HIGH-GRADE HEPATOCELLULAR DYSPLASTIC NODULE**

☐ Absent  ☐ Present

☐ Other

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**G3.03 *Fibrosis - staging system***

*(Report only if needed)*

- *ISHAK stage*  
  
  /6

- OR  
  *KLEINER stage*  
  
  /4

- OR  
  *METAVIR stage*  
  
  /4

- OR  
  *BATTS-LUDWIG stage*  
  
  /4

- OR  
  BRUNT stage  
  
  /4

☐ Other stage (specify system and result)

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**G3.06 OTHER MICROSCOPIC COMMENTS**

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**G4.01 *ANCILLARY STUDIES***

☐ Performed, describe  ☐ Not performed

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### PATHOLOGICAL STAGING (TNM 8th edition)

**TNM Descriptors** (only if applicable) (select all that apply)
- m - multiple primary tumors
- r - recurrent
- y - post therapy

#### Primary tumour (pT)

**HEPATOCELLULAR CARCINOMA** (Liver excluding intrahepatic and perihilar bile ducts)
- TX Primary tumour cannot be assessed
- T0 No evidence of primary tumour
- T1a Solitary tumour 2 cm or less in greatest dimension with or without vascular invasion
- T1b Solitary tumour more than 2 cm in greatest dimension without vascular invasion
- T2 Solitary tumour with vascular invasion more than 2 cm dimension or multiple tumours none more than 5 cm in greatest dimension
- T3 Multiple tumours any more then 5cm in greatest dimension
- T4 Tumour(s) involving a major branch of the portal or hepatic vein with direct invasion of adjacent organs (including the diaphragm), other than the gallbladder or with perforation of visceral peritoneum

**INTRAHEPATIC CHOLANGIOCARCINOMA**
(Intrahepatic bile ducts)
- TX Primary tumour cannot be assessed
- T0 No evidence of primary tumour
- Tis Carcinoma in situ (intraductal tumour)
- T1a Solitary tumour 5 cm or less in greatest dimension without vascular invasion
- T1b Solitary tumour more than 5 cm in greatest dimension 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 hepatic invasion

**PERIHILAR CHOLANGIOCARCINOMA**
(Perihilar bile ducts)
- TX Primary tumour cannot be assessed
- T0 No evidence of primary tumour
- Tis Carcinoma in situ
- T1 Tumour confined to the bile duct, with extension up to the muscle layer or fibrous tissue
- 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 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 (pN)**
- No nodes submitted or found
- HEPATOCELLULAR CARCINOMA & INTRAHEPATIC CHOLANGIOCARCINOMA
  - NX Regional lymph nodes cannot be assessed
  - N0 No regional lymph node metastasis
  - N1 Regional lymph node metastasis

**PERIHILAR CHOLANGIOCARCINOMA**
(Perihilar bile ducts)
- NX Regional lymph nodes cannot be assessed
- N0 No regional lymph node metastasis
- N1 Metastases to 1-3 regional lymph nodes
- N2 Metastases to 4 or more regional lymph nodes

**Distant metastases (pM)**
- Not applicable
- M1 Distant metastasis

**Combined Hepatocellular-Cholangiocarcinomas are staged as per Intrahepatic Cholangiocarcinoma**

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