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Dr. Myeroff's SLAP and Proximal Biceps Tear Information Sheet

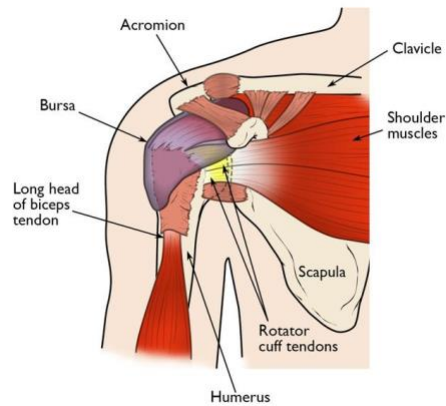


Figure 1 Shoulder Anatomy
orthoinfo.aaos.org/en/diseases--conditions/rotator-cuff-tears/

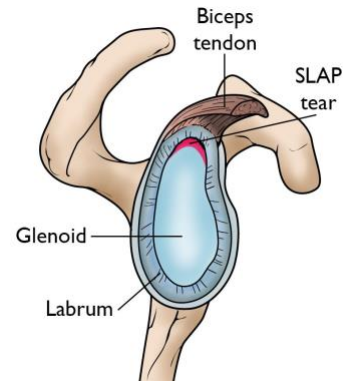


Figure 2 SLAP
[Tearorthoinfo.aaos.org/en/diseases--conditions/slap-tears/](http://tearorthoinfo.aaos.org/en/diseases--conditions/slap-tears/)

Please scan these codes with your camera phone to learn more from Dr. Myeroff's website as you go!



What is a Proximal Biceps or SLAP tear? twincitiesshoulderandelbow.com/slap/

- SLAP (superior labral anterior to posterior) tears occur along the labrum of the shoulder where the biceps tendon attaches to your shoulder socket (glenoid). (Figure 2)
 - The labrum is a rubbery gasket around your shoulder socket that helps deepen it to stabilize the shoulder.
- Proximal Biceps: Your long head of the biceps tendon (one of three portions of your biceps) attaches to the top of the gasket (superior labrum). (Figure 1)
 - Sometimes you can have pain from the area of your biceps tendon as it enters the shoulder.
 - Proximal Biceps Tear - The tendon is partially or completely torn in the area of the rotator cuff
 - Complete tears - The tendon falls away and your pain resolved.
 - Partial tears – Usually associated with more pain.
 - Biceps “Tendonopathy” – The tendon is inflamed, similar to a partial tear.
 - This pain is in the same region as SLAP tears, and is generally treated the same way.
- This connection (biceps and labrum) is considered the “appendix of the shoulder” – it has very little-known function but can commonly cause pain.
- How do tears occur?
 - They can occur from a sports injury or quick sudden movements (traumatic).
 - They can occur from a combination of time and wear and tear (degenerative).
- What are the symptoms?

- Deep pain in the front of the shoulder
- Relieved with rest
- Exacerbated by certain activities
 - Reaching behind your back, across your body, or out in front of you.
 - Overhead press exercises.
- Why do they hurt:
 - Tearing – Pain most often originates from where your labrum is torn off of the shoulder socket (Figure 1).
 - Since the biceps tendon is attached there, specific arm movements continue to pull the area of the tear and cause symptoms or pain
 - Dysfunction – This cycle of pain associated with activities can cause a downward cycle as you try to compensate for your pain. (Figure 3)
 - Pain
 - Poor posture and technique
 - muscle spasm / pain
 - shoulder malfunction (scapular dyskinesia)
 - nerve compress (thoracic outlet syndrome)
 - Scapular Dyskinesia – Scapular dyskinesia is abnormal function of your scapula (shoulder blade). Your scapula has 18 muscle attachments and accounts for half of your normal motion. Pain can cause you to compensate and abnormally use the scapula muscles. This can lead to weakness and shoulder pain in and of itself.
 - Thoracic outlet syndrome (TOS) – The thoracic outlet (Figure 4) is the region where you nerves and arteries travel from the chest into the arm. TOS is the abnormal compression of this region and can result in neurologic changes in the arm like numbness or weakness. This are can rarely be compressed by a mass (like an extra rib). More commonly posture (specifically slumping or “ptosis”) of the shoulder can compress these nerves. This often happens in the setting of poor scapula control (scapular dyskinesia). The good news is that this can be corrected with routine three times daily physical therapy exercises guided by a physical therapist.
- Will the tear heal?
 - The body is not able to “heal” the tear.
 - Fortunately, it is possible to improve your symptoms and rehab from the tear to the point it does not cause symptoms.



Figure 3 SLAP tear cycle of pain and dysfunction

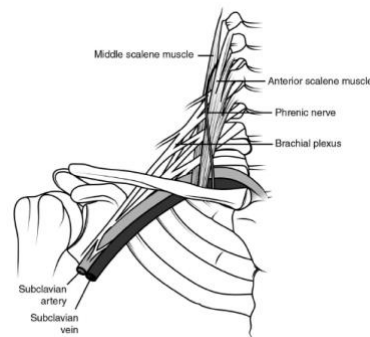


Figure 4 The thoracic outlet is a region where your nerves and vessels travel from the chest to the arm

How is a SLAP tear diagnosed?

- We listen to your story, which usually includes pain away from the body, reaching behind your back or with overhead press.
- We are interested in your response to previous injections and therapy as this will help guide further treatment.
- **Exam:** a thorough physical exam of your shoulder is performed looking at the strength of each of the muscles in the shoulder, your range of motion, areas of inflammation and other possible causes of your pain. This can be quite intricate but it is imperative in order to obtain the right diagnosis and treatment plan. Forgive me if I ‘talk shop’ with my trainer, PA or the residents/fellows during this process. I promise I will explain everything to you.
- **Imaging:**
 - X-rays: If you haven’t had them recently, we will obtain X-rays which help rule out things like a fracture and arthritis. These can tell us a lot about your bones
 - MRI: If it hasn’t been completed, an MRI may be ordered
 - This test involves several hours of your time and provides a wealth of information about your soft tissues (tendon, ligament, muscle, cartilage) and helps me to zero in on your diagnosis and what your options are. You may have an injection of dye into the joint for this.
 - That said, MRI is not highly reliable in telling us if you have a SLAP tear but can rule out other injuries which is very helpful.
 - The quality is best if you obtain this at Health Partners, CDI or St. Paul radiology.
 - Preferably at Health Partners / TRIA so I can access the images.
 - I know these are of very high quality
 - Please avoid the ‘open’ MRI as the quality of these images are poor.

Treatment options?

The goal is to help improve your pain and function, the best and safest way possible.

- **Ice, anti-inflammatories and activity modification**
 - If tolerated by your kidneys and stomach, I recommend 600mg Ibuprofen up to three times per day as needed for a few weeks to decrease inflammation.
 - Modification of your activities - avoiding activities that provoke the pain. Temporary work restrictions will be provided if appropriate.
- **Physical Therapy** twincitiesshoulderandelbow.com/rehab/
 - Therapy is the first-line treatment for most SLAP or proximal biceps tears.
 - If you have developed scapular dyskinesia or thoracic outlet syndrome, this will help with that as well.
 - The goal is to rebuild your technique and strength to optimize your shoulder function.
 - Typically, you will go to formal physical therapy 1-2x per week and build a self-driven home exercise program.



- **You will do your exercises 2-3x per day, every day at home.**
- **Remember “Therapy is not a place you go, it’s a thing you do”!**



- **Steroid Injections** twincitiesshoulderandelbow.com/injectionvideo/
 - Depending on the situation I may perform these for you in clinic, or refer you to have them done under image guidance (with an ultrasound or X-Ray).
 - Glenohumeral steroid injections (into the shoulder joint) can provide 3 main benefits
 - **Diagnostic:** A successful injection that relieves your pain can help confirm your diagnosis to make sure we are on the right path.
 - **Therapeutic:** May provide you comfort while the injection works.
 - **Rehab:** If we can decrease your shoulder pain, you will be better able to tolerate therapy and resolve your shoulder pain.
 - Injections can provide anywhere from 0-3 months of pain relief. The goal is to decrease your pain in order to allow you to do your therapy more comfortably
 - I call the injection + PT combo the “1-2 punch”.
 - A repeat injection may be performed depending on how beneficial they are.
 - The Procedure
 - The skin is sterilized and the use of a cold spray that can decrease the pain.
 - Use two medications:
 - Marcaine – A local anesthetic that will numb the inside of the shoulder for up to 8 hours.
 - Make sure not to “over-do it” that day.
 - DepoMedrol – A steroid (acts like a high dose ibuprofen inside your joint) that will start working about 2 days later.
 - You may experience a 2-day gap where your pain may be worse.
 - Please keep a log for your next appointment:
 - How long did the injection help?
 - What % relief did you have?

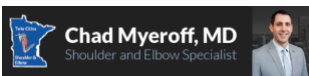
- **What are the risks?**

- Injections can buy you months of pain relief but do tend to be less and less helpful over time.
- Injections done heal tears, and may in-fact contribute to further tearing if they are routinely given.
- While it is slightly uncomfortable, most patients find it quite tolerable.
- If you have diabetes, the steroid can increase your blood sugars for several days, you will need to monitor them closely.
- Rarely they can cause depigmentation of the skin.
- Repeated steroid injections can weaken your tendons and ligaments.
- There is roughly a 1:10,000 risk of infection
 - Injections are forbidden within 3 months of a shoulder replacement due to the risk of a post-operative infection.



Surgery twincitiesshoulderandelbow.com/preparingforsurgery/

- Most SLAP and biceps tears are able to be resolved with some combination of anti-inflammatories, therapy, and 1-2 well timed steroid injections. However, surgery remains a good option when these measures fail. The main goal is to remove the pain by either repairing the tear or removing the biceps so it no longer pulls on the torn labrum.
- Surgical repair is never emergent or mandatory. Some tears are more likely to progress and continue to cause pain and weakness – these variants are less likely to do well without surgery. In these instances, it may be best to proceed earlier with surgery. I will do my best to guide you on the time sensitivity of your particular tear and together we will form a plan that works best for you!
- **Indications for surgery**
 - When non-operative treatment is ineffective
 - Persistent pain and weakness
 - Once your shoulder is conditioned and mechanics improved
- **Reasons to not pursue surgical repair**
 - Poorly controlled diabetes (A1c >10)
 - Due to issues with healing, you will need to work with your doctor to improve your glucose control before undergoing surgery.
 - Unable to abide by the post-operative restrictions and therapy
- **What is an arthroscopic shoulder surgery?**
 - It is minimally invasive surgery using 1cm incisions
 - Smaller incisions decrease pain and scarring
 - A camera the size of a pencil is used to look into the shoulder and identify all areas of injury, clean out inflamed tissue, and detach, repair or move the tendon where it belongs.
 - **What are the surgical options?**
 - **SLAP Repair:** twincitiesshoulderandelbow.com/SLAPRepairvideo/
 - In rare cases I may recommend the labrum be arthroscopically repaired back down to the socket
 - This option is the most “anatomic” as it repairs your anatomy as close to normal as possible.
 - However, recent data shows this option has the highest chance of failing to resolve your pain
 - **Biceps Tenotomy:** twincitiesshoulderandelbow.com/biceptendonvideo/
 - The biceps tendon is arthroscopically cut (released) from the labrum to remove it as a source of pain.
 - This is the simplest surgical solution and has longstanding success with the lowest surgical risk.
 - This may result in:
 - A slumping of the biceps muscle termed “Popeye deformity”, this is mostly cosmetic if it happens.
 - Mild (10%) loss of strength.



- Prior to that, it is only the suture and anchor holding the tendon to bone. This is not nearly as strong as a healed tendon.
- If a repair is done, you will have restrictions for this period of time.
 - A biceps tenotomy alone would not have restrictions.
- How can you help?
 - Stop smoking
 - Close diabetes control
 - Avoid NSAIDs for 6 weeks
 - Abide by your post-op restrictions with 2 main early goals
 - **Avoid re-tear:** For a repair of tenodesis you will have restrictions to prevent pulling on the repair. You must avoid active motion (using your own muscles) of the shoulder. This includes no reaching, lifting, pulling with the shoulder to prevent re-tearing the tendon before it heals.
 - **Avoid stiffness:** You *should* move your fingers, wrist and elbow. You will work with therapy and at home on passive shoulder motion (without using your own shoulder muscles).
- 0-2 weeks: You will wear your sling full time except for basic therapy for passive motion. You can return to desk work
- 2-6 weeks: You will wean out of your sling, I will advance your therapy, to include working on passive shoulder motion.
- 6-12 Weeks: You will begin early strengthening. I will usually clear you to drive. You may be returned to ‘light duty’.
- 3+ months: Progressive strengthening, no restrictions. You will begin full duty work when you are cleared by your therapist as being safe.
- **When will I approximately be fully recovered?**
 - 3 months for biceps tenotomy.
 - 4.5-6 months for SLAP repair or biceps tenodesis.

Want more information?

- Please visit:
 - twincitiesshoulderandelbow.com/slap/
 - <https://orthoinfo.aaos.org/en/diseases--conditions/rotator-cuff-tears/>
- Regions Hospital / Health Partners Specialty Center
 - Clinical questions: 651-254-8300 option 2
 - To schedule appointments: 651-254-8300 option 1
 - To schedule surgery: 651-254-8399 or 651-254-8338
 - Fax employer or insurance related paperwork ASAP to 651-254-8127.
- TRIA Orthopaedic Center
 - Clinical questions: 952-977-3301
 - To schedule an appointment: 952-831-8742
 - To schedule surgery: 952-977-3414
 - Fax employer or insurance related paperwork ASAP to 952-977-3459.

Scan this code to visit
Dr. Myeroff's SLAP
Tear link.

