

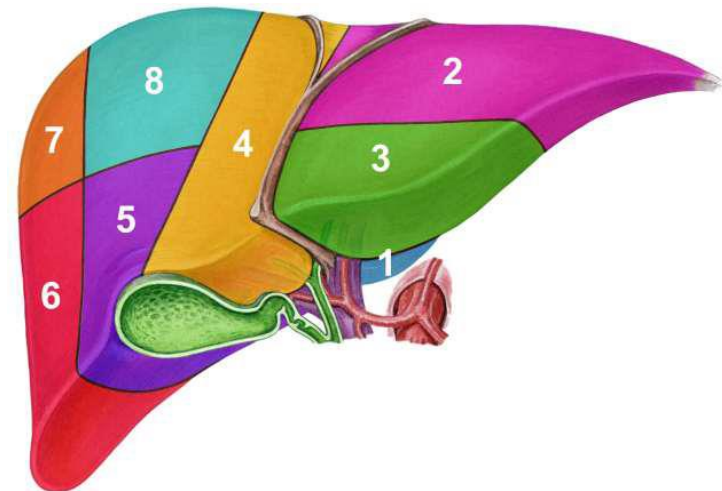
# Specimen submitted (Required)

## Reason/Evidentiary Support

In assessing macroscopic specimens containing malignant epithelial tumours of the liver it is important to establish the nature of the surgical resection.<sup>1</sup> Liver tumours are resected either by segmental resection<sup>2</sup> following the planes of whole liver segments defined by intra-operative ultrasound, or non-anatomical (wedge) resection for small, accessible, subcapsular lesions. The dataset should also be applied to total hepatectomy and specimens from patients undergoing liver transplantation when tumour is present.

The segmental anatomy of the liver is shown in Figure 1. The boundaries of the eight segments represent the watershed between portions of liver perfused by main branches of the hepatic artery and portal vein, and form the basis of the various surgical options for major liver resection.

Segmentectomy procedures result in sizeable resection specimens. The surgeon should state which segments are included as this may not be clear from the topography of the specimen. The boundary of segments is defined by the course of intrahepatic vessels and cannot be inferred from surface landmarks. Wherever possible, the preoperative imaging report should be available to the pathologist at the time of specimen dissection.



**Figure 1: Segmentectomy specimens<sup>3</sup>**

Right hepatectomy Segments 5–8

Right trisectionectomy Segments 4–8

Left lateral sectionectomy Segments 2–3

Left hepatectomy Segments 2–4

Left trisectionectomy Segments 1–5 and 8

Total hepatectomy Segments 1–8

Surgical intervention for cholangiocarcinomas arising at the hilum (ie.proximal to the junction of the cystic and common hepatic duct) will generally include a length of extrahepatic duct in continuity with segments or lobes of liver. There is considerable anatomical variability at the liver hilum, and the pathologist should consult the surgeon if the identity of the main hilar vessels and ducts is not clear from the information provided on the request form. Note that this reporting guide does not apply to more distal bile duct carcinomas resected without hepatectomy. Specimens may include lymph nodes, either dissected separately by the surgeon or found at the liver hilum in the resected specimen. A regional lymphadenectomy specimen will ordinarily include three or more lymph nodes for primary intrahepatic and gallbladder cancers, and 15 lymph nodes for perihilar cholangiocarcinomas (CC)<sup>4</sup> Regional lymph nodes are those in the hepaticoduodenal ligament: hilar, cystic duct, pericholedochal, hepatic artery, portal vein for perihilar CC. More distant nodes are occasionally resected and involvement of such nodes is classified as distant metastasis (M1); there is not a pN2 category in TNM8.

## References

- 1 Nakanuma Y, Sato Y, Harada K, Sasaki M, Xu J and Ikeda H (2010). Pathological classification of intrahepatic cholangiocarcinoma based on a new concept. *World J Hepatol* 2(12):419-427.
- 2 Hoogewoud HM (1993). *Hepatocellular carcinoma and liver metastases: diagnosis and treatment* Springer-Verlag, Berlin, Heidelberg, New York, Tokyo.
- 3 RCP (Royal College of Pathologists) (2012). Dataset for histopathology reporting of liver resection specimens (including gall bladder) and liver biopsies for primary and metastatic carcinoma (2nd edition). Available from:  
<https://www.rcpath.org/profession/publications/cancer-datasets.html>.
- 4 Sobin L, Gospodarowicz M, Wittekind C and International Union against Cancer (eds) (2009). *TNM Classification of Malignant Tumours*, Wiley-Blackwell, Chichester, UK and Hoboken, New Jersey.