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

1. Thoracic injuries - greater than 30% of animals with pelvic trauma will have concurrent pulmonary contusions, pneumothorax, diaphragmatic hernia or pleural effusion.
2. Urinary tract injuries - one study reports a 35% rate of urinary tract trauma in dogs with pelvic injury. Bladder rupture, ureteral avulsion or urethral trauma are most common.
3. Neurologic injuries - ischiatric (sciatic) nerve injury often occurs due to damage at the lumboischial plexus or with acetabular and cranial ischial fractures. Femoral and pelvic nerve damage can result in urination and defaecation problems. Rarely, injury to the obturator, femoral, and gluteal nerves can result in postoperative gait abnormalities.
4. Spinal injuries - coccygeal fractures, sacral fractures and thoracolumbar vertebral fracture/ luxations are occasionally seen with pelvic trauma.
5. Vascular injuries - direct branches of the iliac arteries can be lacerated and lead to profound blood loss, hematomata, 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 ischiatric or sciatic nerve entrapment that is causing severe pain.

Flynn’s racing around after pelvic fracture

by Annie Wright - The Wright One

Flynn’s racing around after pelvic fracture

Sue Murray from Kati Kati says she recently had one of those horror moments when she accidentally drove over and seriously injured one of the family’s four dogs. “We live out in the country so the dogs have a large area to run around in and they usually stay well clear of our vehicle. They are quite used to us coming and going but on this day Flynn, our beautiful gold and white Biewer Cotter, got too close and I drove over him. When I heard his screams I knew something awful had happened.” Sue says while there was no blood Flynn was obviously hurt so there was no time to muck about. After a couple of frantic calls for help she managed to lift him into the car, organise her two young children and set off to her vet Tony Austwick at Tauranga - Kati Kati Veterinary Services. “At this stage we didn’t know exactly what Flynn’s injuries were as he had no open wounds but, after Tony had administered morphine and x-rayed him, the news was bad. Flynn had a pelvic fracture and it would be a big job to get him well again.” Tony said while he could perform the operation he wanted to refer Flynn to the Veterinary Specialist Group (VSG) at UniTec in Auckland who have the latest state of the art equipment and expertise on site.”

Tony Austwick says Flynn presented with multiple fractures to his pelvis and, while he could have operated on him, he felt Flynn’s injuries were outside the capabilities of the clinic. “Flynn is such an athletic dog and Sue had said right from the start that she wanted to ensure any operation would mean a complete recovery for him. As a vet you always have to know where your limits are and while we can do some surgical repairs here, in this case the injuries were too complex.” Tony says he had no qualms about referring Flynn to the Veterinary Specialist Group (VSG) as if they could not help him then nobody could.

After discussing their options Sue decided that Flynn needed the very best in care if he was going to recover well and lead a normal life. He had already shown promise in obedience competitions after being placed fourth in the beginners section at the National Dog Show so nothing short of a full recovery would suit him. “We wanted Flynn to be able to lead a full life and not be limping around always struggling to keep up with our other dogs - he is that sort of bouncy, full of life dog. If we couldn’t get him back pretty much back to full health then we would have to make a decision as to his future.”

She says taking Flynn to VSG for a consultation was an emotional time as she didn’t know what the outcome would be but from the moment she stepped through the door the team there were amazing supportive to both owner and dog. “They looked after us both and veterinarian Richard Jerram was phenomenal. He x-rayed Flynn and told us what the repair procedure would be - he covered the operation as well as the post operative care required, the possible costs and the expected outcomes for Flynn long term. He was confident we could expect a 95% recovery at the very least.”

With this information Sue decided to go ahead with the operation and, while Flynn came through well, the tricky matter of post operative care had to be carefully managed. He had to be restrained from moving around too much so his pelvic bones could heal and knit together again - Sue says this was easier said than done.

“We had to support his hind quarters in a sling arrangement and keep him contained in a 3m x 3m space to keep him off his hind legs. Poor Flynn got quite depressed at this stage but daily calls from the VSG team really helped us and their support and advice continued right up to the time he was declared fit and healthy again.”

She says Flynn is once again back to full health with no noticeable indicators he has been through the trauma of a pelvic fracture. Sue puts his full recovery down to the exceptional care and expertise of the VSG team.

“I can’t speak highly enough of both Richard Jerram and the VSG team and in fact if I had an orthopaedic injury I’d consider consulting Richard Jerram myself - I’d trust him to sort my health out as well. Flynn is now back to his old self and is racing around with the other dogs and getting up to all his old tricks.”