Bosniak classification system of renal cystic masses

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The **Bosniak classification system of renal cystic masses** divides renal cystic masses into five categories based on imaging characteristics on contrast-enhanced CT. It is helpful in predicting a risk of malignancy and suggesting either follow up or treatment.

Classification

Bosniak 1

- simple cyst
  - imperceptible wall, rounded
  - work-up: nil
  - percentage malignant: ~0%

Bosniak 2

- minimally complex
  - a few thin <1 mm septa or thin calcifications (thickness not measurable); non-enhancing high-attenuation (due to proteinaceous or haemorrhagic contents) renal lesions of less than 3 cm are also included in this category; these lesions are generally well marginated
  - work-up: nil
  - percentage malignant: ~0%

Bosniak 2F

- minimally complex
  - increased number of septa, minimally thickened with nodular or thick calcifications
  - there may be perceived (but not measurable) enhancement of a hairline-thin smooth septa
  - hyperdense cyst >3 cm diameter, mostly intrarenal (less than 25% of wall visible); no enhancement
  - requiring follow-up: needs ultrasound/CT follow up - no strict rules on the time frame but reasonable at 6 months
  - percentage malignant: ~ 5% [6]

Bosniak 3

- indeterminate
  - thick, nodular multiple septa or wall with measurable enhancement, hyperdense on CT (see 2F)
  - treatment/work-up: partial nephrectomy or radiofrequency ablation in elderly or poor surgical candidates
  - percentage malignant: ~55% [6]

Bosniak 4

- clearly malignant
  - solid mass with a large cystic or a necrotic component
  - treatment: partial or total nephrectomy
  - percentage malignant: ~100%