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## Understanding & Managing Shoulder Pain

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### 1. Introduction to Shoulder Pain

- - Shoulder pain is one of the leading causes of disability, affecting an average 16% of people worldwide. It's behind only low back pain and knee pain in prevalence of musculoskeletal disorders seen by primary care physicians. Not only does it affect so many of us, but it also has a tendency to last- half of the people affected by it continue to have symptoms 6 months later. With how much we use our shoulders, it's no surprise that this can have a drastic effect on our daily lives, not to mention how it can limit our more intensive activities like strength training.
    - The shoulder is a ball and socket joint which is designed to move in all directions. With this great range of motion also comes significant stability demands, which are largely handled by supporting structures of the surrounding muscles such as the rotator cuff muscles, deltoids, trapezius, levator scapula, and rhomboids. While the glenohumeral joint is what we primarily think of when we think about the shoulder, equally as important is the acromioclavicular joint, or AC joint, which helps add stability as well.
- Lucas J, van Doorn P, Hegedus E, Lewis J, van der

Windt D. A systematic review of the global prevalence and incidence of shoulder pain. *BMC Musculoskelet Disord*. 2022;23(1):1073. Published 2022 Dec 8. doi:10.1186/s12891-022-05973-8

- **Image/Graphic: A basic illustration of the shoulder joint with labels of the key structures.**
  - <https://surreyorthopaedicclinic.com/wp-content/uploads/2020/12/Screenshot-2020-12-22-at-16.01.04-800x516.png>

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## 2. Common Causes of Shoulder Pain

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  - While there are numerous causes of shoulder pain, several are more common than others. We can classify causes of shoulder first by the structures involved- the glenohumeral (GH) joint, the acromioclavicular (AC) joint, and the rotator cuff.
  - The GH joint is the ball and socket joint we think of when we talk about the shoulder. There are a few diagnoses that primarily affect this joint, causing pain, weakness, or limited range of motion at the shoulder such as osteoarthritis (OA), labral tears, biceps tendinopathy, and instability.
    - OA is thickening of the bone in the joint with decreasing amounts of padding, or cartilage. This develops gradually and can cause pain and limited range of motion, and while it can affect everyone, it often affects us the more we age. This is often painful, and it may be hard to lift your arm overhead.
    - Labral tears are a tearing of the labrum, which is a thin circle of cartilage between the glenoid and the humerus (arm bone) that acts as padding. When this tears, it can limit range of motion, specifically overhead and reaching behind the back. Labral tears can happen suddenly, like while playing sports, or can develop gradually over time.
    - Biceps tendinopathy is an irritation of the biceps tendon, which connects our bicep just above the shoulder joint. This can also develop gradually, and may be accompanied by an aching sensation in the front of the shoulder when trying to lift your arm in front of you.
    - Shoulder instability can often develop after a history of shoulder dislocations or subluxations. This repeated trauma, often sustained in sport, leads to a weakening of the passive support structures in and around the shoulder, such as the labrum. As a result, shoulder instability can come with hypermobility, or excessive range of motion, pain, and often weakness.

- The AC joint, which sits directly above the GH joint, is another critical area in shoulder function and health. The AC joint connects the scapula, or shoulder blade, to the clavicle, or collarbone. It functions to support the shoulder primarily, but through the shoulder blade and collarbone, it also allows the shoulder to move through much larger ranges of motion. This is helpful for reaching overhead and behind your back, and also allows you to move your shoulder forward and back, through protraction and retraction. As you reach overhead, your collarbone and shoulder blade will both rotate to allow you move through a full range of motion.
  - Shoulder separation is one of the more common pathologies associated with the AC joint, and it often occurs due to a hard fall on the shoulder or through forceful direct contact. Shoulder separations will result in pain on the top of the shoulder with pain moving the arm up, and be classified as grades 1-3 based on severity. Additionally, you'll often see a noticeable drop of the shoulder and a visible bump in the top of the shoulder, sometimes referred to as a step deformity. These injuries most often happen suddenly and are most common in athletes playing sports, or if someone falls and lands directly on their shoulder.
  - Shoulder impingement, which most often presents as pain in the front of the shoulder while reaching overhead or behind the body, also involves the AC joint. While researchers debate about the exact cause of impingement, it is irritation of the tissue lying directly beneath the AC joint. This can lead to a pinching sensation in the shoulder. It often comes on gradually, but may start after a particularly intense period of training.
- It would be wrong to discuss the shoulder but not mention the rotator cuff, which is a group of four muscles that aid in motion and stability of the shoulder joint. Those muscles are supraspinatus, infraspinatus, subscapularis, and teres minor. They help with reaching in various directions and with rotation of the shoulder.
  - The most common injuries to this group of muscles are strains or tears, and make up 85% of all shoulder injuries. These affect people of all ages, but in different ways. In younger populations, rotator cuff injuries are often traumatic, sudden injuries sustained during throwing. Symptoms come on suddenly, and afterwards the person will have trouble lifting their arm overhead and may experience significant pain. Contrast that with a slightly older population, where symptoms may develop gradually and without a specific incident. This too often presents with limited ability to lift your arm overhead or behind your back. Pain for both scenarios is often in the back of the shoulder and may or may not involve pain traveling down the arm.
    - Artus M, Holt TA, Rees J. The painful shoulder: an update on assessment, treatment, and referral. *Br J Gen Pract*. 2014;64(626):e593-e595. doi:10.3399/bjgp14X681577

- Finally, pain can also be referred from the neck, often called cervical radiculopathy. This is when a nerve or group of nerves, which come out of your spine and travel down your arm into your hands, become irritated or potentially compressed. Cervical radiculopathy often starts gradually and typically involved neck pain in addition to shoulder pain and discomfort. Numbness and tingling down the affected arm is common, but not always present.
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### 3. Symptoms of Shoulder Pain

- Symptoms of shoulder pain
    - Symptoms of shoulder pain are most notably, pain. That said, the location of the pain also matters- whether it's on top, in front, or behind the shoulder. Additionally, certain diagnoses like a rotator cuff tear often present with a dull pain in the arm. Range of motion may or may not be affected, but you likely may experience symptoms in a specific part of the range of motion. Feelings of instability may accompany a labral tear, shoulder separation, or dislocation.
    - Putting weight on your shoulder may be difficult, whether it's lying on your side or pushing through that arm to get up from a seated position. Reaching behind your back or overhead are often difficult, and may or may not be accompanied by pain. In lifting, you might feel completely fine through a certain range of motion or up to a certain load, before hitting a threshold where the shoulder becomes weak or painful.
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### 4. When to Seek Professional Help

- Not all shoulder pain needs professional help, but it's essential to know when it does. If you experience sudden swelling, severe trauma, sudden loss in ability to raise the arm, fever or night sweats, weight loss, difficulty breathing, local mass or swelling, noticeable "heat", or severe restriction in active and passive ranges, or loss of function or sensation in both arms, then seek immediate medical care.
  - Artus M, Holt TA, Rees J. The painful shoulder: an update on assessment, treatment, and referral. *Br J Gen Pract*. 2014;64(626):e593-e595. doi:10.3399/bjgp14X681577
- When should you see a physical therapist? If you're experiencing shoulder pain that persists and doesn't improve after a week or couple of weeks, it's worth taking an active

approach. You want to avoid resting it too long, because while this might help decrease pain levels and allow symptoms to calm down, it can also result in deconditioning and further weakening of the shoulder, predisposing us for injury when we return to our normal activities. Seeking out a physical therapist allows you to address the weakness, range of motion deficits, and instability that often accompany pain.

- When to seek help: <https://www.youtube.com/watch?v=TmJkKxTo2JI>
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## 5. Movement Exam - Range of Motion

- The shoulder joint is designed to move, so it's imperative to gain and maintain full range of motion. This will likely be assessed both actively and passively by your physical therapist. Mobility, which is your active range of motion, can be assessed on your own at home. Follow the videos below to assess your own shoulder mobility:
- How to assess your mobility on your own:
  - Standing back to wall shoulder flexion
  - Standing shoulder abduction
  - Standing back to wall shoulder ER / IR
  - Behind the back reach / apley's scratch test
  - Can also demonstrate gravity assisted variations
- PROM:
  - <https://www.youtube.com/watch?v=pHQUiNVdwhU>
- AROM:
  - <https://www.youtube.com/watch?v=AB3u5iypWBY>
  - [https://www.youtube.com/watch?v=c\\_41uDLimMA](https://www.youtube.com/watch?v=c_41uDLimMA)
  - <https://www.youtube.com/watch?v=vdZmHIYXDHo>
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## 6. Movement Exam - Strength

- Strength is a key aspect of shoulder function, as it is what enables the muscles surrounding the shoulder to stabilize the joint and lift a variety of objects at different loads in multiple planes of motion. As previously discussed, the shoulder is a joint that is designed to move, which means there is less passive stability in the joint itself. As a result, there is even more demand on the surrounding musculature to support the shoulder joint.
- Key muscles to evaluate are the rotator cuff (supraspinatus, infraspinatus, teres minor, subscapularis), trapezius, deltoid, and rhomboid. Additionally, we want to assess open chain and closed chain shoulder strength. Open chain exercises are ones where your hand is not on the ground, and instead may be holding a weight. Closed chain exercises are ones where your hands are on the ground, like a push up or high plank.
- Rotator cuff capacity assessment - sidelying RTC series video

- <https://www.youtube.com/watch?v=CUnrl1ktq5Y>
  - Trap and rhomboid - prone I / Y / T iso
    - <https://www.youtube.com/watch?v=hAWilqsd7hk>
  - Closed chain assessment - bear hold / shoulder taps / push up
    - <https://www.youtube.com/watch?v=39r-mmE0sH4>
  - Having difficulty, weakness, or pain with one or multiple of these movements give insight into what areas may be affected by your shoulder pain, and also give an idea of what to work on. For instance, having difficulty with the rotator cuff capacity assessment shows likely rotator cuff involvement in your shoulder pain. Weakness or pain during the IYT assessment demonstrates involvement of the periscapular muscles which help stabilize the shoulder blade, such as the trapezius and rhomboid muscles. Difficulty during the bear plank and push up assessments let us know that there is instability around the shoulder joint, which could be coming from multiple factors.
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## 7. Movement Exam - Power

- Power is the combination of strength and speed, and it shows up in our training, playing sports, and in daily life. Needless to say that it's an important quality to assess and train to ensure your shoulder has the ability to quickly produce and absorb force. It's easy to think that this only applies to competitive athletes performing at the highest level, but we all use power daily even if we don't know it. Examples of power-dominant movements would include throwing, quickly reaching for or grabbing an object, and exercises like snatches, push press, and jerks.
  - Assessing power video - plyo push ups, DB snatch, DB push press, Medball throws
    - <https://www.youtube.com/watch?v=OUVSWAiBMwA>
    - <https://www.youtube.com/watch?v=Sd-E-og6xiA>
    - <https://www.youtube.com/watch?v=uGR4fP4Zrvc>
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## 8. Programming - Putting It All Together

- Sample program for shoulder pain
- Day 1 (push focus)
  - Soft tissue prep
    - Lacrosse ball cuff x 1:00
    - Lacrosse ball pec x 1:00
  - Shoulder strength prep
    - Bear hold 3 x :30

- Prone swimmers 3 x 12
- Strength
  - ½ kneel landmine press 3 x 12
  - DB floor press 3 x 12
  - Leaning lateral raise 3 x 12
- Accessory / RTC
  - Sidelying RTC series 3 x 8 of each variation
- Day 2 (pull focus)
  - Soft tissue prep
    - Lacrosse ball cuff x 1:00
    - Lacrosse ball pec x 1:00
  - Shoulder strength prep
    - Plank shoulder taps 3 x 12 total
    - Prone T iso 3 x :30
  - Strength
    - ½ kneel lat pulldown 3 x 12
    - 3 point DB row 3 x 12
    - Cable horizontal abduction 3 x 6 @ 5s lowering
  - Accessory
    - ½ kneel cable row to ER 3 x 8-10
    - Single arm banded circles 3 x 8 / direction
- Day 3 (push + pull + power)
  - Soft tissue prep
    - Lacrosse ball cuff x 1:00
    - Lacrosse ball pec x 1:00
  - Shoulder strength prep
    - Downward dog toe taps 3 x 12 total
    - Mini band press out 3 x 12
  - Strength
    - ½ kneel cable row 3 x 12
    - Alternating incline DB press 3 x 16 total
  - Power
    - MB extensive rotational throws 3 x 10 / side
    - DB push press 3 x 5 / side

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## 9. Real Stories from Patients

★★★★★ a month ago

I have struggled with a shoulder injury and pain for over 8 years. I tried various physical therapy, largely manual therapy, that would provide relief to the symptoms but not address the underlying issue. After about 3 months of working with Malti at More than Movement, my pain is pretty much gone. I cannot recommend working this group enough. They take the time to truly understand your situation (the history of the problem, how it manifests, how it affects you) and build a tailored routine for you with periodic touchpoints to refine the program. Malti and every other team member are incredibly friendly and knowledgeable, so you will feel comfortable from the beginning and immediately start getting helpful information. Go to More than Movement, it's the best decision you can make for your physical health.

I have been working out with Nick from More Than Movement for the past five months for a torn rotator cuff, and my progress has been nothing short of amazing - I'm playing pickleball again and am almost ready for golf!

Six different surgeons at Rothman/UPenn told me I would never be able to use my shoulder again without surgery and that PT would be a waste of time, and Nick proved them wrong. I am so grateful that I found More Than Movement!

Nick is super knowledgeable about the body and how everything is interconnected. He takes the time to understand your injury and make a customized plan to get you back doing the activities you love—nothing cookie-cutter here. His approach is unique compared to any traditional PT I've ever tried. He will push you to the point where your body can make maximum gains between sessions and will race to get back to doing the activities you love.

I have been so impressed by the team at More Than Movement overall. I've worked out with Corey a few times and can't say enough great things.

If you have an injury and want to avoid surgery, this is the place for you.

More than Movement is exactly that!

I really like that you have a consult over the phone to discuss what's going on before scheduling an appointment. At the time I described it as shoulder pain.

I met with Corey for the first appointment and he had me do some basic movements, After i left the office I realized how jacked up my shoulders were. I struggled with putting on a sports bra! Really! I wasn't sleeping well either.

Fast forward to 2 sessions and 6 in person sessions with many at home workouts I feel super comfortable with moving my shoulders pain free and sleeping pain free again.

My shoulders actually feel stronger now.

I highly recommend Corey, he is knowledgeable and professional, he was able to change my treatment in response to the current state of my shoulders/body at each appointment.

I am forever grateful to have been introduced to More Than Movement PT practice.

Keep up the good work Corey!

Again thank you!



I highly recommend this group. I had two separate shoulder injuries, one acute and one chronic, both impacting my day-to-day life. I've tried PT at other places, but nothing seemed to help.

Luckily I was introduced to Corey and Nick. Within two months I regained shoulder mobility, built strength and functionality I'd been missing for years and became more fit in general. The exchange of intellectual property is worth the price alone.

Corey was very transparent from day one and offered me communication outside of business hours - it showed how much these people really care about their clients.

After a few months with Corey and Nick, I switched over to "move and perform" training with Kris and Morgan. Kris and Morgan are highly skilled trainers who accommodate all levels of fitness and articulate things in a way for everyone to understand and learn from. They put me through some of the best workouts I've had in years and improved my exercise knowledge each time I saw them.

I'm happy to be back to playing recreational sports, exercising without injury, and living my day-to-day life without pain or limitations. I can't thank these four enough!

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## 10. Your Special Offer

- Shoulder pain can be frustrating, limit our ability to truly live our lives, and honestly can be downright debilitating. It's easy to lose hope and wonder if it ever will get better. The good news is that it can be done with the right approach. Sitting and waiting on it to feel better works sparingly, so it's going to take proactive work to regain control of your pain and your life. This book isn't designed to be a comprehensive guide, but instead helps get you started and ideally gets you thinking a bit differently about how to address your shoulder.
  - That said, it can be tough to work through this on your own and can at times feel overwhelming. If that's you, know that this doesn't have to be done on your own. Take advantage of our limited special offer of a free consultation by booking a call with our team today!
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