Tumour site (Core and Non-core)

The location of the tumour is important for staging of oesophageal cancer.[1]

The location of a tumour is based on endoscopic examination and landmarks (Figures 1 and 2). Therefore, clinical information provided by the surgeon is critical.

The anatomical subdivisions of the oesophagus are outlined below and in Figure 1:[1]

- The cervical oesophagus begins at the hypopharynx and extends to the thoracic inlet (at the level of the sternal notch); 150 to <200 millimetres (mm) from the incisors.
- Upper thoracic oesophagus extends from the thoracic inlet to the lower border of the azygos vein; 200 to <250 mm from the incisors.
- Middle thoracic oesophagus extends from the lower border of the azygos vein to the lower border of the inferior pulmonary vein; 250 to <300 mm from the incisors.
- Lower thoracic (distal) oesophagus extends from the lower border of the inferior pulmonary vein to the stomach, including the abdominal oesophagus; 300-400 mm from the incisors.
- Upper oesophagus is equal to cervical oesophagus and upper thoracic oesophagus.
- Middle oesophagus is equal to middle thoracic oesophagus.
- Lower oesophagus is equal to lower thoracic oesophagus or distal oesophagus.

In the absence of clinical information, the location of the tumour could be estimated from the relationship of the tumour to the oesophagogastric junction (OGJ) junction by the pathologist. The epicentre/midpoint of the tumour should be considered as the point of measurement for the pathological examination. The exact distance of tumour from epicentre/midpoint to the OGJ is non-core because it is only for clinical correlation purposes.

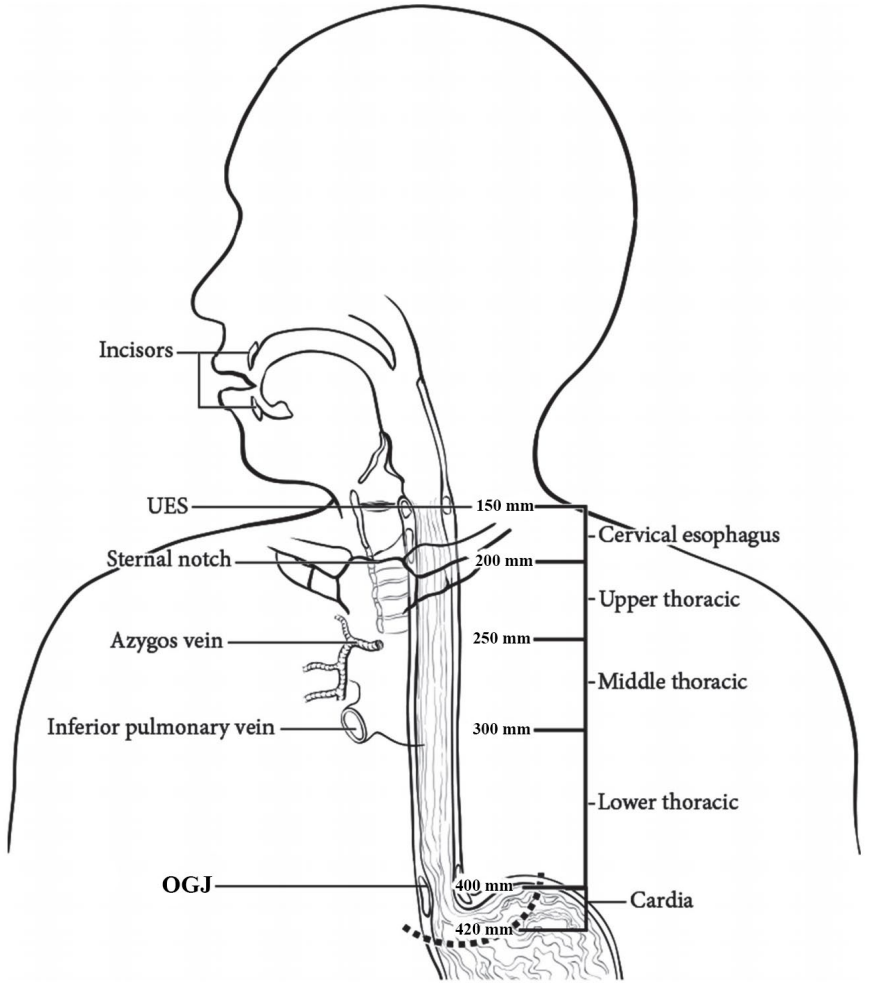
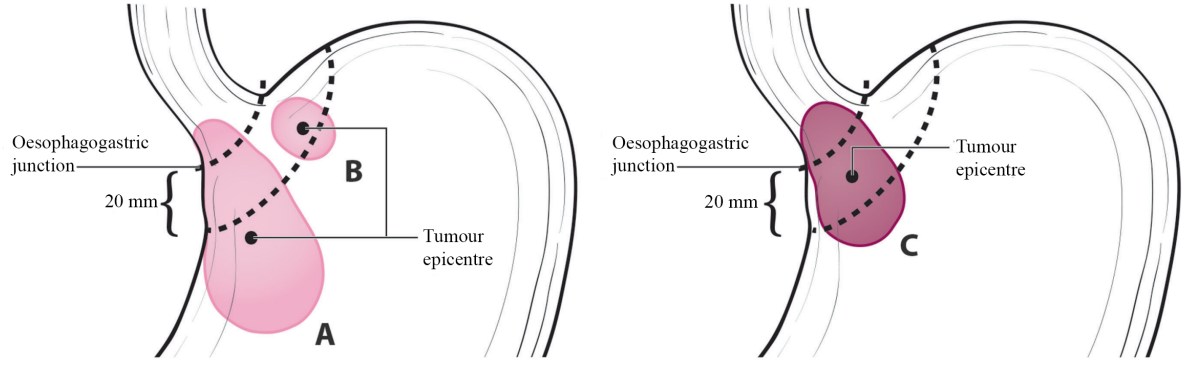


Figure 1: Anatomic subdivisions of the oesophagus. Modified with permission of the American College of Surgeons, Chicago, Illinois. The original source for this information is the American Joint Committee on Cancer Staging Manual, Eighth Edition (2016) published by Springer Science+Business Media.[1]

A description of the tumour site is ideally provided by the surgeon and should be documented by the pathologist. In addition, specific observations should be recorded by the pathologist which may help establish the exact site of origin of the tumour.

The American Joint Committee on Cancer (AJCC) and College of American Pathologists (CAP) define the OGJ as the junction of the tubular oesophagus and the stomach, irrespective of the type of epithelial lining of the oesophagus.[1,2]

Pure anatomical classification of the tumour site of origin can be defined in several different systems. The Siewert Classification categorises OGJ cancer into Siewert type I (tumours with their epicentre located 10-50 mm above the OGJ), type II (tumour epicentre located from 10 mm above to 20 mm below the OGJ) and type III (tumour epicentre located from 20 mm - 50 mm below the OGJ).[3] In the Siewert Classification, the proximal end of the gastric longitudinal mucosa folds is used as pragmatic reference for the endoscopic cardia/OGJ (zero point).[3] The current Union for International Cancer Control (UICC)[4]/AJCC[1] 8th edition Staging System definition of gastric cancer includes those tumours involving the OGJ but with the epicentre >20 mm into the proximal stomach and cardia cancer without involvement of the OGJ (Figure 2). Therefore, all Siewert type III tumours are classified as gastric cancer based on the UICC[4]/AJCC[1] 8th edition Staging Systems.



A tumour that has its epicentre located >20 mm from oesophagogastric junction (A) or a tumour located within 20 m of the oesophagogastric junction (B) but does not involve the oesophagogastric junction is classified as stomach cancer.

A tumour that has its epicentre located within 20 mm of oesophagogastric junction and involves the oesophagogastric junction (C) is classified as oesophageal cancer.

Figure 2: (A) Oesophagogastric junction (OGJ) tumours with their epicentre located >20 mm into the proximal stomach are staged as stomach cancers. (B) Cardia cancers not involving the OGJ are staged as stomach cancers. (C) Tumours involving the OGJ with their epicenter <20 mm into the proximal stomach are staged as oesophageal cancer. Modified with permission of the American College of Surgeons, Chicago, Illinois. The original source for this information is the American Joint Committee on Cancer Staging Manual, Eighth Edition (2016) published by Springer Science+Business Media.[1]

The UICC[4]/AJCC[1] 8th edition Staging Manuals also define tumours involving the OGJ as those with a midpoint within the proximal 20 mm of the cardia/proximal stomach and these are staged as oesophageal cancers. In contrast, tumours involving the OGJ with their epicentre more than 20 mm into the cardia/proximal stomach are staged as stomach cancers, as are all cardia/proximal stomach cancers not involving the OGJ, even if within 20 mm of the OGJ.[1,4]

Some proximal stomach tumours which appear to be of gastric origin, under the AJCC 8th edition Classification,[1] may be classified as tumours of the oesophagus and OGJ somewhat artificially and thus reported using the oesophageal dataset. When reporting such tumours, it should be noted that the tumour may have arisen within the stomach.

A tumour arising from the oesophagus with a tumour epicentre beyond the 20 mm mark is staged as a gastric tumour.

References

1 Amin MB, Edge SB, Greene FL, Byrd DR, Brookland RK, Washington MK, Gershenwald JE, Compton CC, Hess KR, Sullivan DC, Jessup JM, Brierley JD, Gaspar LE, Schilsky RL, Balch CM, Winchester DP, Asare EA, Madera M, Gress DM and Meyer LR (eds) (2017). *AJCC Cancer Staging Manual. 8th Edition*, Springer, New York.

2 Protocol for the examination of specimens from patients with carcinoma of the esophagus (2021). *Protocol for the examination of specimens from patients with carcinoma of the esophagus*. Available from: https://documents.cap.org/protocols/Esophagus_4.2.0.0.REL_CAPCP.pdf (Accessed 4th November 2021).

3 Stein HJ, Feith M and Siewert JR (2000). Cancer of the esophagogastric junction. *Surg Oncol* 9(1):35-41.

4 Brierley JD, Gospodarowicz MK and Wittekind C (eds) (2016). *Union for International Cancer Control. TNM Classification of Malignant Tumours, 8th Edition*, Wiley, USA.