

# Painful Shoulder Complaints

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# INTRODUCTION

- Painful shoulder complaints have a **high incidence** and **prevalence**.
- The etiology **is not** always clear.
- Clinical history and the active and passive motion examination of the shoulder are the **cornerstones** of the diagnostic process.
- These tests can guide the examiner to the correct diagnosis.

- It is not always clear why a patient develops shoulder complaints except when it is due to trauma.
- Pathologies such as an aseptic inflammation of the synovial membranes of the glenohumeral joint, the acromioclavicular and sternoclavicular joints, and inflammation of the outer soft tissue surrounding these joints can cause shoulder complaints.
- A systematic review establishes that there is a relationship between atherosclerosis and shoulder pain.

- In addition, function disorders of the **cervical spinal column** and the **cervicothoracic transition** play a role in the etiology of shoulder complaints.
- It is therefore also of **great importance** to involve the cervical spinal column and cervicothoracic transition in the examination of the shoulder function.
- Shoulder complaints may be due to many causes and/or be part of an already existing **ailment**.

## I.A HISTORY

- In general, the symptom pattern is characterized by **pain** that prevents the patient from **sleeping on the affected side**.
- The **localization** and **radiation** pattern of the pain can provide an indication as to whether one is dealing with a **primary disease** of the shoulder joint or with a **cause external** to the shoulder joint.

- Other serious conditions such as pain in other joints, fever, malaise, weight loss, dyspnea, and angina pectoris should be ruled out: specifically for nontraumatic shoulder pain that has an abnormal natural course.
- Above all, a pancoast tumor must be ruled out.
- The findings from the shoulder examination are therefore of great importance.

## I.B PHYSICAL EXAMINATION AND CATEGORIZATION OF SHOULDER PAIN

- Three shoulder tests are important for the examination of shoulder complaints: shoulder abduction, shoulder external rotation, and horizontal shoulder adduction.
- With these three tests it is possible to establish the most important shoulder pathologies, which are usually expressed as a brachialgia.



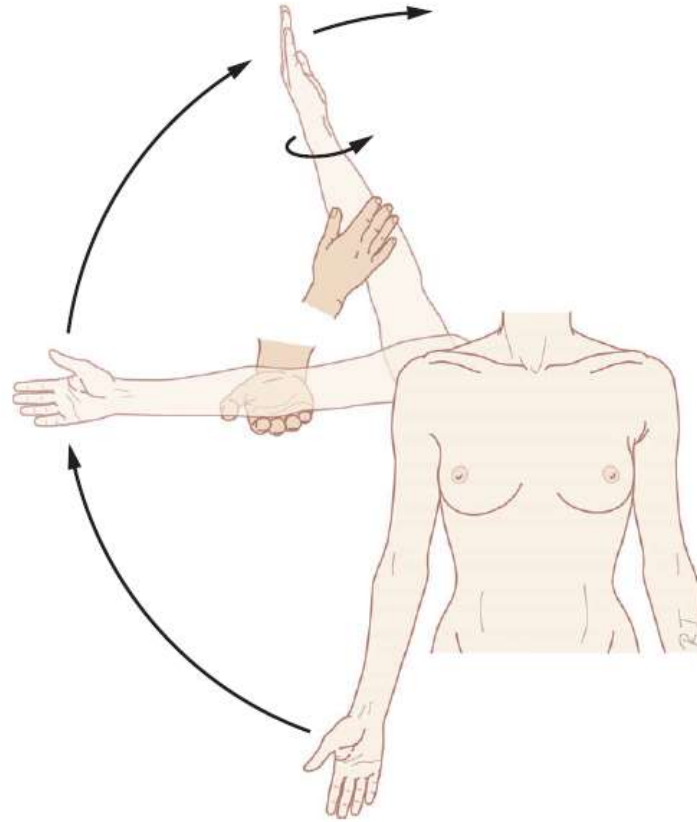


Figure 1. Active and passive shoulder abduction.

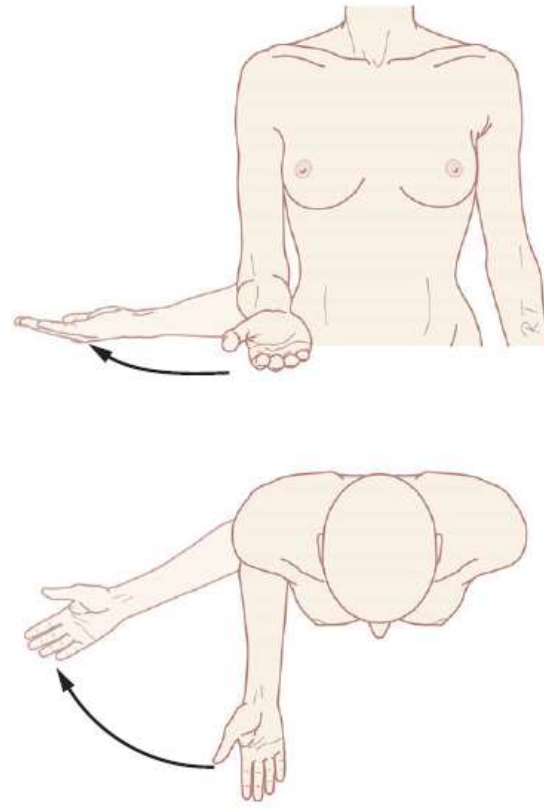


Figure 2. Shoulder external rotation.

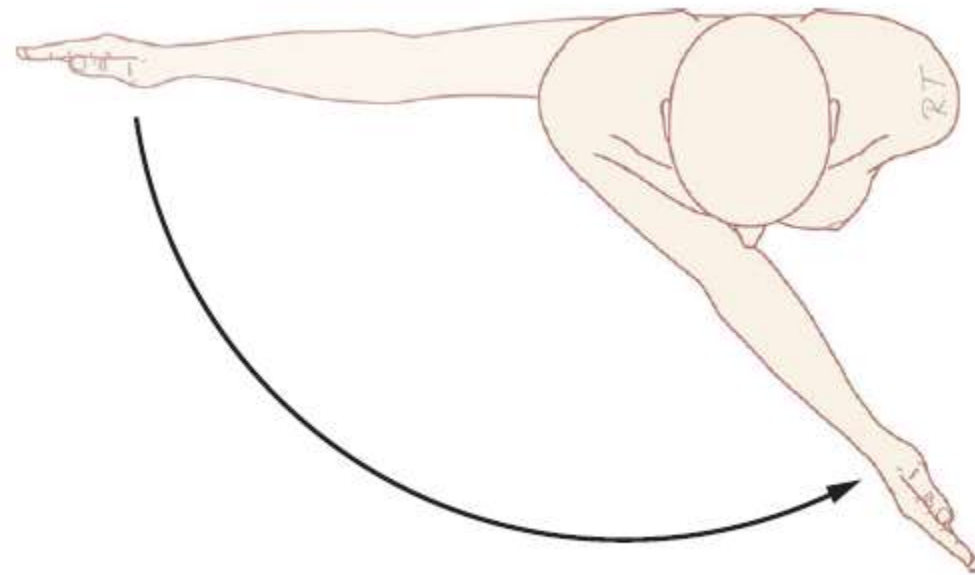


Figure 3. Shoulder adduction.

**Table 2. Shoulder Complaints with Limited Range of Motion**

Affections	Passive External Rotation	Active Abduction in Neutral Pos. arm	Passive Abduction in External Rotation Arm	Passive Horizontal Abduction
Osteoarthritis/Arthritis of the glenohumeral joint	+++	+++	+++	+
Capsulitis of the glenohumeral joint	+++	+++	+++	+
Rotator cuff syndrome	++	+++	+++	+
Osteoarthritis/Arthritis of the acromioclavicular joint	–	+++	+++	+++
Degenerative disorders of the subacromial space (eg calcium deposits)	–	+++	–	–

+, degree limited; –, normal; Pos., position.

**Table 3. Shoulder Complaints without Limited Range of Motion but with a Painful Course**

Affections	Passive External Rotation	Active Abduction in Neutral Pos. Arm	Passive Abduction in External Rotation Arm	Passive Horizontal Abduction
Impingement	–	+++	–	–
Subacromial bursitis	–	+++	–	–

+ , degree limited; –, normal; Pos., position.

**Table 4. Shoulder Complaints without Limited Range of Passive Motion**

Affections	Passive External Rotation	Active Abduction in Neutral Pos. Arm	Passive Abduction in External Rotation Arm	Passive Horizontal Abduction
Shoulder instability (habitual dislocation)	–	+++	–	–
Amyotrophic shoulder neuralgia (Parsonage–Turner syndrome)	–	–	–	–
Cervical radicular syndrome	–	–	–	–
Brachial plexus lesion	–	–	–	–
Cervical spondylarthrosis	–	–	–	–
Referred pain syndromes				
Gallbladder conditions	–	–	–	–
Pneumothorax	–	–	–	–
Cardiovascular conditions	–	–	–	–
Subdiaphragm pathology	–	–	–	–
Intrathoracic tumors	–	–	–	–
Metastases	–	–	–	–

+, degree limited; –, normal; Pos., position.

## II. TREATMENT OPTIONS

- In general, shoulder complaints are initially treated **conservatively**.
- When indicated, interventional treatments usually involve **local injections** with corticosteroids and a local anesthetic.



- **Interventional treatments** are usually limited to shoulder complaints based on **capsulitis of the shoulder** joint, either arising spontaneously or in the context of a postoperative capsulitis.
- In addition, interventional treatments can be considered for
  1. **impingement** syndrome or
  2. a subacromial **bursitis**,
  3. diseases of the **acromioclavicular joint**, and
  4. diseases of the **glenohumeral joint** such as frozen shoulder.

- A continuous cervical epidural infusion of local anesthetic and small doses of opioids has been used to provide continuous analgesia in patients with **adhesive capsulitis** of the shoulder (frozen shoulder).
- The **tunneled** epidural catheter was maintained for an average of **6 weeks** to facilitate rehabilitation.

- A pulsed radiofrequency (PRF) treatment of the **nervus** suprascapularis can be considered for a **frozen shoulder** or a **capsulitis** of the shoulder joint.

## II.C EVIDENCE FOR INTERVENTIONAL MANAGEMENT

- A summary of the available evidence is given in Table 5.

Table 5. Evidence for Interventional Management of Painful Shoulder Complaints

Technique	Evaluation
Corticosteroid Injections	2 B ±
Continuous cervical epidural infusion	2 C +
PRF nervus suprascapularis	2 C +

PRF, pulsed radiofrequency.

# Low Level Laser Therapy

درمان با لیزرهای کم توان

# Physiological Effects

- **Biostimulation** – improved metabolism, increase of cell metabolism
  - Increases speed, quality & tensile strength of tissue repair
- Improved **blood circulation** & vasodilation
  - Increases blood supply
- Increases **ATP** production
- **Analgesic** effect
  - Relieves acute/chronic pain
- **Anti-inflammatory** & anti-edematous effects
  - Reduces inflammation

# Other Treatment

- PRP & Orthokine
- Ozone
- Interscalene Block & Shoulder Manipulation
- Use of high power laser (ND-YAG) & Magnet therapy