

subacromial bursitis or rotator cuff tendinitis results from osteophyte compression of the rotator cuff tendon originating from the acromioclavicular joint. The differential diagnosis includes tears of the rotator cuff, intra-articular pathologic mechanisms of the glenohumeral joint, bicipital tendinitis, cervical radiculopathy, and referred pain from the chest.

Trochanteric bursitis is the result of inflammation at the insertion of the gluteal muscles at the greater trochanter. It produces lateral thigh pain, which is often worse when the patient lies on the affected side. Women seem to be more prone to develop this condition, perhaps because of increased traction of the gluteal muscles as a result of the relatively broader female pelvis. Other potential risk factors include weight gain, local trauma, overuse activities such as jogging, and leg-length discrepancies (primarily on the side with the longer leg). These factors are thought to lead to increased tension of the gluteus maximus on the iliotibial band, producing bursal inflammation. The differential diagnosis of trochanteric bursitis includes lumbar radiculopathy (particularly of the L1 and L2 nerve roots), meralgia paresthetica (i.e., entrapment of the lateral cutaneous nerve of the thigh as it passes under the inguinal ligament), true hip joint disease, and intra-abdominal pathologic processes. Other bursitis syndromes are less common and listed in Table 84-2.

Septic bursitis is treated with a combination of serial aspirations of the infected bursa and antibiotics, initially directed against *S. aureus* and then adjusted depending on the results of bursal fluid cultures. Recurrent septic bursitis may need surgical excision of the bursa. The approach to nonseptic bursitis should include rest, local heat, and unless contraindicated by peptic ulcer disease, renal disease, or advanced age, nonsteroidal anti-inflammatory drugs (NSAIDs).

The most effective approach usually is local injection of a corticosteroid. Superficial bursae with obvious swelling should be aspirated before the corticosteroid is injected. For deep bursae, such as the subacromial or trochanteric bursae, aspiration yields little or no fluid, and direct injection of a corticosteroid without attempted aspiration is reasonable. Caution is advised in attempted aspiration or injection of the iliopsoas bursa, the ischiogluteal bursa, and the gastrocnemius-semimembranosus bursa (i.e., Baker's cyst). These bursae lie close to important neural and vascular structures, and aspiration under ultrasound guidance is recommended.

## Tendinitis

Most tendinitis syndromes are the result of inflammation in the tendon sheath. Overuse with microscopic tearing of the tendon is the most common risk factor for tendinitis. Tendon compression by an osteophyte may occur, such as in the rotator cuff tendon compressed by an osteophyte originating from the acromioclavicular joint.

A common form of tendinitis is lateral epicondylitis, also known as *tennis elbow* (Table 84-3). This is a common overuse syndrome among tennis players, but it can be seen in many other settings requiring repetitive extension of the forearm (e.g., painting overhead). The diagnosis is confirmed by exclusion of elbow joint pathology and the finding of local tenderness at the lateral epicondyle, which is typically exacerbated by forearm extension against resistance. Enthesopathies such as Achilles tendinitis and

**TABLE 84-3 TENDINITIS SYNDROMES**

| LOCATION  | SYMPTOM                                     | FINDING   |
|---|---|---|
| Extensor pollicis brevis and abductor pollicis longus (de Quervain tenosynovitis) | Wrist pain                                  | Pain on ulnar deviation of the wrist, with the thumb grasped by the remaining four fingers (i.e., Finkelstein test) |
| Flexor tendons of fingers   | Triggering or locking of fingers in flexion | Tender nodule on flexor tendon on palm over metacarpal joint  |
| Medial epicondyle   | Elbow pain                                  | Tenderness of medial epicondyle   |
| Lateral epicondyle  | Elbow pain                                  | Tenderness of lateral epicondyle  |
| Bicipital tendon  | Shoulder pain                               | Tenderness along bicipital groove   |
| Patella   | Knee pain                                   | Tenderness at insertion of patellar tendon  |
| Achilles  | Heel pain                                   | Tender Achilles tendon  |
| Tibialis posterior  | Medial ankle pain                           | Tenderness under medial malleolus with resisted inversion of ankle  |
| Peroneal  | Lateral midfoot or ankle pain               | Tenderness under lateral malleolus with passive inversion   |

peroneal and posterior tibial tendinitis may occur in the setting of an underlying seronegative arthropathy such as Reiter's disease or psoriatic arthritis. A history and clinical evaluation for these disorders should be pursued for the appropriate patient.

Therapy for tendinitis—NSAIDs, local heat, and corticosteroid injection—is similar to that for bursitis. Rest, physical therapy, occupational therapy, and occasionally ergonomic modification are useful adjuncts. The goal of corticosteroid injection in tendinitis is to infiltrate the tendon sheath rather than the tendon itself because direct injection into a tendon may result in rupture of the tendon. Corticosteroid injection of the Achilles tendon should be avoided because of the propensity of this tendon to rupture. Surgical management of tendinitis is indicated only after failure of conservative treatment. For example, chronic impingement of the supraspinatus tendon that is refractory to conservative treatment may require subacromial decompression.

## Fibromyalgia Syndrome

Descriptions of fibromyalgia syndrome exist far back in the medical literature, but it remains a diagnosis of exclusion due to the lack of objective diagnostic or pathologic findings. Fibromyalgia syndrome as defined by the American College of Rheumatology (ACR) 1990 definition for use in clinical trials is a chronic, widespread pain condition with characteristic tender points on physical examination, often associated with a constellation of symptoms such as fatigue, sleep disturbance, headache, irritable bowel syndrome, and mood disorders. In 2010, the ACR developed preliminary diagnostic criteria based only on symptoms because of well-documented issues with the tender point examination (Table 84-4). These criteria do not require a tender point examination, but they provide a scale for measuring the severity of symptoms that are characteristic of fibromyalgia and show good correlation with the 1990 ACR criteria.