

Elbow pain:

a guide to assessment and management in primary care

INTRODUCTION

Elbow pain is a common presenting symptom in primary care. Pathology can arise from any component of the joint including tendons, bursae, bones, or nerves. It is a commonly dislocated joint, especially in children ('pulled elbow'). Tendinopathies (lateral and medial epicondylitis) can result from a number of popular sports and activities of daily living. Rheumatoid (inflammatory), post-traumatic, and primary osteoarthritis are three primary patterns of arthritis affecting the elbow.

HISTORY

Elbow pain can present in any age group with varying symptom complex (Figure 1).

Red flags

Exclude red flags such as swelling and dislocation following trauma, a tender, swollen joint, or rapidly increasing mass. These require urgent referral to secondary care (Figure 1).

Assessment of pain

A systematic approach towards assessment of nature, onset, and duration of pain and associated symptoms is key to diagnosis. Also ask about exacerbating activities and mechanism of injury.

- A traumatic onset of elbow pain in dominant arm, localised to lateral epicondyle with occasional radiation to forearm, is characteristic of lateral epicondylitis (tennis elbow). It is found in 20–50% of tennis players,¹ but is equally common in manual labourers and people caring for young children.
- Pain worsening with gripping activities localised to medial aspect of elbow (dominant arm in 75% of cases) is due to medial epicondylitis, also known as 'golfer's elbow'. History of repeated stress and trauma should be explored.²
- Chronic progressive elbow pain with

restriction of extension and end range of movements (ROM), along with painful clicking, catching, or locking of elbow, point towards osteoarthritis.

- Bilateral elbow pain with stiffness and joint swelling, loss of full ROM, involvement of other joints, and systemic symptoms point towards inflammatory arthritis; 20–50% of patients with rheumatoid arthritis have involvement of elbows.¹

Associated symptoms

- Elbow stiffness is associated with arthritis or trauma. Stiffness restricting flexion is more disabling than restriction of extension.
- Neurological symptoms like numbness and tingling should be assessed. Ulnar nerve radiculopathy is common in medial epicondylitis, osteoarthritis (50% of patients), and inflammatory arthritis.²
- Referred pain from neck or shoulder can present as elbow pain. Assessment of cervical spine is particularly important in suspected rheumatoid arthritis.

EXAMINATION

Before examining the elbow, evaluate the neck and shoulder to rule out radiculopathy, shoulder weakness, or referred pain. Use the Spurling Test (pain when extending and rotating the head to the affected side while pressing down on the head) to exclude cervical nerve root compression. Perform a systematic examination of the elbow joint with the usual 'look, feel, and move' approach.

The patient should be suitably undressed to allow for a full examination of trunk and neck down to both hands. Always compare both sides. Look for any redness, swelling, atrophy, asymmetry, or gross deformity. Note full body posture to assess referral of symptoms, especially in chronic pain.

When feeling for the joint, try to elicit

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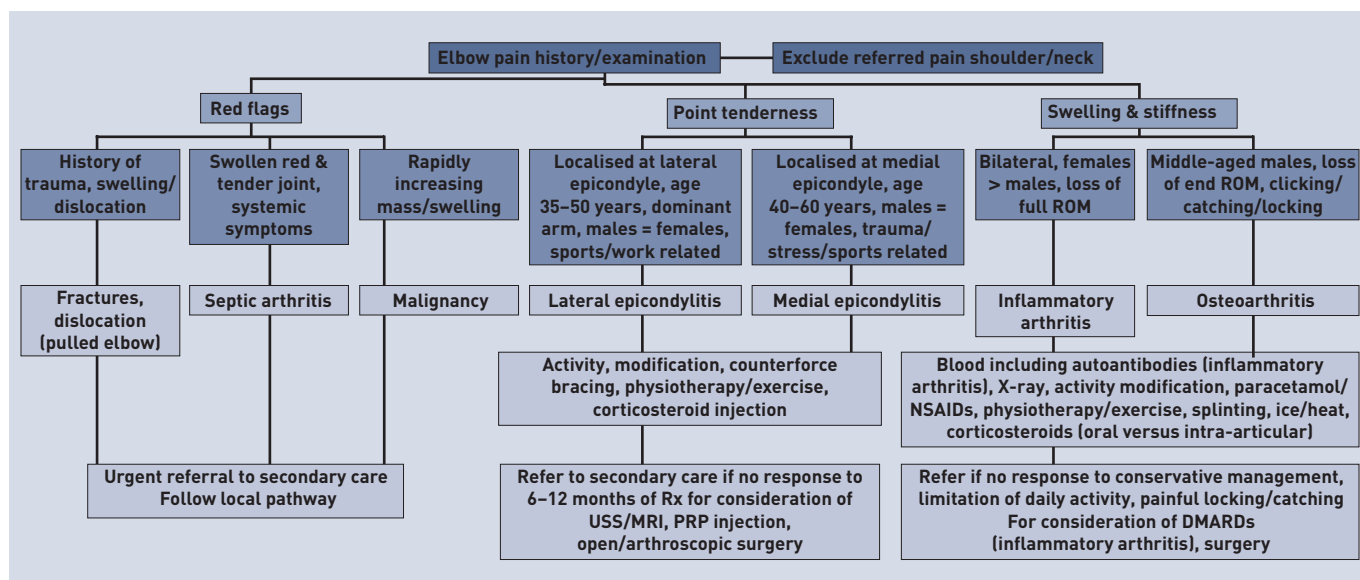


Figure 1. Elbow pain management algorithm.
DMARDs = disease-modifying anti-rheumatic drugs.
MRI = magnetic resonance imaging. **NSAIDs** = non-steroidal anti-inflammatory drugs. **PRP** = platelet-rich plasma. **ROM** = range of movement.
Rx = medication prescribed. **USS** = ultrasound scanning.

the point of tenderness, feel for any suspicious mass and note any changes in temperature or texture. Tenderness anteriorly in ante-cubital fossa can be due to biceps tendonitis. Tenderness to palpation just anterior to medial epicondyle signifies medial epicondylitis. Ulnar nerve tenderness (Tinell's sign) can be elicited just posterior to medial epicondyle, indicating ulnar neuropathy. Point tenderness anterior to lateral epicondyle is diagnostic of lateral epicondylitis. Tenderness localised to area distal to radial head is diagnostic of posterior interosseous nerve (PIN) compression, a differential diagnosis of lateral elbow pain (coexistent with lateral epicondylitis in 5% of cases).¹ Posteriorly, pathology in triceps muscle, olecranon process, and its bursa can give rise to tenderness. Also feel for any click or crepitus in these areas to exclude radial head fracture, arthritis, or loose body.

Check for active and passive ROM, remembering to do active movements first. Hyperextension is common in females and normal if bilateral, and in the absence of trauma. Restriction of full extension is diagnostic of osteoarthritis. Flexion, supination, and pronation should all be tested. Wrist movements should also be assessed because of the shared musculature between wrist and elbow.

Complete the assessment by performing a neurovascular examination. Include assessment of other joints and systemic examination, if indicated.

INVESTIGATIONS

Blood tests (full blood count, erythrocyte sedimentation rate, rheumatoid factor, and autoantibodies) should be done if

inflammatory arthritis is suspected. Plain radiographs are usually normal in tendinopathies and are not indicated.³ Standard anteroposterior and lateral radiographs should always be obtained if pain is accompanied with stiffness, suggestive of arthritis or trauma.

Ultrasound scanning (USS) requires an experienced operator and has variable sensitivity and specificity.¹ Magnetic resonance imaging (MRI) is best used to diagnose ligament injuries; USS and MRI are useful in secondary care settings.²

Electromyography/nerve conduction velocity studies are useful if nerve dysfunction is suspected.

TREATMENT

Treatment should be aimed at alleviating pain, restoring normal physical functioning, and maintaining the patient's ability to work.

Therapeutic modalities like rest, analgesia, and steroid injections provide temporary pain relief but must only be used as part of a larger treatment plan.

Primary care management of tendinopathies aims at decreasing stress and increasing the strength of the injured tendon. Rest should be relative and the patient should avoid activities that aggravate symptoms. Counterforce bracing (band over muscle body) reduces stress,³ while rehabilitative exercises and physiotherapy improve muscle strength. Physiotherapy has shown to be 91% effective in 52 weeks.⁴ Corticosteroid injections can provide short-term symptom relief but may be associated with worse long-term outcomes.⁵ Use of botulinum toxin and platelet-rich plasma to treat tendinopathies has recently increased

in the past 5 years but there is no clinical evidence of its superiority over placebo.³ Referral to secondary care is indicated following persistent symptoms despite 6–12 months of conservative management. However, results are variable after surgery as 25% patients still have pain at 1 year.³

Arthritis can be managed non-operatively with activity modification, NSAIDs, disease-modifying agents in inflammatory arthritis, steroids (oral versus intra-articular), splinting, and use of ice or heat. Indication for referral to secondary care is: failure to respond to non-surgical interventions, interference with daily living, and painful locking of the elbow.⁶

Primary care management of painful elbow conditions may require many months of conservative management, perseverance with rehabilitative exercises,⁷ and physiotherapy. Work-related problems causing elbow pain are more resistant to non-operative management. In this situation consider advising patients to take a short period of time off work to help restore function by promoting rest. Follow-up should be tailored to the individual patient, and review after 2–4 weeks depending on severity of symptoms is a reasonable option.

Provenance

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Competing interests

The authors have declared no competing interests.

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