WHEN A PATIENT complains of pain, weakness, and numbness in his or her hand, it is often associated with carpal tunnel syndrome. The athletic trainer should approach this complaint with an index of suspicion that includes a proximal forearm etiology. Median nerve and anterior interosseous nerve entrapment can occur proximal to the carpal tunnel, in the forearm and/or at the elbow. To determine the location of nerve entrapment, the clinician must use a differential diagnosis approach that integrates information gained from a detailed history, clinical test results, and diagnostic test results.

Anatomy and Function
The median nerve arises from medial and lateral portions of the C6-T1 nerve roots and will sometimes include a contribution from the C5 nerve root. It travels down the medial aspect of the upper arm, beneath the lacertus fibrosus, between the proximal heads of the pronator teres muscle, passes deep to the pronator teres muscle, and deep to the flexor digitorum superficialis muscle, where the anterior interosseous nerve branches from the median nerve. The main trunk of the median nerve continues to extend distally in the forearm and passes through the carpal tunnel at the wrist. The median nerve supplies the pronator teres, flexor carpi radialis, palmaris longus, and the flexor digitorum superficialis muscles, whereas the anterior interosseous nerve supplies the flexor pollicis longus, lateral flexor digitorum profundus, and pronator quadratus muscles. 

Key Points
- Median nerve entrapment in the forearm and elbow is often overlooked.
- There are multiple causes of median nerve entrapment.
- Pronator syndrome is often vague and difficult to diagnose.
- A detailed history can be key to recognition of median nerve entrapment.
ulna. Its distal attachment is on the middle one-third of the lateral radius. The action of the pronator teres muscle is forearm pronation. Pronator syndrome is a term that is often used to designate entrapment of the median nerve by the pronator teres muscle, the lacertus fibrosus, or the flexor digitorum superficialis (i.e., pronator syndrome may involve structures other than the pronator teres muscle). The flexor digitorum superficialis has a proximal attachment on the medial epicondyle and distal attachments on the proximal and lateral sides of the middle phalanx of the second, third, fourth, and fifth digits. Entrapment of the anterior interosseous nerve often occurs just after it branches from the median nerve beneath the flexor digitorum superficialis.

Signs and symptoms of forearm nerve entrapment often include tenderness over the forearm, aching or pain in the wrist and/or forearm, hand grip weakness, fatigue-like pain, and paresthesia. Signs and/or symptoms are often exacerbated by repetitive motions (e.g., driving, writing, tennis strokes, pitching softball, weight lifting, or assembly line work) and are more common in females. The physical assessment for entrapment of the median nerve in the forearm or at the elbow should focus on each location where entrapment may occur. Physical examination findings, which may be combined with the results of electromyographic testing, provide the basis for diagnosis and treatment recommendations. Conservative treatment typically includes immobilization, steroid injections, and/or prescription drugs (NSAIDS or steroid), which is often followed with surgical release of the median nerve when conservative care is not successful.

**Differentiating Entrapment Sites**

**Ligament of Struthers**

Entrapment of the median nerve beneath the ligament of Struthers can be assessed by palpating the medial epicondyle and continuing 3-5 cm proximally to determine whether or not it elicits pain or paresthesia. A Tinel’s tap test proximal and anterior to the medial epicondyle may also elicit symptoms. Radiography can be used to determine whether or not the supracondylar process exists (the proximal attachment site of the ligament of Struthers). Median nerve entrapment by the ligament of Struthers can be exacerbated by repetitive flexion-extension motions at the elbow, which creates median nerve traction and will generally be associated with pain in the distal one-third of the upper arm (Figure 2).