Renal and Ureteral Calculi

Nephrolithiasis

- Renal Stones
- Small (1-2 mm) → large (may fill whole pelvis and calyces = staghorn calculi)
- 80% - 90% radio-opaque
- Most pass spontaneously, may cause obstruction
Nephrolithiasis

- KUB films may help to confirm existence and location
- CT scanning procedure of choice in adults for evaluation of nephrolithiasis
  - May be performed without contrast
Abdomen Calcifications

- RUQ calcifications
  Gall bladder (yellow arrows)
- LUQ Renal calcification (Blue Arrow)

Parenchymal Calculi

Left Renal Calculi (parenchymal)
Parenchymal Calculi

Left Renal Calculi (parenchymal)

Ureteral Calculus

- Left ureteral calculus
- KUB scout film
- Small round opacity on the left side (arrow)
- Common site of ureteral calculus at the Ureteral Pelvic Junction (UPJ)
Ureteral Calculus

- Spot film of the pelvis
- Small opacity at left ischial spine
- Common location of ureteral calculus at the Ureteral Vesicle Junction

Staghorn Calculi

- KUB film (no contrast)
- Left calculi with shape of the collecting system
- May fill all or part of the renal pelvis
- Kidney with staghorn calculi typically poorly functioning or non-functioning
Bladder Calculi

- Laminated calcification in bladder
- Calculi seen in bladder without contrast
- Always obtain scout radiograph before contrast administration

Ureteral Calculus

- 10 minute film
- Opacified ureter
- Dilatation down to the level of the obstruction
Renal Calculi

- Stone-dependent hydronephrosis of the left kidney.
Ureteral Calculus

- Spiral CT without contrast
- Large calcification left renal pelvis (arrow)
- Obstruction with hydronephrosis
- Probable local extravasation of urine (arrowhead)
Renal Calculi

- Longitudinal ultrasound right kidney
- Bright echo in upper pole partially hidden by the central echo complex
- Distal acoustic shadowing (arrow)