

# Pelvic fractures in dogs and cats - by Richard Jerram

Pelvic fractures in dogs and cats are common, making up approximately 25% of all fractures seen in veterinary practice. Most pelvic fractures are complex and occur due to automobile trauma with injuries frequently seen in other body systems. The decision on whether to recommend surgical treatment for pelvic fractures should be based on a thorough understanding of pelvic anatomy, complete patient evaluation, and knowledge of surgical approaches and techniques for pelvic fracture stabilisation.

## Concurrent Injuries

- Thoracic injuries - greater than 30% of animals with pelvic trauma will have concurrent pulmonary contusions, pneumothorax, diaphragmatic hernia or pleural effusion.
- Urinary tract injuries - one study reports a 39% rate of urinary tract trauma in dogs with pelvic injury. Bladder rupture, ureteral avulsion or urethral trauma are most common.
- Neurologic injuries - ischiatic (sciatic) nerve injury often occurs due to damage at the lumbosacral plexus or with acetabular and cranial ischial fractures. Pudendal and pelvic nerve damage can result in urination and defecation problems. Rarely, injury to the obturator, femoral, and gluteal nerves can result in postoperative gait abnormalities.
- Spinal injuries - coccygeal fractures, sacral fractures and thoracolumbar vertebral fracture/luxations are occasionally seen with pelvic trauma.
- Vascular injuries - direct branches of the iliac arteries can be lacerated and lead to profound blood loss, hematoma, and hypovolemia.

## Initial Management

As most pelvic fracture patients are experiencing severe pain, analgesia may be necessary for complete orthopedic and neurologic examination. The physical examination of the traumatized patient should be thorough with special attention to thoracic auscultation and abdominal palpation. A lateral thoracic radiograph is indicated in all cases. Abdominocentesis, urinary catheterization and a hematocrit may be required.

Radiographs of the pelvis can generally wait until early assessment and necessary emergency treatment has been completed. Due to the level of pain and required patient positioning, pelvic radiographs are best performed under general anesthesia.

## Treatment of Pelvic Fractures

*Fractures can be grouped into three broad categories:*

1. Those that can be managed conservatively. Stable fractures that do not involve the acetabulum or compromise the pelvic canal diameter such as unilateral ilial fractures, most fractures of the pubis and ischium, and unilateral sacroiliac separations can be managed with 4-6 weeks of strict cage confinement. Adequate analgesia and nursing care are imperative. In my opinion, conservative management of even stable fractures in large breed dogs can be unrewarding and surgical treatment is recommended.
2. Those that have a better prognosis if treated surgically but can be managed conservatively. Unstable fractures that do not involve the acetabulum such as bilateral sacroiliac separations, bilateral ilial fractures can be managed conservatively for financial reasons. The owner must be warned that long-term complications such as lameness, osteoarthritis and constipation can occur. Surgical stabilisation results in a more rapid recovery with fewer complications in these patients.
3. Those that should be treated surgically to avoid complications. There are four main reasons for strongly recommending surgical stabilisation of pelvic fractures in both dogs and cats:
  - a) Fractures involving the acetabulum. Conservative treatment of even caudal acetabular fractures has been shown to result in severe degenerative joint disease.
  - b) Fractures that involve bilateral weight-bearing structures. E.g. ilial fracture and contralateral sacroiliac separation.
  - c) Fractures that are narrowing the pelvic canal diameter by greater than 40%. A typical fracture would include a displaced sacroiliac separation with an ipsilateral cranial ischial fracture.
  - d) Pelvic trauma suspected to have ischiatic or sciatic nerve entrapment that is causing severe pain.



*Pre-op VD ilial fracture and SI luxation*



*Post-op radiograph of repair*