

Summer 2010

Welcome to the latest Torrington Orthopaedics Newsletter for Veterinary Nurses.

In this edition of our nursing newsletter we will be looking at the conservative nursing care, and post-operative management of pelvic trauma patients.

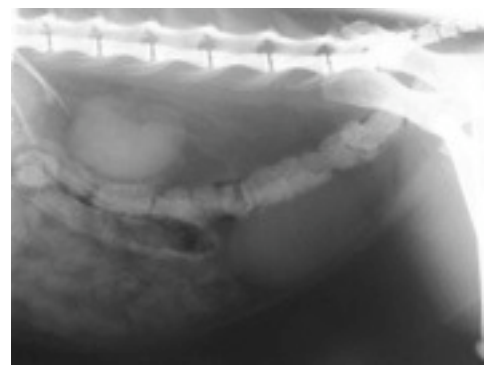
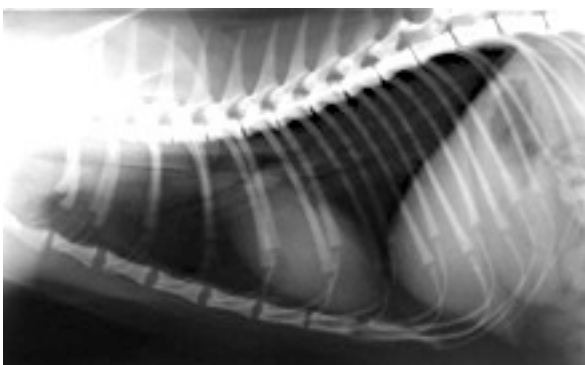


Pelvic trauma patients are commonly encountered and can account for 20-25% of fractures seen in small animal practice. The history of these patients normally includes a traumatic incident e.g. road traffic accident, with an acute onset of symptoms.

These patients require thorough examination on admission as the level of traumatic force required to fracture the pelvis may mean that the patient may have sustained other injuries. These injuries may require urgent treatment e.g. chest trauma (pneumothorax etc), bladder and/or urethral rupture, spinal fractures or injuries, neurological damage or deficits. The patient should initially be treated for shock, including oxygen therapy, intravenous fluids and analgesia. Patients with pelvic injuries will be extremely painful and analgesia should be provided as soon as possible to

control this pain. Opioid analgesics should be administered e.g. methadone or morphine whilst further examination takes place. The chest and abdomen should be radiographed to determine the presence of other injuries e.g. rib fractures, diaphragmatic ruptures, bladder trauma etc. If the bladder cannot be palpated, and is not visible on abdominal radiographs, it may be necessary to perform positive contrast cystography to confirm the bladder is intact. A water-soluble non-ionic contrast media should be used e.g. iohexol (Omnipaque; GE Healthcare®) to assess the bladder and urethra. The patient should also be closely observed for any conscious urination. A neurological examination should also be performed. The sciatic nerve runs close to the medial surface of the ilial wing, so there is an increased risk of sciatic nerve injury with pelvic fractures, especially those involving the ilial wing.

Once the patient is stabilised and any immediately life threatening injuries have been treated the pelvic fractures can be more thoroughly assessed.



Patient Handling

Patient handling can be difficult when pelvic fractures are present. Any movement at the fracture site may cause more damage and will also be extremely painful. It can be difficult to provide adequate support under the hindquarters when lifting these patients, especially if the fractures are very unstable.

Providing thick padded mattresses covered with VetBed will help to make the patient more comfortable in the kennel. The mattress should be waterproof, to facilitate adequate cleaning, this can also be covered with a urinary incontinence pad to absorb urine, and then VetBed on top so that any urine passed will be kept away from the patient. It may be unlikely that the patient will be able or willing to stand to urinate, or be able to move away from any urine passed on the bed, therefore it is important to use bedding that will help keep the patient dry and prevent urine scalding.



Upcoming Nursing CPD Nursing The Pelvic Trauma Patient and Bladder Management



**Wednesday 13th October
7.30pm for 8pm start**

In this seminar Lisa will cover the practical aspects of nursing pelvic trauma patients. Both conservative and post-surgical management will be covered. Environmental considerations both whilst hospitalised and at home will be discussed. Post-operative rehabilitation will also be covered.

Pain Management

Analgesia is very important as the pelvic trauma patient will be experiencing severe levels of pain. A multi-modal approach combining opioids with NSAIDs should be used to provide effective clinical analgesia. Each drug acts on a different part of the pain system. By combining drugs that act on different points of the pain pathways, they will be more effective than if they were given alone. A constant rate infusion of a combination of drugs can be very effective in controlling pain. It also removes the necessity of repeated intra-muscular injections, which are painful, and it helps eliminate the patient's association of pain with handling. A combination of morphine, ketamine and lidocaine, or just morphine and ketamine can be

administered intravenously, mixed in a bag of Hartmanns. A loading dose of morphine and ketamine should be administered intra-muscularly and then a constant rate infusion started intravenously, altering the rate to provide analgesia as necessary. Fentanyl patches can also be used quite effectively, but these can take up to 24 hours to reach therapeutic levels and other drugs must be given via another route until these levels are reached.



Congratulations to some of our Nursing Team!

We are pleased to announce that Rachel Singleton our Kennels Team Leader, has gained her RCVS Advanced Nursing Diploma! Surgical Team Leader, Leanne Wyatt has passed her second year diploma exams and is well on her way to becoming another RCVS DipAVN, as has Louise Chappell, another of our fantastic Nursing Team. Becky Thoseby our other Surgical Team Leader has passed her 1st year diploma exams and will be starting the 2nd year in September.

Kate Nettleton is working towards her Diploma in Canine Hydrotherapy, which will see her join our Rehabilitation Team towards the end of the year.

Conservative vs. Surgical Management

The clinician should individually assess each patient presented with pelvic injuries, and a decision needs to be made regarding surgical versus conservative management in each case. Any other soft tissue injuries should also be considered. It may be necessary to perform positive contrast cystography if there is any concern regarding bladder status. Radiography should always be performed to accurately assess the exact nature of the fracture(s) and if surgical intervention will be required. Most pelvic fractures are multiple, involving a combination of ilial, ischial, acetabular, pubic and sacral fractures. They may also involve either unilateral or bilateral sacroiliac luxation. If the fractures are minimally displaced, the surrounding musculature can effectively support the fracture sites, reducing the need for surgical intervention. However, if there is gross displacement of the fracture segments surgery is usually required, but spastic muscle contraction will increase the difficulty of surgical reduction and fixation. There are a number of indications for surgical management:

- Marked reduction in pelvic canal diameter
- Fractures involving the acetabulum
- Instability of the hip joint due to fractures of the ilium, ischium and pubis
- Large degree of instability, either unilaterally or bilaterally, especially if it also involves other fractures/luxations

Patients may be managed conservatively if there is little or no displacement of the fractures, the acetabulum is not involved, and the diameter of the pelvic canal is not reduced.



Conservative Management

Conservative management should include strict cage rest and limited activity, the pelvic musculature is effective in immobilising the fractures, but the patient should be restricted from moving around excessively. The patient should be cage rested for 4-6 weeks. If the patient is temporarily non-ambulatory it is important to give the patient regular opportunity for normal urination and defaecation, this may involve carrying the patient outdoors. It is also important to check the patient regularly and use bedding that will help to keep them dry if they do urinate in their bed. If the patient has soiled themselves it is important to clean and dry them ASAP to prevent urine scalding of the skin. A barrier cream can be applied to the ventral abdomen and hindquarters to prevent scalding. If the patient is heavily bruised there may be some exudate from the damaged skin and this can also cause scalding of the skin increasing the risk of skin infection. Bedding should also be padded to ensure that they are comfortable and to prevent formation of any decubitus ulcers, especially if the patient is non-ambulatory. Once the patient is attempting to stand, a sling can be used under the abdomen to support their weight and assist them whilst attempting to walk. This should be limited to a few minutes at a time.



Fractures present in the above radiograph-

- Sacroiliac luxation
- Pubic fracture
- Ischial tuberosity avulsion

This cat was treated conservatively as the pelvis was stable when assessed under general anaesthesia.

Post-operative Management



Surgical candidates should be treated similarly to conservative management patients both pre-operatively and post-operatively. Post-operatively, the surgical wound(s) should be checked regularly for signs of infection or wound breakdown. The

wounds should be covered with an adhesive dressing to prevent soiling of the area.

Once the fractures have been stabilised the patient should be more comfortable, and most patients will start to use at least one pelvic limb 24-48 hours after surgery, but any sudden change in the patient's demeanour or deterioration in the patient's recovery may indicate the development of post-operative complication, such as implant loosening or infection. Any sudden change should be reported to the surgeon and further radiographs etc. may be required to investigate any possible problems that may have arisen.

Post-operatively, rehabilitation techniques can be applied much more quickly than with non-surgical patients and an early return to normal function should be actively encouraged. Immediately post surgery, ice massage can be used to reduce swelling and prevent further bruising, providing another form of pain relief.



It is important to take things slowly; the intensity and frequency of treatment should be

led by the patient, it is important that the patient is pain free during any rehabilitation.

Supported standing can encourage the patient to bear weight through the hind limbs, and assisting the patient to stand can also help regain normal posture and gait. If the patient favours one hind

limb over the other, swaying exercises can help to transfer weight from the favoured limb onto the opposite limb and then back again. Assisted walking, at a slow pace, will help with limb placement and encourage the patient to adopt a normal posture.



Using a sling to support the patient, taking some of their weight, can help them to place the limbs more easily. Other exercises including sit to stand, in which the patient is encouraged and assisted to sit in a normal position and then encouraged to push up to a standing position, help to increase muscle strength.

Hydrotherapy can also be a useful post-operative tool for rehabilitation of pelvic trauma patients. Water can be used to provide buoyancy and support the patient's body weight whilst the patient walks on the under water



treadmill belt at a slow pace. By supporting the patient's weight with the water, limb placement will be easier for the patient and will help to improve posture.

Rehabilitation can be continued at home. The owner can be shown some of the simple techniques and exercises used to help their pet. They will then feel actively involved in their pet's recovery. Support from veterinary nurses after discharge will help them realise the continued importance of the restrictions placed on their pet, for example, continued cage rest, helping to achieve the best outcome for both client and their pet.



If you require any further information or have any questions relating to the content of this quarter's newsletter please do not hesitate to contact our nursing team by telephone on 0844 8808 051 or by e mail at lisa@torvet.co.uk.

