Carpal Joint Injury

German Shepherd; 6 years; male; 44 kg, acute lameness right front after outdoor trauma. Treated with painkilling drugs. Worse after 3 days (3/5). Presented with markedly swollen carpal joint - primary palmart and lateralt. Slightly hyperextended in the carpus and a weightshift position of the paw toward medial when weightbearing.
Fractures of the ACB are recognised as a racing injury in the greyhound (Prole 1976).

Fractures described and classified (Johnson 1987, Johnson et al. 1988).

Of the five types documented,

- four are ligament avulsion fractures
The only reported specific injury to the soft tissue attachments to the ACB is strain of the flexor carpi ulnaris tendon (Roe 1998).

Carpal hyperextension injuries rarely involve the ligaments of the ACB, unless there is extensive injury to the antebrachiocarpal joint (Earley 1978).

A case of chronic ACB subluxation was treated successfully by arthrodesis of the accessory ulnar carpal joint (Lenehan and Tarvin, 1989) (isolated subluxation of the base of the second to fifth carpal bones associated with mild hyperextension)
Right carpus; subluxation ACB

- A latero-palmar skin incision was made proximal to the ACB to a point just distal to the accessory carpal pad.
- The lateral retinaculum was incised. The palmar soft tissues and the lateral retinaculum were sutured, allowing visual inspection of the articular surfaces.
- The torn soft tissues and the lateral retinaculum were sutured.
- Palmar splint bandage; carpus in 45° flexion.
- After two weeks replaced with a straight splint for two weeks; allowing the dog to weightbear.
- Restricted exercise for two months.
- Six months later the dog regularly undertook intensive exercise with no lameness.
- The range of flexion of the carpus was reduced by 15° when compared with the contralateral carpus.

Left carpus; subluxation ACB

- An incision through the superficial fascia revealed a total avulsion of the lateral attachments to the latero-palmar surfaces of the distal ulna, including the short ulnar ligament.
- The joint capsule of the carpometacarpal joint was torn over the entire lateral and dorsal aspects, allowing the joint surfaces to be visualised.
- The torn lateral attachments of the ACB were sutured to the extensor carpi ulnaris muscle on the lateral aspect of the ulna.
- Flexion dressing as before. The dog made an uneventful recovery.
• Pancarpal arthrodesis
• Accessorio-carpal arthrodesis
• Exploratory surgery reconstruction/suturing injured soft tissue and external splint
• or/and wiring caudal tip of the accessory carpal bone to the base of MC V
• Conservative cast
The accessory carpal bone is a very important stabilizer of the carpus and it is very unlikely that damage at this level do not involve other important palmar stabilizers like palmar radiocarpal og ulnocarpal ligaments.
Carpal injury

In the carpus, sporting dogs can incur flexor carpi ulnaris tendinopathy or avulsion, superficial digital flexor tendon elongation (flyball and agility dogs), medial and lateral collateral ligament rupture, abductor pollicis longus tenosynovitis (earthdogs), palmar ligament hyperextension injury (flyball and dock dogs), radial carpal bone luxation or fracture, styloid process fracture and joint instability, or carpal osteoarthritis (racing greyhounds). 1,2,5-37

Tendinopathy and even avulsion of the insertion of the flexor carpi ulnaris from the accessory carpal bone can occur in sporting dogs, especially those working on uneven terrain and hard surfaces. In dogs, the injury presents with what looks like hyperextension of the carpus and is differentiated from tears of the flexor retinaculum by palpating distal to the accessory carpal bone (which should palpate normally if the flexor carpi ulnaris is strained or avulsed). If the flexor retinaculum is torn, the dog will stand with the affected limb hyperextended, and there will be swelling or enlargement of the soft tissues on the palmar aspect of the carpus distal to the accessory carpal bone. 38

Treatment consists of surgical repair of the avulsion by using a three-loop pulley suture technique (usually with a bone tunnel created in the accessory carpal bone), splinting for three weeks, and then rehabilitation for a gradual return to function. 38 Treatment of strains or tendinopathies can be conservative with laser or shockwave therapy used to stimulate healing of the insertion and increase the strength of the healed fibers. 39-41 During therapy and for three weeks after treatment, the dog should be maintained in a splint or orthotic brace to support the healing structures.
Det bästa för djuren