

Pain Management for Primary Care



Series: Eleven
Joint Pain Conditions

Module 11-1
Shoulder Pain



Module 11-1

Shoulder Pain

By the end of the module, you will be able to:

- Describe shoulder anatomy and exam of the shoulder as well as upper extremity.
- Know common shoulder conditions, how to treat and when to refer patients with shoulder pain.

We will review:

Topic One: Shoulder Anatomy and Exam

Topic Two: Common Shoulder Conditions: How to Treat and When to Refer

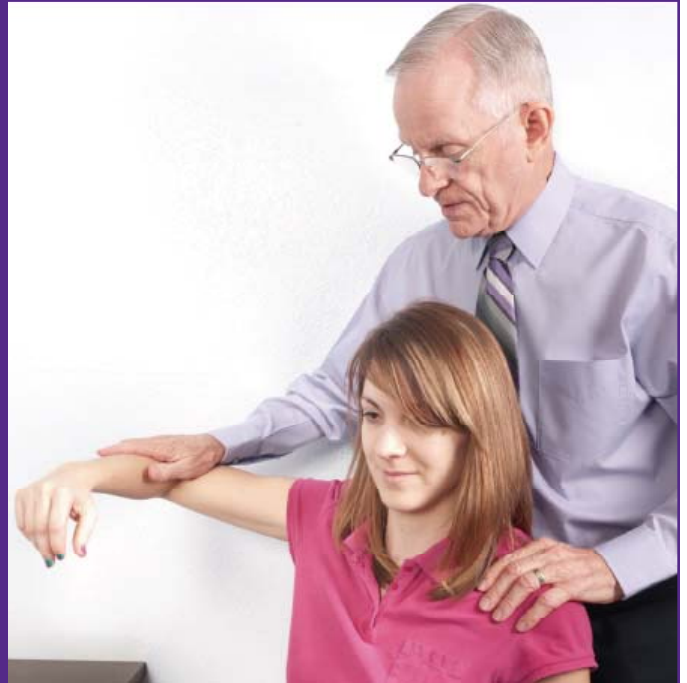
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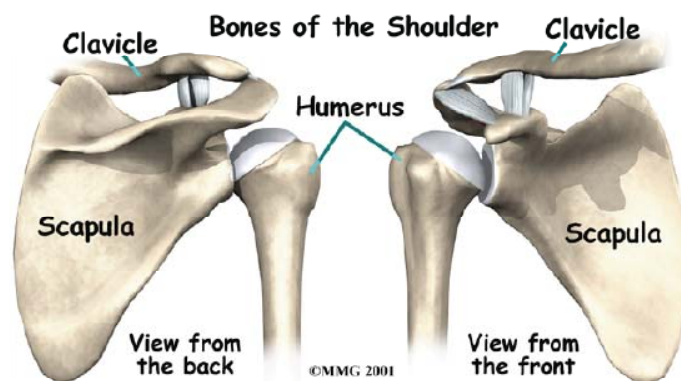
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Topic One

Shoulder Anatomy and Exam



The shoulder and pectoral girdle are comprised of the scapula, clavicle and humerus.



Notes

Go over the bony structures and speak about the multi-axis movement of the gleno-humeral joint

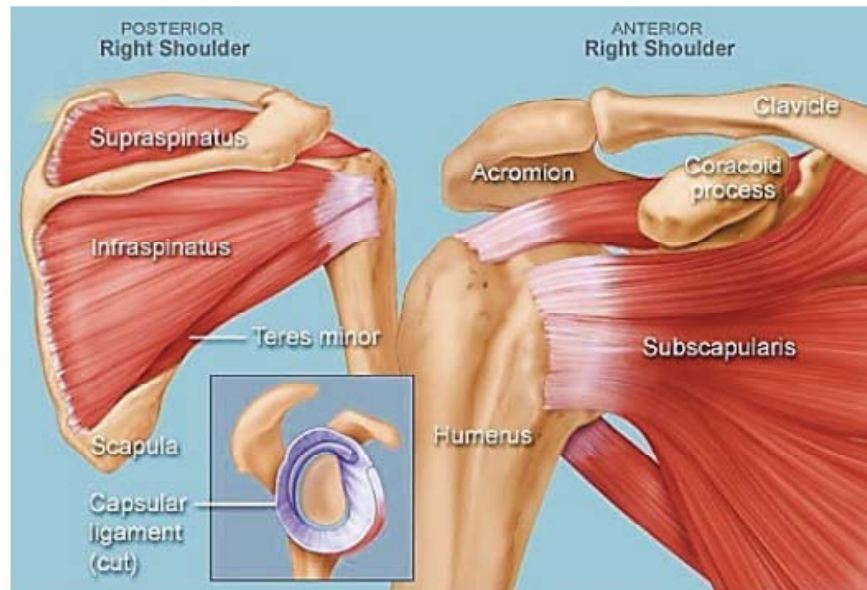
Bony Structures

Spine

Scapula

Gleno-humeral jt.

The shoulder and pectoral girdle are stabilized by the rotator cuff.



Notes

Emphasize that the joint is stabilized by the muscles and any muscle injury (rotator cuff) will compromise shoulder movement

Go over the muscles

- Upper Trapezius
- Rhomboids
- Scalene
- Levator Scapulae
- Sternocleidomastoid
- Splenius and longus capitis
- Pectoralis major

Physical Exam is key, and pay attention to pain behaviors.



Notes

Always look for:

- Grimace
- Groan
- Guarding
- Over reaction
- Inconsistencies
- Give-way weakness
- Shaking

Never forget the OPQRSTU mnemonic

Onset of pain

Provocation/Palliation

Quality/Character

Region/Radiation

Severity/Intensity

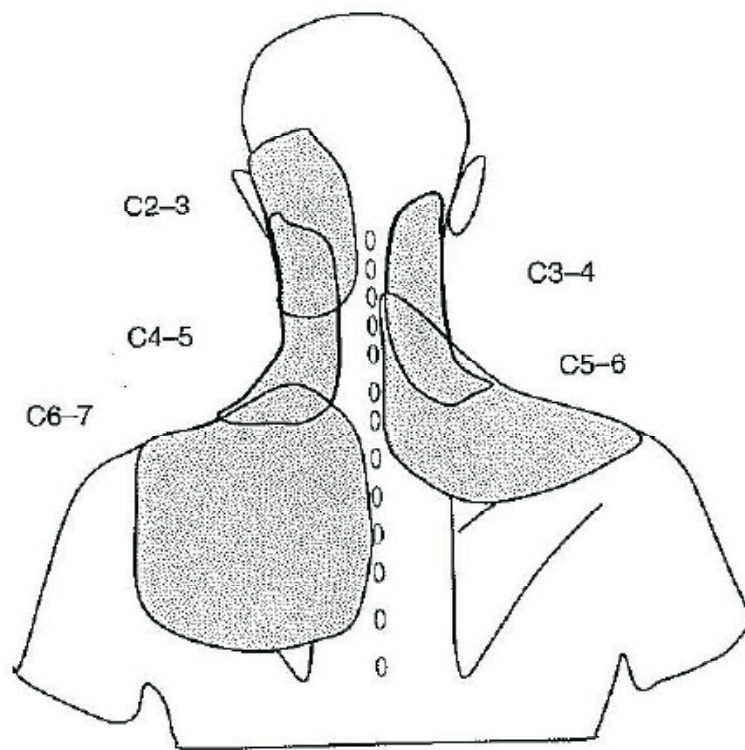
Timing (continuous, intermittent)

U/you (impact on activities)

Notes

Repeat this mnemonic often

Shoulder pain can refer or can be referred from the neck, heart and gallbladder.



Notes

It is important rule out many other diseases (e.g. cervicogenic headache, myocardial infarction or cholecystitis) that can refer pain into the shoulder.

In the picture cervical facet pain can present as shoulder pain.

Go over:

Nerves

- Occipital Nerve
- Dermatomes
- Motor innervation and reflexes

Remember that fortunately, Red Flag conditions are rare.

- Referred pain – myocardial infarction, aortic aneurysm, cholecystitis, subphrenic or retroperitoneal abscess
- Tumors – atypical metastatic lung, breast, GI, prostate
- Infections – myelitis
- Fractures – osteoporotic fracture (after fall)

Notes

Emphasis that referred shoulder pain may be a manifestation of an acute life threatening illness. Other conditions are much more rare.

As always red flag conditions include tumors, infections, fractures and aneurysms

You may want to use the N SWIFT PIC mnemonic from previous presentations:

Neuro – Progressive Neurological Deficit

Steroids – Prolonged Use

Weight Loss – Unexplained

Immunosuppression

Fever – Unexplained

Trauma – Even mild if over 50

Porosis – Osteoporosis/Osteopenia

IVDU – Intravenous Drug Abuse

Cancer – History of Cancer

Severity – of Pain

The shoulder exam includes inspection, palpation, range of motion and pain on provoking tests like:

- Apley scratch test: pain when reaching to opposite scapula
- Neers test: pain with shoulder flexion
- Hawkin's test: pain with shoulder internal rotation
- Drop arm test: pain with shoulder abduction
- Lift off test: pain with internal rotation and push
- O'Brain's test: pain with rotation and abduction
- Speed's and Yerguson tests with elbow flexion
- Apprehension test: pain on pushing the humeral head

Notes

Apley, Neer, Hawkin's, Drop arm, Lift off and O'Brian all test rotator cuff injury

Speed's and Yerguson tests detect biceps tendonitis

Apprehension tests is to detect labral tear

Also always look for pain behavior like:

Grimace

Groan

Guarding

Over reaction

Inconsistencies

Give-way weakness

Shaking

Knowledge Check - Anatomy and Physiology

1. The three shoulder bones consist of:
 - a. _____
 - b. _____
 - c. _____

2. The four Rotator Cuff muscles include:
 - a. _____
 - b. _____
 - c. _____
 - d. _____

Knowledge Check - Anatomy and Physiology – Answer

1. The three shoulder bones consist of:
 - a. Clavicle
 - b. Humerus
 - c. Scapula

2. The four Rotator Cuff muscles include:
 - a. Supraspinatus
 - b. Infraspinatus
 - c. Teres Minor
 - d. Subscapularis

Knowledge Check

Which of the following is not a caused by referred pain?

- a. Cervical spine disorders
- b. Osteoarthritis Conditions
- c. Cardiac Conditions
- d. Biliary Conditions

Knowledge Check – Answer

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Knowledge Check - Clinical Exam

T/F: The most important part of the shoulder physical exam is knowing the named orthopedic special tests like Hawkins-Kennedy, Neer, Jobe, and others?

Knowledge Check - Clinical Exam

T/F: The most important part of the shoulder physical exam is knowing the named orthopedic special tests like Hawkins-Kennedy, Neer, Jobe, and others?

False. Provocative orthopedic tests have high specificity but a low sensitivity. A thorough history and clinical exam including palpation, ROM, and function is far more important to making an accurate diagnosis.

Topic Two

Common Shoulder Conditions: How to Treat and When to Refer



Most common shoulder pain conditions:

- Rotator cuff impingement or tear
- Gleno-humeral / sub-acromial bursitis
- Gleno-humeral instability
- Bicep tendonitis
- Utilize MRI if rehabilitation fails and or weakness and loss of function progress
- Respond to intra-articular injections and rehabilitation

Notes

Recall that most shoulder conditions are musculoskeletal and will be seen by physiatrists or orthopedic surgeons

Shoulder pain conditions in the elderly:

- Mostly Osteoarthritis
- Less frequently due to Adhesive capsulitis
- Always review Red Flags: metastases, infection, and systemic disease
- Tend to respond less to intra-articular injections and rehabilitation
- If there's limited functionality, discuss surgery or palliation

Notes

- The topic of pain is an important one for every healthcare practitioner. Pain is one of the most common reasons people enter the healthcare system. Chronic pain has become a major public health problem in the United States. Untreated and inadequately treated pain causes suffering and financial burden to both patients and society.

As the population ages, the number of people needing treatment for chronic pain will undoubtedly grow from back disorders, Degenerative Joint Disease (DJD), rheumatologic conditions incl. Fibromyalgia, visceral diseases, cancer, effects of cancer treatment, painful neuropathies such as from diabetes and other painful syndromes

- 40% of outpatient visits are related to pain.
- The prevalence of severe, chronic pain is high, affecting nearly one-third of people at least once in their lifetime.
- In veterans, the prevalence is as high as 50% in men and 75% of women (Kerns et al. 2003; Clark 2002) (Haskell et al., 2006)
- Among returning OEF/OIF soldiers, pain is among the most frequent complaint (Clark 2004; Gironde et al. 2006)
- In the US population, chronic pain is the most common cause of disability, and causes partial or total disability of 50 million people

Imaging has limited utility in shoulder pain.

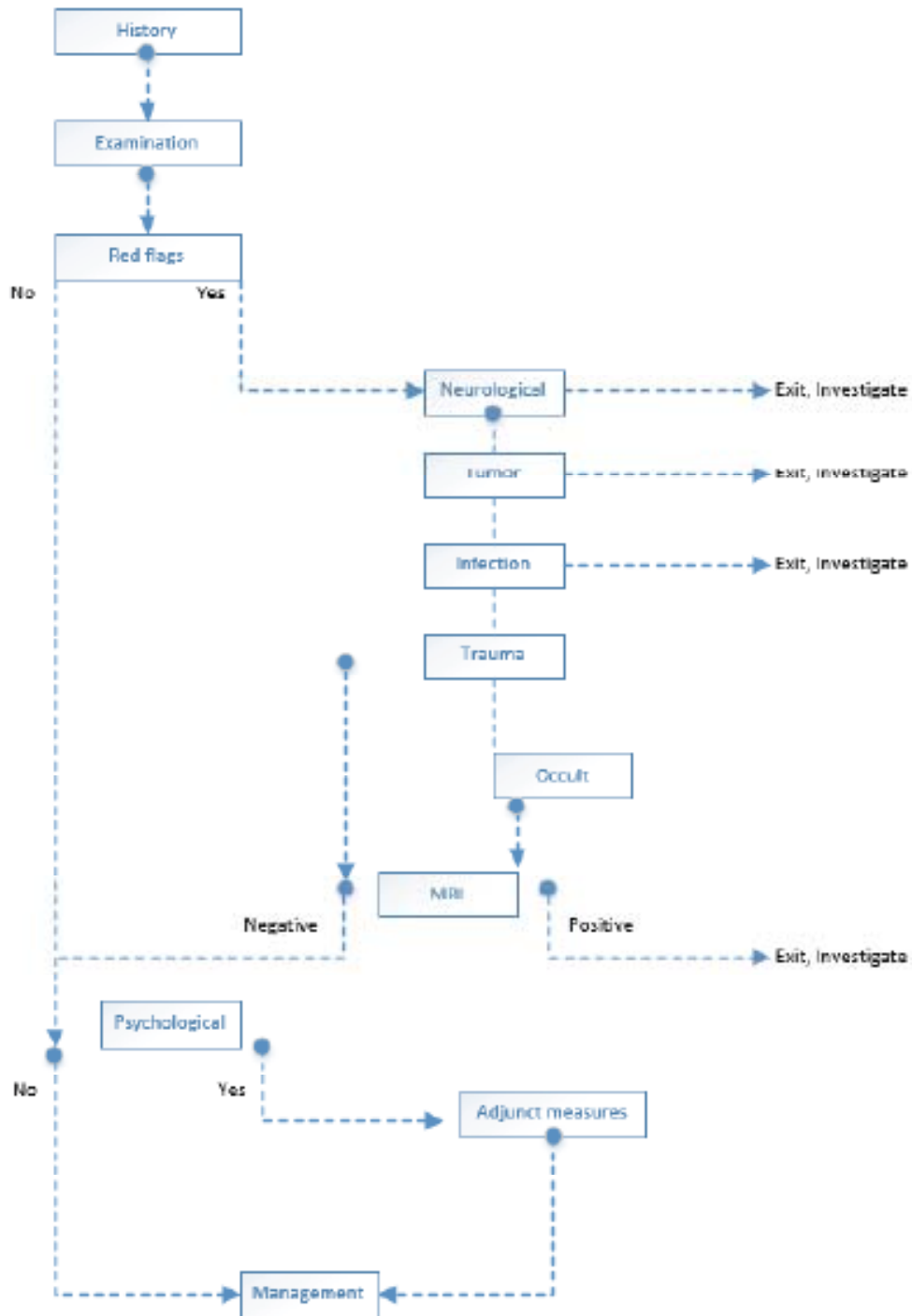
Consider it only if rehabilitation fails or weakness and loss of function progress.

- MRI in asymptomatic patients reveals a high prevalence of rotator cuff tears, acromio-clavicular joint arthropathy and other structural abnormalities.
- These findings most often are not the source of the patient's pain.
- When indicated, MRI is the imaging of choice.

Notes

Speak to the fact that without a history and physical exam suggesting a shoulder problem over-reliance on imaging for shoulder pain can cause unnecessary interventions.

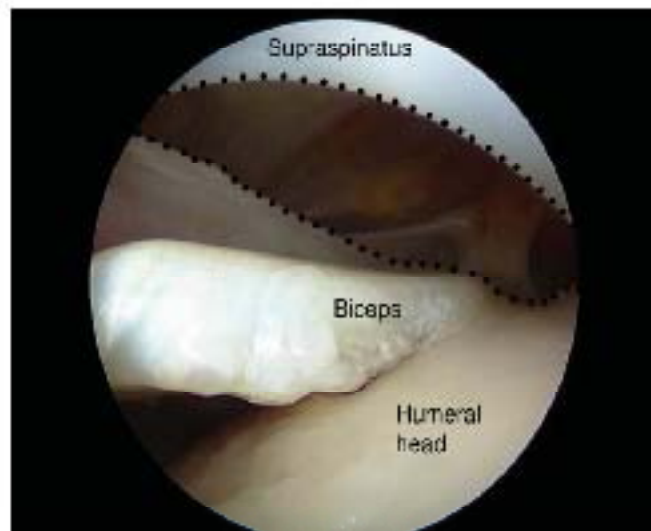
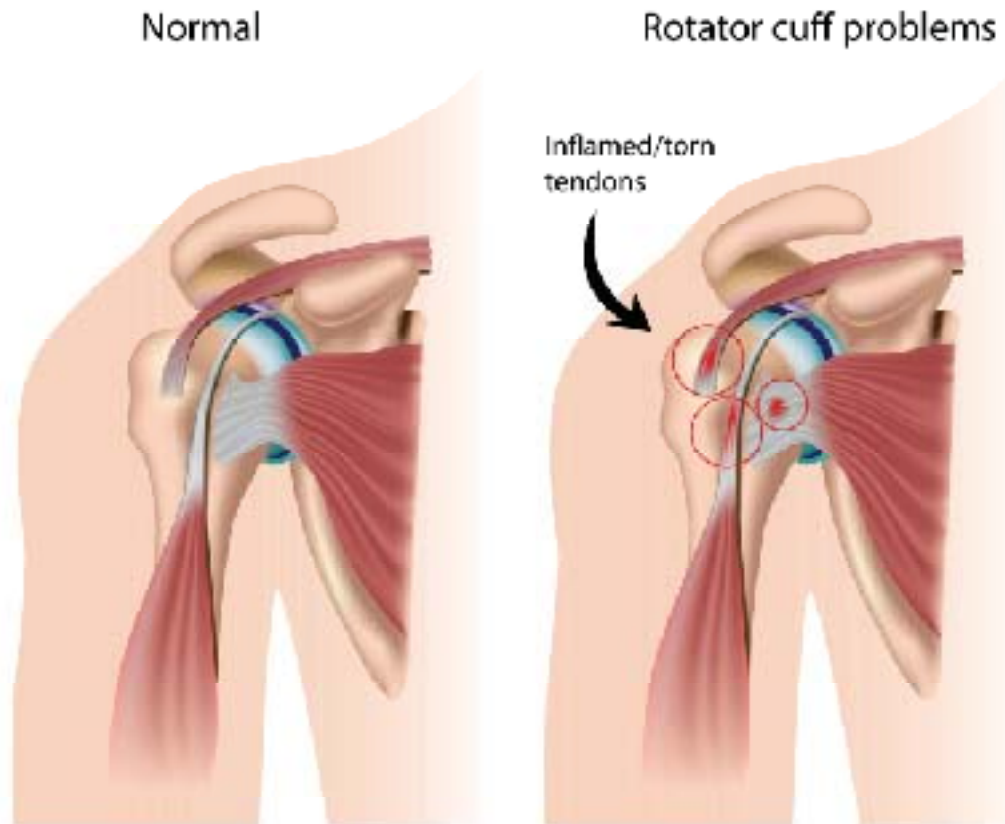
Shoulder Pain Algorithm



Notes

Go over the algorithm and look for psycho-social risk factors (depression, anxiety, PTSD, litigation) that can perpetuate pain

For the diagnosis of a rotator cuff tear, consult a surgeon.



Notes

Arthroscopic surgery is usually required to correct any shoulder instability (rotator cuff tear)

In general, symptom management provides minimal to modest relief.

- Stretch and spray, acupuncture, and heat packs are low risk and may offer some symptom relief.
- NSAIDS and muscle relaxants are not particularly effective.
- High dose opioids are not indicated.
- Image guided injections may provide temporary relief allowing exercise and patient activation.

Notes

Emphasize that the risk of chronic opioid therapy outweighs its benefits

Exercise and cognitive behavior therapy (CBT) alone, or in combination are best.

- If rehabilitation fails, consider corrective surgery.
- If surgery(ies) fails, discuss palliative treatment (oral or intra-theal opioids, spinal cord stimulation) with patient.
- Just remember that these procedures are mostly irreversible and pose a risk of worsening or causing new pain complaints.

Notes

Exercise and CBT are the way to go.

Other ablative and corrective surgeries should be weighed in carefully

Knowledge Check

1. MRI studies in the asymptomatic patient reveal a high prevalence of _____.
2. Subacromial injection for impingement syndrome can be improved with _____.

Knowledge Check – Answer

3. MRI studies in the asymptomatic patient reveal a high prevalence of rotator cuff tear.
4. Subacromial injection for impingement syndrome can be improved with imaging guidance such as ultrasound or fluoroscopy.

Notes

Also, subacromial injection's outcome can be improved in combination with PT. As an injection is a local anti-inflammatory, that will help the sx; however if the contributing factors of range of motion or motor control or bony positioning aren't addressed, the problem often returns.



Summary



Be confident in performing physical exams while determining the differential diagnosis and excluding red flag conditions.

Consult a surgeon if weakness or loss of function progresses.

Avoid unnecessary imaging. If rehabilitation and intra-articular blocks fail, reassure the patient that life style changes and behavioral modification work best and pose a low risk of worsening or causing new pain complaints.

Shoulder Pain Examination

<http://vimeo.com/115659962>

Shoulder pain commonly occurs



"...rotator cuff tendon becomes trapped causing tendonitis"



References



Bonica, J. J. (2010). Bonica's management of pain. S. Fishman, J. Ballantyne, & J. P. Rathmell (Eds.). Lippincott Williams & Wilkins.

