May demonstrate:
- renal artery stenosis
- renal artery obstruction (e.g. arterioembolism, aortic dissection)
- renal vein thrombosis (e.g. procoagulant states, renal cell carcinoma)

Screens for free fluid (dark anechoic appearance), gross solid organ injury and pericardial tamponade
- Four views:
  - perihepatic—Morrison’s (hepatorenal) pouch
  - peri splenic—splenorenal recess
  - pelvic—pouch of Douglas (female) or rectovesical pouch (male)
  - pericardial—subxiphoid and parasternal views

Duoplex scan kidneys

Ultrasound should be routinely performed in the presence of acute renal failure

Unilateral or bilateral obstruction:
- dilated caliceal system, renal distortion and perinephric oedema, hydronephrosis with ureteric dilatation
- obstructing masses or calculi

Acalculous cholecystitis:
- gallbladder wall thickening >3 mm in a non-collapsed gallbladder
- striated gallbladder secondary to gallbladder wall oedema
- sonographic Murphy’s sign (localised gallbladder tenderness)
- pericholecystic fluid—without generalised ascites
- mucosal sloughing
- intramural gas
- echogenic bile (sludge)
- gallbladder distension (>5 cm transverse diameter)

Calculus cholecystitis:
- same features plus echogenic gallstones which may be impacted in the gallbladder neck