

MEDIAL EPICONDYLITIS

Medial epicondylitis, more commonly known as golfer's elbow, is characterised by pathological changes to the musculo-tendinous origin of the common flexors where it arises from the medial epicondyle.

EPIDEMIOLOGY:

Most common in the 40–50 year age group.

It is diagnosed 10 times less often than lateral epicondylitis.

The dominant arm is affected in 80% of patients and the condition

Ulnar neuritis can be present in up to 50% of cases.

Self limiting: in approximately 80% within 1 years

Has been **attributed to repetitive forearm** pronation and wrist flexion.

Changes are most often seen in the flexor carpi radialis and pronator teres, with large diffuse tears [Clin Sports Med 1987. 659–72.72]. The condition has been reported frequently in baseball pitchers due to intense valgus force but has also been seen in those engaged in golf, tennis, bowling, racquetball and javelin throwing.

PATHOLOGY:[Nirschl: J Bone Joint Surg 1979. 61-A 832–839]

Tendinoses: There is micro-tearing with disruption of the collagen bundles, vascular and fibroblast proliferation, focal hyaline degeneration and an incomplete reparative process with no evidence of any inflammatory process.

Nirschl has proposed four descriptive stages of epicondylar tendinosis.

Stages 1 and 2 represent pathologic tissue alteration with angiofibroblastic degeneration.

Structural failure is the hallmark of stage 3. Stage 4 shows fibrosis or calcification.

CLINICAL FEATURES

1. The diagnosis of medial elbow tendinopathy is usually not as apparent as that of lateral elbow tendinopathy. It is not uncommon for a patient to suffer with medial elbow tendinopathy and cubital tunnel syndrome.
2. Symptoms are of activity-related medial elbow pain of gradual onset. Pain can be exacerbated during the acceleration phase, particularly of throwing.
3. Commonly demonstrates pain just distal and anterior to the medial epicondyle over the insertion of the flexor-pronator muscles.
4. The pain is worsened on resisted wrist flexion and pronation. The elbow should be flexed at 90° to isolate pronator teres.
5. Grip strength is reduced and can be compared with the contralateral side either subjectively or objectively using a handheld dynamometer.
6. Assessment must be made to rule out ulnar nerve neuropathy: Tinel's sign should be elicited and a full neurological examination performed,

INVESTIGATION

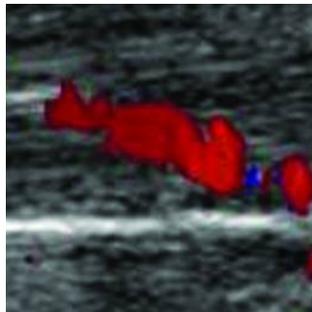
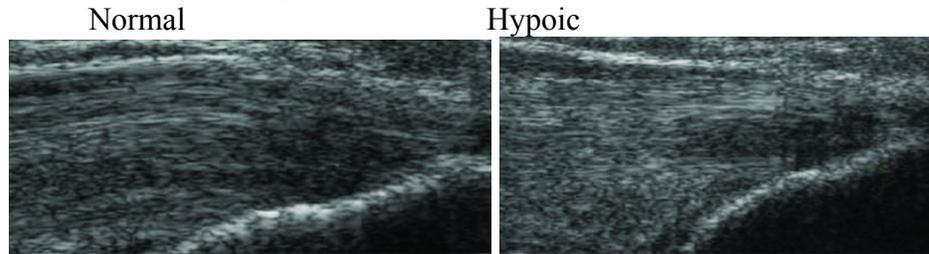
1. ULTRASOUND:

U/S Diagnosis of tendinosis was confirmed according to 3 criteria:

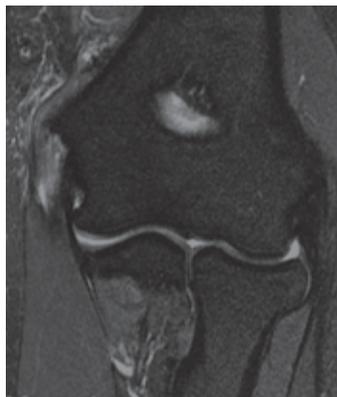
[AJR Am J Roentgenol 2001. 176:777-782.]

1. Echo texture [Hypo echoic]
2. Interstitial tears [[Discrete tears were seen as tendons with focal anechoic areas with no fibres intact or as distinct hypo-echoic areas of fibril discontinuity]
3. Neovascularity.

Tendon size is also a recognised criterion for diagnosis of tendinosis but was not included due to difficulty in reproducing the tendon measurements.



2. MRI: Investigation of choice.



A thickening of the common flexor tendon

Increased signal intensity on T1 and T2

3. Nerve conduction study: when associated ulnar neuritis suspected

TREATMENT

1. **Non-surgical treatment** has been the mainstay of treatment for epicondylitis and includes RICE (rest, ice, compression and elevation), topical medications such as dimethylsulfoxide, oral non-steroidal anti-inflammatory analgesics, counter-force braces and physiotherapy. Although conservative treatment is described as being the most successful, one study has shown that 26% of such patients have recurrence of symptoms and 40% have prolonged minor discomfort. [Br J Rheumatol 1983. 22(2)73–76.76]

The use of **local steroid injection** for tendinosis is well documented. The mechanism of short-term relief following steroid injection or needling is not understood. However, it is postulated that fenestration of an area of tendinosis with needling may promote beneficial bleeding into new channels created through mucoid degeneration. The mechanical disruption may initiate a healing response in the tendon. Recently it has been suggested that the Corticosteroid injection should be considered with caution given the high relapse rates seen with its use for lateral elbow tendinopathy at 6 months to 1 year. There is also the possibility of skin and fat atrophy following injection, which should not be underestimated

Autologous blood injection is a novel treatment for tendinosis. Calandruccio showed that 22/28 patients responded to autologous blood injections, with average Nirschl scores decreasing from 6.5 to 2.0 with a mean follow-up of 9.5 months [J Hand Surg 2003. 28A272–278.278]

Shock wave therapy: [Arch Orthop Trauma Surg Arch Orthop Trauma Surg 1999; 119:62–6.

Extracorporeal shockwave therapy has also been assessed with unfavourable results.

Other studies:

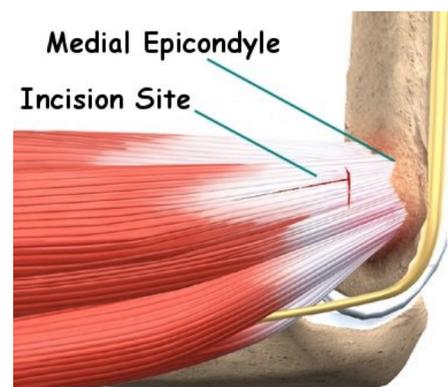
Skeletal Radiol 2006. 35(6)371–377.377

Br J Sports Med. Nov 2006; 40(11): 935–939.

The combined action of dry needling and autologous blood injection under ultrasound guidance appears to be an effective treatment for refractory medial epicondylitis [Br J Sports Med. Nov 2006; 40(11): 935–939]. The hypothesis for the mechanism is that the transforming growth factor- β and basic fibroblast growth factor carried in the blood act as humoral mediators to induce the healing cascade.

Surgical treatment is recommended in patients who fail to respond to conservative treatment [>6 months]. Again there are few reports on the surgical treatment of medial epicondylitis [Clin Orthop Relat Res 1992. 27873–80.80]

The operative technique involves a curvilinear incision centred on the medial epicondyle. The ulnar nerve should be identified and protected, as well should any branches from the medial antebrachial cutaneous nerve that are evident.



The flexor pronator origin is then identified. Two main surgical techniques for addressing the pathological tendon have been described similarly to those for lateral elbow tendinopathy. The flexor-pronator origin can be incised longitudinally with the pathological tissue being excised. Alternatively, the tendon can be incised transversely and released from its insertion. Some surgeons will decorticate or drill the medial epicondyle to increase vascularity.

The majority of studies on operative management have used a 'resection and repair' approach.

Morrey [J Bone Joint Surg Am 1995; 77:1065–9.] reported the results obtained in 30 surgically treated cases of medial elbow tendinopathy with a mean follow-up of 7 years [24]. Their technique involved elevation of the flexor pronator origin from the medial epicondyle, debridement, and epicondylar shaving with or without re-attachment. The results, using the same grading system, were excellent for 11 elbows, good for 15, fair for two and poor for two.

Ollivierre [Am J Sports Med 1995; 23:214–21] reported on 50 surgically-treated cases using a resection and repair technique with drilling of the medial epicondyle. Twelve had ulnar nerve symptoms, with eight undergoing cubital tunnel release and four undergoing subcutaneous transposition. All patients had partial or complete pain relief with increased grip dynamometer strength. However, 10 patients were unable to return to their pre-morbid sporting and occupational activities.

REFERENCES

1. Skeletal Radiol 2006. 35(6)371–377.377
2. Shoulder and Elbow 2014 6, pp 47–56
3. Br J Sports Med. Nov 2006; 40(11): 935–939.
4. Nirschl: J Bone Joint Surg 1979. 61-A 832–839