WRIST PAIN

The wrist is made up of all the structures that comprise or cross the wrist or radiocarpal joint. This biaxial ellipsoid joint is formed from the articulation of the distal head of the radius (which is concave) with the scaphoid and lunate carpal bones (which together form a convexity). Additional articulation occurs between the lunate and triangular carpal bones and a cartilaginous disc that extends from the ulnar side of the distal radius to its ulnar attachment at the base of the ulnar styloid process. This disc adds stability to the wrist by creating a close relationship between the ulna and the carpal bones while at the same time binding the ulna and radial distal heads together. The distal radioulnar joint is also commonly considered to be a *wrist* joint even though it fails to directly articulate with bones of the hand. This joint is a uniaxial pivot joint with one degree of freedom, allowing the radius to move over the ulna (which also moves) during wrist pronation and supination.

All joint structures are bound together by ligaments that are in turn covered by a synovial membrane. The other structures associated with the wrist pass over these structures. On the anterior side, the tendons and the sheaths of the flexor digitorum sublimis, flexor digitorum profundus, flexor pollicis longus, and flexor carpi ulnaris muscles, as well as the radial and ulnar arteries (and their veins), and the median and ulnar nerves all pass under the transverse carpal ligament. The palmaris longus tendon passes over the transverse carpal ligament and the flexor carpi radialis pierces it. On the posterior or dorsal side, the tendons of the extensor digitorum communis, extensor indicis proprius, extensor digiti quinti proprius, extensor pollicis brevis, extensor pollicis longus, extensor carpi radialis longus, extensor carpi radialis brevis, and extensor carpi ulnaris muscles, as well as branches of the radial nerve all pass under the extensor retinaculum (extensor tunnel). On the lateral side, the tendon of the abductor pollicis longus crosses the joint.

The wrist may be damaged by forced extension and pronation, a common source of sprain, strain, and fractures. Healed fractures of the scaphoid bone and Colle's fracture of the lower end of the radius may provide a long-term source of *wrist pain*. The Colle's fracture is especially troublesome if the deformity of radial deviation is not adequately corrected when reduced.

Wrist pain may also come from various disease processes of the joints, skin, peripheral nerve, or circulatory structures. Pain may be referred into the wrist by trigger point formations, interspinous ligamentous strain, visceral organ dysfunction, and nerve compression or irritation. Tingling or numbness may be accompanying sensations associated with referred pain from trigger point formations or nerve compression (as in the *Carpal Tunnel Syndrome*). Arthritis (of various types) is the most common source of *wrist pain*.

Treatment

Taping with porous athletic tape may be useful for immobilizing a strained or sprained wrist, if the correct taping technique is used. Immobilization of the injured wrist may be of primary importance in the process of healing after a sprain, strain or fracture.

Other sources of wrist pain should be established through the evaluation process. Treat the treatable causes appropriately.

Trigger Points

The following trigger point formations may, singly or in combination, refer pain into the wrist area: Scalenus, Scalenus (minimus), Infraspinatus, Coracobrachialis, Supraspinatus (muscle), Latissimus dorsi (upper portion), Serratus posterior superior, Serratus anterior, Subclavius, Subscapularis, Pectoralis minor, Triceps (long head), Brachialis, Extensor carpi radialis longus, Extensor carpi radialis brevis, Extensor carpi ulnaris, Middle finger extensor, Fourth finger extensor, Palmaris longus, Flexor carpi radialis, Flexor carpi ulnaris, Brachioradialis, Pronator teres, Extensor indicis proprius, Flexor digitorum sublimis (radial head), Flexor digitorum sublimis (humeral head), Opponens pollicis, First dorsal interosseus.