

# Renal and urological tract injury

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In physiologically non-compromised patients, CT scanning with contrast is the investigation of choice. For assessment of bladder injury a cystogram should be performed at the time of CT . A minimum of 300 mL of contrast is instilled into the bladder via a urethral catheter. The large volume is essential because a small volume may not distend the bladder enough to produce a leak from a small bladder injury , once the cystic muscle is contracted. Generally , renal injury is managed non-operatively unless the patient is physiologically compromised. The kidney can be angioembolised if required. Henri Albert Charles Antoine Hartmann , 1860–1952, Professor of Clinical Surgery , Faculty of Medicine, University of Paris, Paris, France. - Ureteric injury is rare and is generally due to penetrating trauma. Most ureters can be repaired or diverted if necessary , or may even be ligated as part of damage control procedures. Intraperitoneal rupture of the bladder, usually from direct blunt injury , will require surgical repair. Extraperitoneal rupture is usually associated with a fracture of the pelvis and will heal with adequate urine drainage via the transurethral route . Suprapubic drainage is reserved for when this is not possible. - Summary box 29.7 Injuries to structures in the abdomen

Figure 29.10 The zones of the retroperitoneum. Zone 1, central; zone 2, lateral; zone 3, pelvic. In children, splenic injury can be managed non-operatively in most cases, but not if physiologically compromised Duodenal injuries are often associated with pancreatic trauma Bowel injuries need urgent definitive repair, or isolation using resection or by stapling Rectal injuries are managed depending on whether intra- or extraperitoneal Kidney and urinary tract injuries are best diagnosed with contrast CT scanning Intraperitoneal bladder tears need formal repair and drainage

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