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 margined
  - 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%
**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%

**Bosniak 4**
- clearly malignant
  - solid mass with a large cystic or a necrotic component
  - treatment: partial or total *nephrectomy*
  - percentage malignant: ~100%