

Tumour encapsulation/circumscription (Core)

The presence of a fibrous capsule or a well demarcated tumour border (i.e., well circumscribed tumour edge directly adjacent to benign thyroid parenchyma with no intervening capsule) is a crucial element in thyroid carcinomas. In follicular and Hürthle cell tumours, the invasion of the capsule and its vessels define malignancy.¹ Even in high grade tumours such as poorly differentiated carcinoma, the presence of a capsule was shown to convey a better outcome.² When a tumour infiltrates the surrounding non-neoplastic parenchyma and is not completely encapsulated/well demarcated, it should be labelled as infiltrative. The infiltrative papillary carcinomas are usually different from their encapsulated counterparts in regard to metastatic spread (propensity for nodal rather than distant metastasis) and genetic mutations (*BRAFV600E* rather than RAS mutations).³

References

- 1 Lloyd R, Osamura R, Klöppel G and Rosai J (eds) (2017). *WHO Classification of Tumours of Endocrine Organs, 4th ed.* IARC Press, Lyon.
- 2 Hiltzik D, Carlson DL, Tuttle RM, Chuai S, Ishill N, Shaha A, Shah JP, Singh B and Ghossein RA (2006). Poorly differentiated thyroid carcinomas defined on the basis of mitosis and necrosis: a clinicopathologic study of 58 patients. *Cancer* 106(6):1286-1295.
- 3 Rivera M, Ricarte-Filho J, Knauf J, Shaha A, Tuttle M, Fagin JA and Ghossein RA (2010). Molecular genotyping of papillary thyroid carcinoma follicular variant according to its histological subtypes (encapsulated vs infiltrative) reveals distinct BRAF and RAS mutation patterns. *Mod Pathol* 23(9):1191-1200.