

A common problem in primary care; elbow pain and developing an easy-to-approach algorithm

Salih Metin^{ORCID}

Department of Family Medicine, Bursa Provincial Health Directorate Public Hospitals Services Presidency, Bursa, Turkey

Keywords

elbow pain,
strong primary care,
family medicine

Received

02.01.2023

Accepted

13.01.2023

Published online

29.01.2023

ABSTRACT

Elbow pain is a common complaint in primary care. It can originate from any part of the joint such as tendons, bursae, bones. Elbow pain can occur at any time in life with varying accompanying symptoms. Situations that will require the primary care physician to be alerted; Swelling and dislocation after trauma, swollen joint or rapidly increasing mass. It means that 85% of the diseases seen in the society can be treated with a well-trained family physician specialist. This, in turn, eases the burden of the second and third levels, provides easier access to the patient in need of the upper level and provides a cost-effective healthcare service. In primary care, it is the first point of contact for patients with diseases that are common in the community. A detailed anamnesis, correct examination request, treatment and then follow-up examination, gradual referral to the second step, ascribes an indispensable role to the first step in the diagnosis, treatment and solution of many diseases.

The elbow is a complex joint designed to withstand a wide range of dynamic strain forces. Elbow pain is a common complaint in primary care. This complaint; It can originate from any part of the joint such as tendons, bursae, bones. Tendinopathies such as lateral and medial epicondylitis can be caused by some sports and routine activities in my daily life [1].

Elbow pain can occur at any time in life with varying accompanying symptoms. Situations that will require the primary care physician to be alerted; Swelling and dislocation after trauma, swollen joint or rapidly increasing mass.

The location and severity of elbow pain is usually localized to one of four anatomical sites: anterior, medial, lateral, or posterior. The pain described in each of

these regions has a key role in leading us to different diagnoses [2]. (Table 1)

Stiffness with elbow pain is associated with arthritis or trauma. Neurological complaints such as numbness and tingling sensation extending to the fingertips are usually accompanied by tendinopathies, osteoarthritis (50% of patients) and inflammatory arthritis [3]. Pain radiating from the neck or shoulder may occur as elbow pain, cervical disc disorders should not be forgotten in the differential diagnosis [1].

The pain that can be localized by the patient in the arm with pain radiating to the forearm, tenderness in the lateral epicondyle, a traumatic elbow pain, may be the characteristic initial sign of lateral epicondylitis [3]

How to cite this article

Metin S. A common problem in primary care; elbow pain and developing an easy-to-approach algorithm.
HoPeMJ 2023;1(1):1-6

Address for correspondence

Salih Metin, MD.,
Family Medicine Specialist,
Bursa Provincial Health Directorate Public Hospitals Services, Presidency, Dikkaldırım Mah., Hat Cad., No:4, Osman-gazi, Bursa, Türkiye.
E-mail: slhmtin@hotmail.com



Table 1. Clinical findings according to types of elbow pain				
Sensitivity Zone	Diagnosis	Clinical Appearance	Diagnostic Approach	Treatment
Anterior	Biceps tendinopathy	anterior elbow pain; history of forearm supination and pronation recurrent pain	Pain in the antecubital fossa of the elbow forced into supination	Rest Ice short term NSAI Physiotherapy
Lateral	Lateral epicondylitis	It is more common in medial epicondylitis; Insidious onset, pain on repetitive movements, tension on palpation of the extensor tendon	Decreased pain and strength, decreased pain and strength in supination and extension, pain in the lateral elbow and resistance to extension in the middle finger	Rest Ice short term NSAI Stretching and strengthening exercise corticosteroid injection PRP topical nitroglycerin Surgery in missed cases
Lateral	Posterior interosseous nerve syndrome	Inability to extend middle finger against resistance	Middle finger test positive result	Reduce exposure splint Ergonomics Strengthening and stretching exercises Missed case surgery
Lateral	radial tunnel syndrome	Pain in the lateral forearm, no motor symptoms	just pain	Reduce exposure splint Ergonomics Strengthening and stretching exercises Missed case surgery
Posterior	Aseptic olecranon bursitis	History of minor trauma to the elbow Feeling of a non-tense mass on the olecranon	Absence of other signs of infection such as redness, warmth, limitation of movement, Bursa fluid analysis,	Ice Printed dressing Reducing exposure Fluid aspiration from the bursa in those who do not respond to a tight bandage for 2 weeks Surgical bursectomy in cases lasting longer than 3 months Intra-bursa corticosteroid injection
Posterior	Septic olecranon bursitis	Pain, increased temperature, discharge, erythema over the olecranon and increased temperature edema, 50% fever	Bursa siv Bursa fluid analysis 1 analizi	aspiration mechanical rest Systemic oral/iv antibiotic (according to culture result)
Posterior	Posterior trauma	Pain in the posterior elbow, especially in full extension	Back elbow pain when elbow is forced into full extension X-RAY: Finding of osteophyte formation	Preventing uncomfortable movements Surgery for osteophytes if conservative treatment fails
Posterior	Triceps tendinopathy	Pain behind the elbow when using the extensor	Pain behind the elbow in forced extension, tenderness in the triceps insertion	Rest Ice short term NSAI Physiotherapy Rarely, surgery may be required.
Medial	cubital tunnel syndrome	Insidious onset of pain and paresthesia in the medial part of the forearm to the ring and little finger	Tinel test positivity Feeling of flexion and extension ulnar nerve subluxation in the medial epicondyle	reduce exposure Night splint to keep the arm in extension nerve glide exercise Surgery in cases unresponsive to treatment
Medial	medial epicondylitis	Insidious onset of pain Tension on palpation of the flexor pronator muscle	Resistance in shoulder flexion and pronation	Rest Ice Short-term topical or oral NSAI Stretching and strengthening exercises corticosteroid injection PRP topical nitro Surgery in missed cases
Medial	Ulnar collateral ligament injury	Pop sensation on the medial elbow side	Milking maneuver positive, valgus stress test positive	Rest Ice Short-term topical or oral NSAI Grade 1-2 physiotherapy Surgery in professional athletes in the early period

Pain that increases with activity catching an object localized to the medial side of the elbow is due to medial epicondylitis, also known as 'golfer's elbow'. Recurrent stress and trauma history should be questioned [3].

Findings such as limitation of the final range of elbow opening and closing movements and prolonged progressive pain and locking indicate osteoarthritis [1]. Bilateral elbow pain, stiffness, joint swelling, complete loss of elbow opening and closing or involvement of other joints, and systemic symptoms indicate inflammatory arthritis, because in 20-50% of patients with rheumatoid arthritis (RA), elbow involvement accompanies RA [4].

Before the examination of the patient with elbow pain, the Spurling test is performed, which shows the pain when pressing the elbow head while extending the pressure to the side and turning the head to exclude extra-elbow pathologies, especially cervical nerve compression. After excluding cervical pathologies, examination of the elbow begins. It is always evaluated together with the other party during the examination. Identify the most painful part of the joint when touched, check if there is a palpable mass. If there is redness, tenderness, swelling on the joint, question the trauma situation and differentiate between inflammatory processes and traumatic processes. Check the duration of the pain with which movements it increases or decreases. Consider biceps tendinitis in the differential diagnosis in case of tenderness anterior to the antecubital fossa. Do the Tinel test, if positive, decrease medial epicondylitis. Point tenderness on the lateral elbow is diagnostic for lateral epicondylitis [4]. Make elbow opening and closing movements, if the limitation in this movement is unilateral, it is in favor of osteoarthritis. Finally, do your other system examinations. If any systemic symptom accompanies elbow pain, consider inflammatory rheumatological processes in the differential diagnosis. (Figure 1)

Complete blood count, erythrocyte sedimentation rate, and rheumatoid factor tests should be requested if inflammatory arthritis is suspected. Direct plain radiographs are normal in tendinopathies and do not need to be requested [5]. Ultrasound scanning requires experience and its sensitivity and specificity may vary depending on the operator [4]. When ligament injury is considered, magnetic resonance imaging is useful and the patient should be referred to the second step [3].

TREATMENT

The aim of treatment should be to eliminate the pain or at least to minimize it so that it does not affect daily life. Treatment options such as joint rest and oral and injective analgesics relieve pain. The treatment in tendinopathies should be to relieve the load of the joint and to increase the strength of the injured tendon [1]. The patient should limit all activities that aggravate the pain in the joint. Tape application on the muscle body reduces the load on the joint [5]. Physiotherapy also increases muscle strength and reduces the stress of the joint against the tolerated load [1]

Application of physiotherapy for a period of 1 year has been shown to be 91% effective in the regression of symptoms [6]. Although corticosteroid injections regress short-term complaints, it should be avoided as they may lead to worse results in the long term [7]. The use of botulinum toxin and platelet-rich plasma to treat tendinopathies has increased in the last 5 years, but there is no clinical evidence of superiority over placebo [5]. Referral to care to a secondary care provider is indicated after symptoms persist despite 6-12 months of conservative treatment. However, outcomes after surgery are variable, as 25% of patients who have surgery still have pain in the first postoperative year. Arthritis can be treated non-surgically with regulation of daily activities, NSAIDs, steroids, splinting, ice, or the use of heat.

When to consider referral to the upper echelon

Indications for referral to secondary care [8]

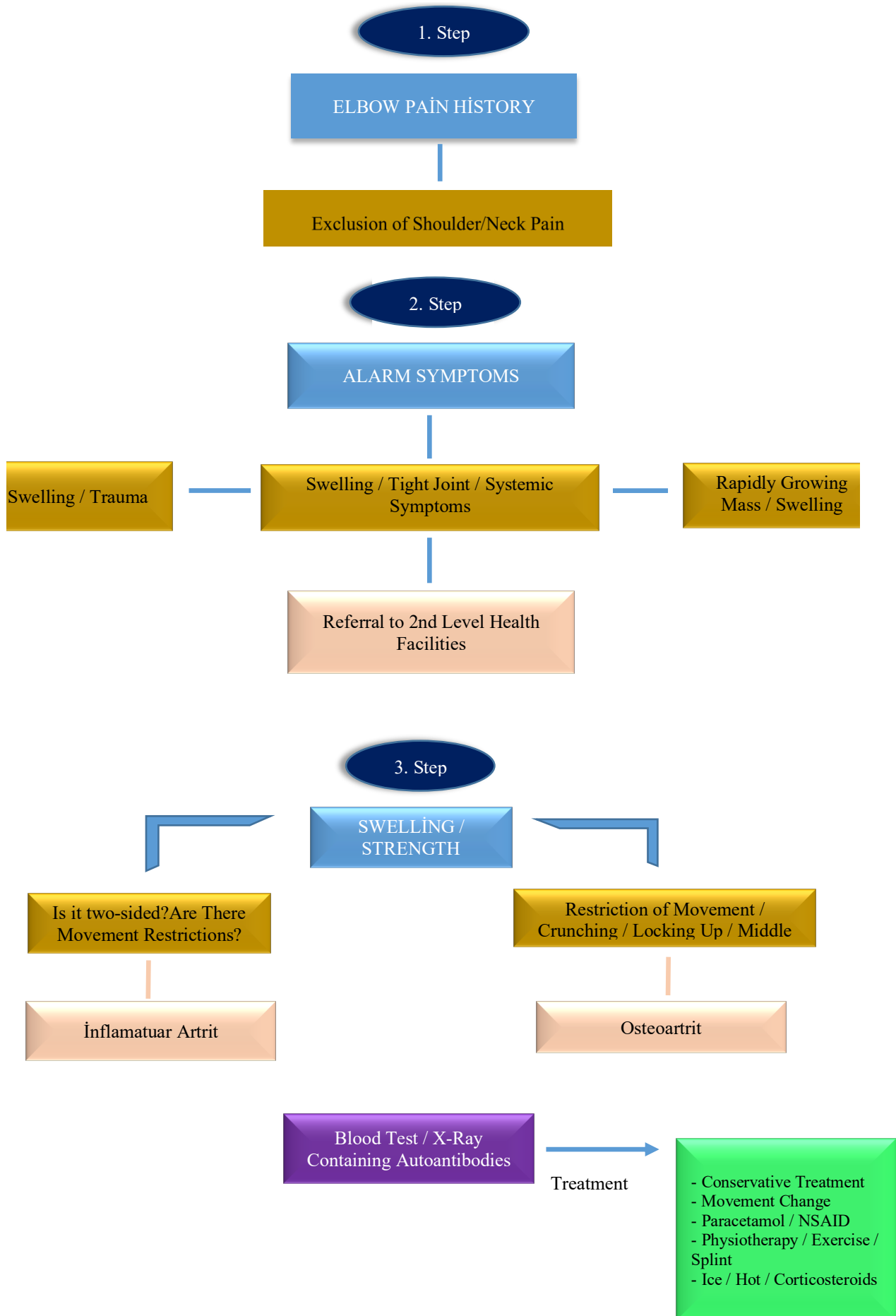
- Pain not responding to all non-surgical interventions
- impair the quality of daily life
- painful locking of the elbow and inability to move

The first-line treatment of painful elbow conditions can be resolved with long-term conservative treatment, rehabilitation exercises and the patient's continuity [9]. Occupational and daily exposure-related distress causing elbow pain is more resistant to nonsurgical treatment. In this case, you may consider giving the patient a short rest to rest the joint and perform strengthening exercises. It should not be forgotten that follow-up is an indispensable part of the treatment and should be done in a period specific to the patient.

CONCLUSION

It means that 85% of the diseases seen in the society

Elbow pain and developing an easy-to-approach algorithm



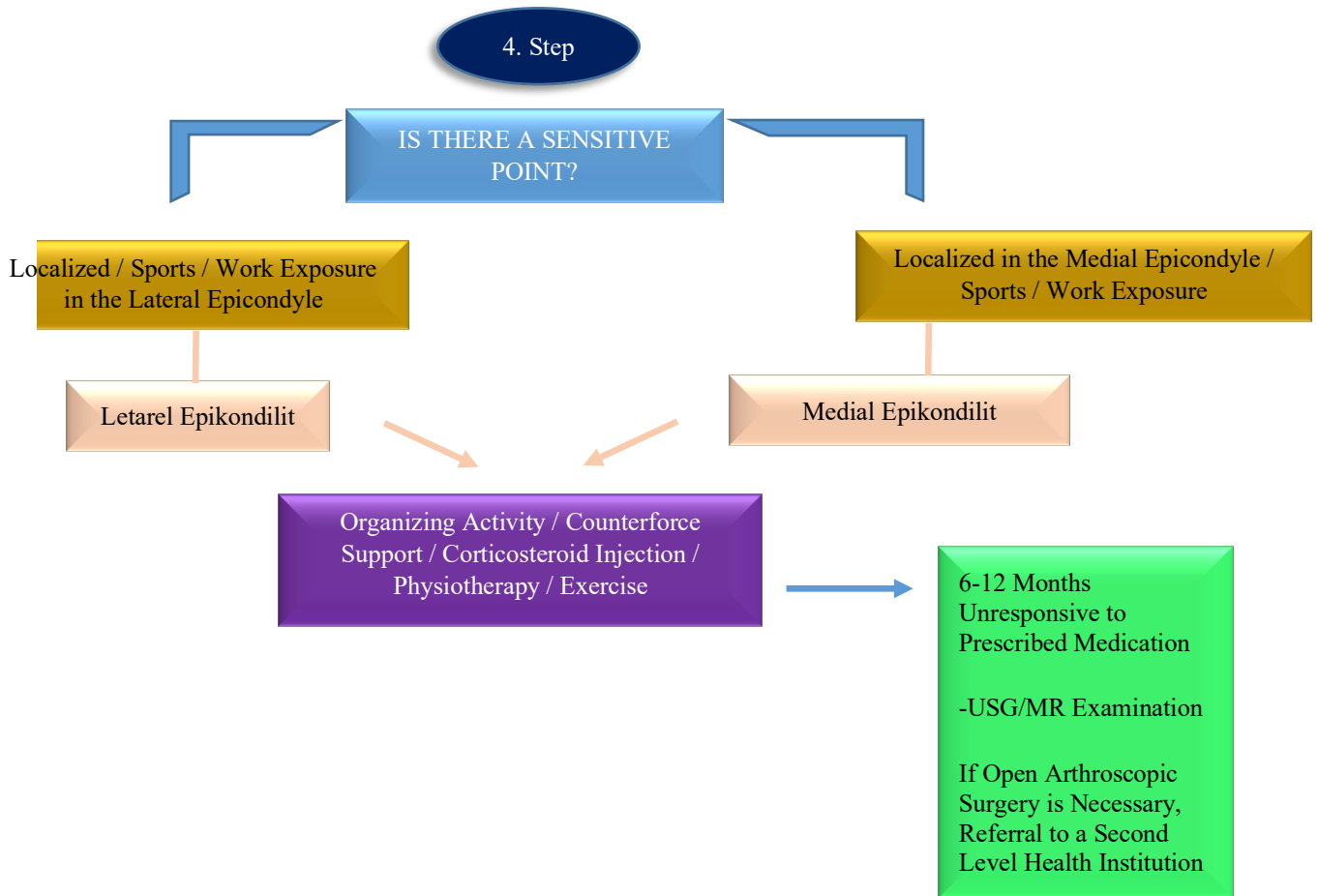


Figure 1. Algorithm for approach to elbow pain

can be treated with a well-trained family physician specialist. This, in turn, eases the burden of the second and third levels, provides easier access to the patient in need of the upper level and provides a cost-effective healthcare service. In primary care, it is the first point of contact for patients with diseases that are common in the community. A detailed anamnesis, correct examination request, treatment and then follow-up examination, gradual referral to the second step, ascribes an indispensable role to the first step in the diagnosis, treatment and solution of many diseases.

Acknowledgments

I thank my dear wife Aybüke Tuğçe METİN very much for her patience and support during the writing process.

Conflict of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. This research did not receive and specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Ethical approval

Ethics committee approval was not required as this study was written as a reviewer.

REFERENCES

1. Javed, M., Mustafa, S., Boyle, S., & Scott, F. (2015). Elbow pain: a guide to assessment and management in primary care. *British Journal of General Practice*, 65(640), 610-612.
2. Kane, S. F., Lynch, J. H., & Taylor, J. C. (2014). Evaluation of elbow pain in adults. *American family physician*, 89(8), 649–657.
3. Boyer M, ed (2014) American Academy of Orthopaedics Surgeons (AAOS) comprehensive orthopaedic review (AAOS, Rosemont, IL), 2nd edn
4. Trumble T, Cornwall R, Budoff J (2005) Core knowledge in orthopedics: hand, elbow, and shoulder (Mosby Elsevier, Philadelphia, PA)
5. Ahmad ZA, Siddiqui N, Malik SS, et al. (2013) Lateral epicondylitis: a review of pathology and management. *Bone Joint J* 95-B(9):1158–1164
6. Arthritis Research UK, Chartered Society of Physiotherapy. Exercise advice: tennis elbow. <http://www.csp.org.uk/your-health/exerciseadvice/tennis-elbow> (accessed 18 Oct 2021).
7. Coombes BK, Bisset L, Vicenzino B (2010) Efficacy and

Elbow pain and developing an easy-to-approach algorithm

- safety of corticosteroid injections and other injections for management of tendinopathy: a systematic review of randomised controlled trials. *Lancet* 376(9754):1751–1767
8. Papatheodorou LK, Baratz ME, Sotereanos DG. Elbow arthritis: current concepts. *J Hand Surg Am* 2013; 38(3): 605–613.
9. Murtaugh B, Ihm JM. Eccentric training for the treatment of tendinopathies. *Curr Sports Med Rep* 2013; 12(3): 175–182.