

Canoe & Kayak Injury Series

Wrist Pain from Overuse, “Intersection Syndrome”

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In Brief

Wrist pain can have many sports-related causes. One of the common overuse injuries that often go undiagnosed is *Intersection syndrome* which is tendinitis or tenosynovitis in the first and second dorsal compartments of the wrist. This is an overuse syndrome and is seen in canoeing, rowing, racket sports, skiing and weight lifting. Physical exam demonstrates tenderness and crepitation on the dorsoradial aspect of the wrist, proximal to Lister's tubercle. Treatment may consist of rest, ice therapy, nonsteroidal anti-inflammatory drugs (NSAIDs), wrist splinting, corticosteroid injection, rehabilitation, and surgery.

Classic Presentation

Intersection syndrome is a tendinitis or friction tendinitis in the first and second dorsal compartments. The muscle and tendons of these two compartments traverse each other at a 60° angle, two to three finger breadths proximal to the wrist joint on the dorsal aspect (several centimetres proximal to Lister's tubercle). Intersection syndrome has also been described as a stenosing tenosynovitis of the sheath of the second compartment (the radial extensors).

This was first described in a group of elite oarsmen by Williams on 1977 but occurs with equal frequency in men and women. This tenosynovitis also known as “crossover tendonitis”, “squeaker's wrist,” “bugaboo forearm,” “oarsmen's wrist,” “peritendinitis crepitans,” and “abductor pollicis longus bursitis.

Maintaining the tight hand grip required to hold on to the paddle or oars for extended periods of time puts the wrists and forearms at risk for this overuse injuries. Each stroke also involves twisting the paddle parallel to the water. This repetitive motion is carried out by extension at the wrist, further stressing the forearm.

Affected athletes typically experience pain, tenderness, and even crepitus of the dorsal wrist in the region of crossover between the first and third dorsal wrist compartments (figure 5). On physical exam, affected athletes have pain and swelling in this region of the dorsal forearm. As with other overuse injuries, this problem is more common early in the outdoor canoeing season when feathering the paddle is still an unaccustomed activity. Intersection syndrome is seen in canoeists, rowers, indoor racket players, skiers, and weight lifters who overuse their radial extensor of the wrist by excessive curling. It also presents an occupational hazard.

Physical examination



Physical exam reveals point tenderness on the dorsum of the forearm, two to three finger breadths proximal to the wrist joint, as well as crepitation or squeaking with passive or active motion and visible swelling along the course of the affected tendons. Also sometimes there is a palpable grating with both active and passive motion, maximal in this area but extending proximally to the mid-forearm. She had full range of motion, but pain on active wrist extension and ulnar and radial deviation. There is a full range of motion, but pain on active wrist extension and ulnar and radial deviation. Because of pain, strength was slightly decreased on resisted testing of the same motions, as well as on supination and grip testing.

Treatment

Treatment of forearm tendinitis involves appropriate rest and technique modification. Affected athletes can try to keep the paddle or oar(s) with their wrists as flat as possible, which may or may not be possible, given their skill level. Looser grip on the paddle or oar(s) is also very important.

Medical treatment consists of one or more weeks of wrist splinting, avoidance of exacerbating activities, icing (ice massage with water frozen in a foam cup works well), NSAIDs, corticosteroid injection into the tendon sheath, and rehabilitation consisting of range-of-motion exercises and wrist extensor strengtheners. Tendinitis usually resolves fairly quickly with appropriate management but rarely in resistance cases surgical release of tendon sheath is necessary.

References

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