

Margin status (Core)

Assessments of longitudinal and circumferential resection margins may require macroscopic or microscopic measurement, depending on proximity of tumour to margins. Separately submitted anastomotic rings (“doughnuts”) should be taken into consideration for longitudinal margin assessment. Unless a tumour has particularly aggressive morphological features, for example signet-ring cell carcinoma, it is generally only necessary to histologically examine longitudinal margins if the tumour extends macroscopically to within 30 millimetres (mm).¹ For tumours further than this, it can be assumed that the longitudinal margins are not involved.

The circumferential (radial or non-peritonealised) margin represents the adventitial soft tissue margin closest to the deepest penetration of tumour and is created surgically by blunt or sharp dissection of the retroperitoneal or subperitoneal aspect, depending on the nature of the surgical resection. This margin must be assessed for any tumour either unencased or incompletely encased by peritoneum. Rectal tumours below the peritoneal reflection will be completely encased by a circumferential, non-peritonealised margin, while upper rectal tumours, and often proximal colonic tumours, have a non-peritonealised margin posteriorly and a peritonealised surface anteriorly (Figure 2). Transverse and sigmoid colonic tumours generally only have a narrow, readily identifiable, non-peritonealised margin, representing the level of surgical dissection of the mesentery. The term circumferential margin is favoured, even though the non-peritonealised margin is not always circumferential.

Circumferential margin involvement, typically defined as tumour ≤ 1 mm from the margin, is predictive of local recurrence and poor survival in rectal tumours,²⁻⁶ The importance of circumferential margin involvement in proximal colonic tumours has been recognised but less evidence is available.^{7,8} Any circumferential margin ≤ 1 mm from tumour should be recorded as involved, but the precise distance recorded, to the nearest 0.1 mm. If the tumour is clear by <10 mm, the specific distance of clearance should also be recorded, to the nearest 1 mm.

There is limited outcome data with respect to mode of circumferential margin involvement by tumour, but this limited data suggest that cases with margin involvement by discontinuous or intravascular (blood vessel or lymphatic vessel) tumour behave similarly to those with margin involvement by direct tumour spread with respect to local recurrence.^{2,3} However, margin involvement by tumour confined to a lymph node was not associated with a significant risk of local recurrence in one study.³ Therefore, assuming the involved lymph node has an intact capsule and has not been transected at surgery, identification of an involved node at the circumferential margin should not be interpreted as margin involvement. An explanatory comment should be added to the pathology report to this effect. If a margin is designated as involved by tumour other than the primary mass, this should be clearly described and a separate measurement provided with respect to clearance from the margin of the primary tumour.

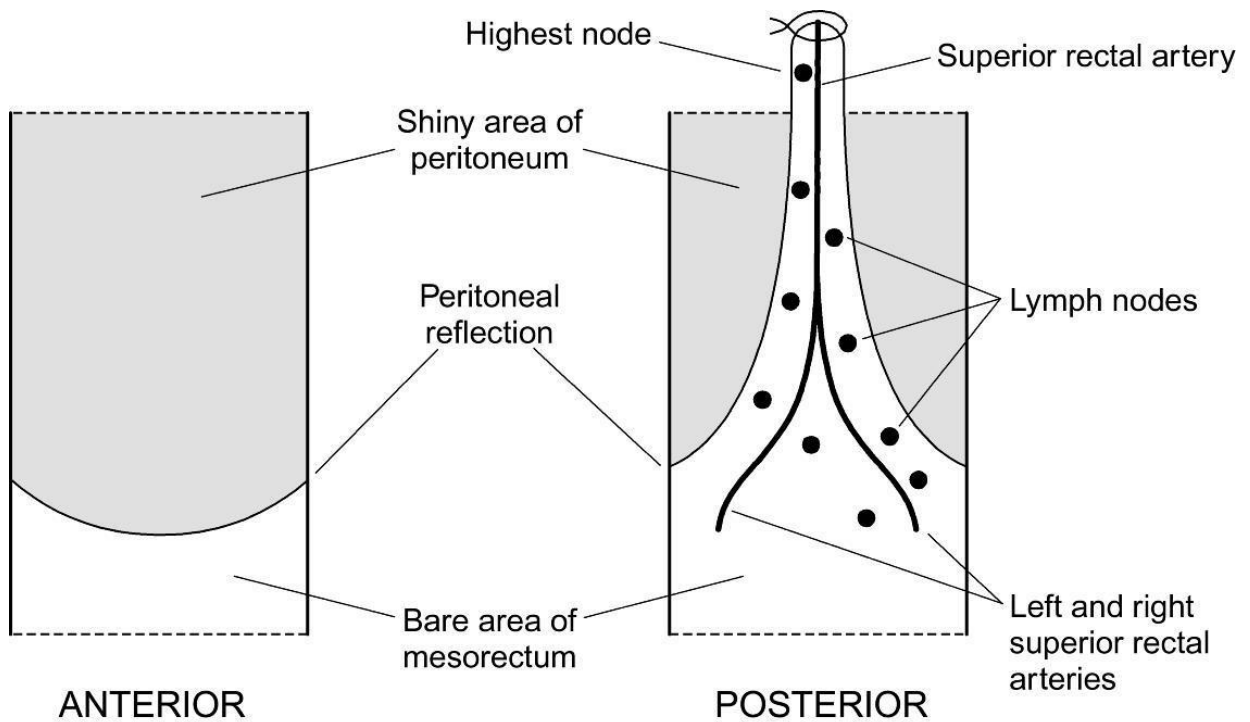


Figure 2: Diagrammatic representation of a resected rectum. Reproduced with permission from Loughrey MB, Quirke P and Shepherd NA (2018). *Dataset for histopathological reporting of colorectal cancer, 4th Edition*. The Royal College of Pathologists, United Kingdom.⁹

References

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