Sacroiliac Luxation

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Sacroiliac luxation, the traumatic separation of the ilial wing from the sacrum without fracture, occurs most often after vehicular injury. Displacement of the ilial wing, the severity of which can vary, usually presents cranial and slightly dorsal to the sacrum. Depending on the degree of displacement, the patient may have severe weight-bearing or nonweight-bearing lameness on the affected side. Animals with severe displacement may have significant pain on palpation of the sacroiliac joint or when attempting to stand.

**Diagnosis**

Severe sacroiliac luxations can be diagnosed by palpation with the patient anesthetized or heavily sedated, but it is usually noted on radiographic evaluation of the pelvis (Figure 1). Radiographic changes can be subtle, but scrutiny of the joint surface of the ilium compared with the caudal wing of the sacrum on the ventrodorsal view often reveals a discrepancy on the affected side, particularly if the luxation is unilateral. To avoid overinterpretation on the lateral radiographic view of the pelvis, close attention should be paid to patient positioning.

This dog was presented with bilateral sacroiliac luxation with cranial displacement, pubic fractures, and a left ischial fracture (A). Sacro-caudal luxation (B) will likely cause significant neurologic deficiencies to anal tone and the tail.
Evaluation of the remainder of the pelvis often reveals concurrent injuries, including coxofemoral luxation or contralateral ilial wing, acetabular, pubic, ischial, or femoral fractures. Medication or apparent pain may hinder proper neurologic assessment before surgical stabilization, but sensory and motor function of the limbs, tail, and anus must be evaluated to rule out concurrent nerve injury.

**Treatment**
Surgical stabilization is the treatment of choice for sacroiliac luxation; however, in cases of minor displacement without other orthopedic injuries (or in smaller patients), conservative treatment with 4 to 6 weeks of strict cage confinement often results in acceptable outcomes.

Lag screw fixation is the preferred method of surgical stabilization. Mechanical studies have demonstrated that the largest screws possible, placed at a depth of 60% of the sacral width, can maximize the strength of the sacroiliac repair. Improper screw positions include ventral placement, premature exit of the sacral wing, cranial placement into the L7-S1 intervertebral disc space, and dorsal placement into the sacral wing, thereby endangering the spinal cord. These screw positions often result in short, shallow screw placement, accounting for high rates of loosened fixation. As the appropriate area for drilling is relatively small, postoperative radiography is required to ensure adequate reduction of the sacroiliac joint and proper implant placement.

**Outcome**
Following surgery, activity should be limited to leash walks for 4 to 6 weeks. Radiographic reevaluation is recommended before the patient returns to normal activity. Prognosis for bone healing is usually excellent (Figure 2). See aids & resources, back page, for references & suggested reading.