

# Elbow and Arm Pain

WITH SIMON BELL

CHAPTER

18

Use of the upper limb in sport demands a well-functioning elbow. In addition, injuries in this region may interfere with the patient's everyday activities. The clinical approach to elbow pain is considered under the following headings:

- lateral elbow pain, with a particular focus on extensor tendinopathy
- medial elbow pain
- posterior elbow pain
- acute elbow injuries
- forearm pain
- upper arm pain.

## Lateral elbow pain

Lateral elbow pain is an extremely common presentation among sportspeople and manual workers. The most common cause is an overuse syndrome related to excessive wrist extension. This condition has traditionally been known as 'tennis elbow'. This is an unsatisfactory term as it gives little indication of the pathological processes involved. In fact, the condition is more common in non-tennis players than in tennis players. It has also been referred to as 'lateral epicondylitis'. This is also inappropriate as the site of the abnormality is usually just below the lateral epicondyle (Fig. 18.1) and the primary pathology is due to collagen disarray rather than inflammation (Chapter 2).

The primary pathological process involved in this condition is tendinosis (Chapter 2) of the extensor carpi radialis brevis (ECRB) tendon, usually within 1–2 cm (0.5–1 in.) of its attachment to the common extensor origin at the lateral epicondyle. This condition will be referred to as extensor tendinopathy.

Other conditions that may cause lateral elbow pain include synovitis of the radiohumeral joint, radiohumeral bursitis and entrapment of the posterior interosseous branch of the radial nerve (radial tunnel syndrome). These conditions may exist by themselves or in conjunction with extensor tendinopathy.

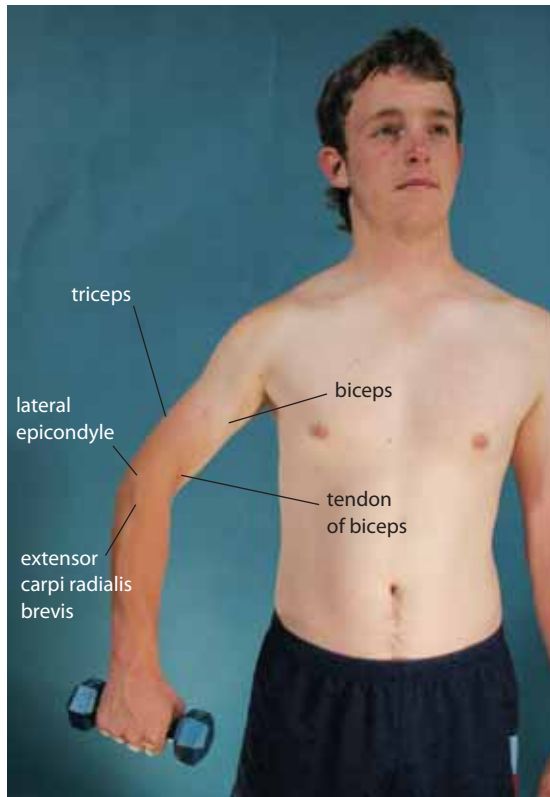
There is often a contribution to lateral elbow pain from the cervical and upper thoracic spines and neural structures (Chapter 3). This may be a relatively minor contribution or, in some cases, the main cause of the patient's elbow pain. A full assessment of the cervical spine (Chapter 16) and neural structures (Chapter 8) is essential in examination of the patient with lateral elbow pain. The causes of lateral elbow pain are summarized in Table 18.1.

## History

The characteristics of the patient's lateral elbow pain should be elicited. The diffuse pain of extensor tendinopathy typically radiates from the lateral epicondyle into the proximal forearm extensor muscle mass. Occasionally the pain may be more localized. The onset of pain may be either acute or insidious. There may have been recent changes in training or technique, note-taking or equipment used in sport or work.

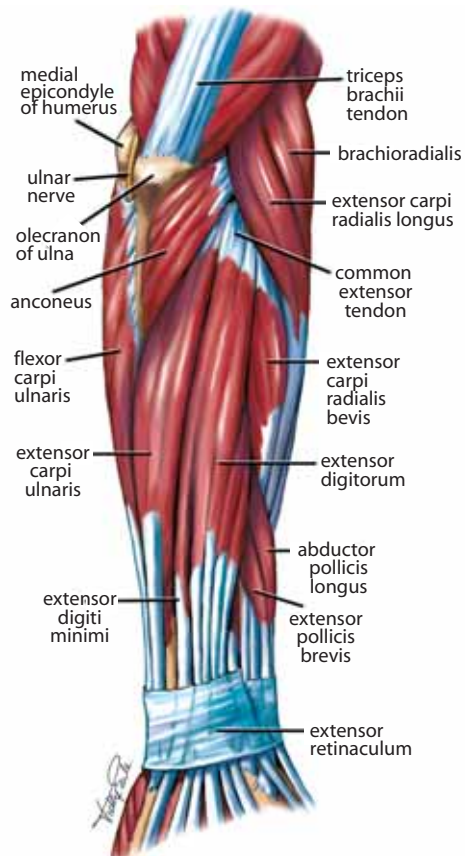
The severity of pain ranges from relatively trivial pain to an almost incapacitating pain that may keep the patient awake at night. It is important to note whether the pain is aggravated by relatively minor everyday activities, such as picking up a cup, or whether it requires repeated activity, such as playing tennis or bricklaying, to become painful.

Pain may radiate into the lateral aspect of the forearm. This may be consistent with posterior



**Figure 18.1** Anatomy of the lateral elbow

**(a)** Surface anatomy of the lateral elbow



**(b)** Anatomy of the lateral elbow from behind

interosseous nerve entrapment or irritation of other neural structures. If pain is closely related to the activity level, it is more likely to be of a mechanical origin. If pain is persistent, unpredictable or related to posture, referred pain should be considered.

Certain movements, usually those involving wrist extension or gripping, will aggravate mechanical pain. Referred pain is affected by prolonged posture, such as lengthy periods seated at a desk or in a car. Associated sensory symptoms, such as pins and needles, may indicate a neural component. Presence

of neck, upper thoracic or shoulder pain should also be noted.

Often by the time the patient presents to the sports medicine clinician, he or she will already have undergone a variety of treatments. It is important to note the response to each of these treatments.

An activity history should also be taken, noting any recent change in the level of activity. In tennis players, note any change in racquet size, grip size or string tension and whether or not any comment has been made regarding his or her technique.

**Table 18.1** Causes of lateral elbow pain

Common	Less common	Not to be missed
Extensor tendinopathy Referred pain Cervical spine Upper thoracic spine Neuro-myofascial	Synovitis of the radiohumeral joint Radiohumeral bursitis Posterior interosseous nerve entrapment (radial tunnel syndrome)	Osteochondritis dissecans Capitellum Radius (in adolescents)