



**SHOULDER SURGERY MAY NOT BE THE
RIGHT SOLUTION FOR SHOULDER PAIN**

Shoulder Surgery May Not Be the Right Solution for Shoulder Pain 10 Facts About Shoulder Injuries and Surgery

Over any 10 year period, about 15% of us will see a doctor for shoulder pain, and that number climbs as we get older. [While you might think that only one or two things can cause pain in the shoulder, there are quite a few](#), including tendinitis, rotator cuff problems, lesions, and injuries to the labrum. Even problems in the neck can lead to shoulder pain.

Complications are common in shoulder surgeries and include shoulder stiffness ([frozen shoulder](#)), failure to heal, infection, [reflex sympathetic dystrophy](#), deep venous thrombosis (blood clot), re-tears, and death. Shoulder surgeries are serious business, and if you are considering one, please take the time to read this report. Our goal is to provide information that will help you make the right choice for you.

1. A Rotator Cuff Tear May Not Be the Cause of Shoulder Pain

The rotator cuff is a complex series of muscles and tendons around the shoulder that help lift the arm and stabilize the ball in the socket (the shoulder joint). A tear is exactly what it sounds like—a tear in the tissue. Shoulder pain is, by far, the biggest reason patients give for undergoing rotator cuff repair.

While some rotator cuff tears result from trauma, the vast majority of rotator cuff tears happen from simple wear and tear as we age. The most common scenario for a tear to occur is simply a slightly more demanding movement than usual. How could that happen? It's been known for a considerable amount of time that the rotator cuff doesn't have the best blood supply, but blood supply varies to many areas of the body. [The problem is likely a lack of healthy progenitor cells and stem cells](#) to repair the damage as it occurs over time, and at some point with little provocation, the unhealthy tissue simply fails and a tear occurs.

A rotator cuff surgery involves cutting into the shoulder and stitching the rotator cuff tear back together. A good number of surgical patients never recover full range of motion following surgery, and pain persists. [In addition, many studies show that shoulder pain prior to surgery has no correlation with the rotator cuff tear or the severity of the tear.](#) What's causing the pain?

Studies on Shoulder Pain

[One study concluded that larger rotator cuff tears were associated with less pain and that more pain was accurately predicted by more IL-8](#) (interleukin 8) in the joint fluid. IL-8 is an inflammatory cytokine, an alarm sounding when inflammation is present. The pain in this study was due to the inflammation, not the tear itself.

[Another study concluded that the mental health of the patient was associated with shoulder pain](#) (measured using the Short Form-36 Mental Component Summary) while the severity of a full-thickness rotator cuff tear generally had no association.

[Another study concluded that there is no association between the severity of rotator cuff tears and shoulder pain](#) and that “factors associated with pain are comorbidities.”

“The prevalence of full-thickness rotator cuff tears increases with age [and] many patients are asymptomatic and may not require surgical repair,” according to yet another study. Even when there is pain present, researchers concluded that [physical therapy, rather than rotator cuff surgery, should be sufficient to address the shoulder pain in most cases.](#)

[Another study concluded rotator cuff repair does not actually fix shoulder function or pain.](#) Since the primary purpose for undergoing a rotator cuff repair to begin with is typically shoulder pain, this is disturbing. If the pain isn’t due to a tear, why is it necessary to undergo rotator cuff surgery to “fix” your pain?

While these studies, and many, many more, show a variety of reasons for shoulder pain in the presence of a rotator cuff tear, there is one common factor: none link shoulder pain to the actual rotator cuff tear. You can see why [operating on shoulder pain is not a wise idea.](#)

2. The Neck May Be the Cause of Shoulder Pain

Can pain in the shoulder come from the neck? Yes. Cervical stenosis, a condition where neck arthritis can press on nerves, can cause pain in the shoulder, and no amount of shoulder surgery will relieve shoulder pain that is not rooted in the shoulder.

We’ve known for a while that the [lower neck joints \(facets\), when injured, can refer pain to the back of the shoulder.](#) In addition, this is also a common referral site for the lower neck nerves. Why? When we grow in our mother’s womb, these areas grow out of one another, and the wiring of the neck and shoulder is still a bit mixed up together in adulthood. Hence, even though a neck nerve or joint is complaining, to the patient it feels like a shoulder problem. This phenomenon, regrettably, has launched many unnecessary shoulder surgeries through the years when some small incidental rotator cuff finding is seen on MRI and the patient ends up getting it surgically repaired only to continue to have pain in the same spot after surgery.

If you have pain in the back of the shoulder and treatment there is doing nothing, start asking your doctor to take a closer look at your neck.

3. Shoulder Surgery is Largely Ineffective

With about 80,000 rotator cuff surgeries now performed annually in the United States, you would think there must be solid medical evidence supporting its effectiveness. However, the [Agency for Healthcare Research and Quality published a review that concluded based on 150 published papers that there was no solid evidence the patients benefitted from having rotator cuff surgery any more than having no surgery.](#)

Taking this a step further, [another study concluded that there was no real evidence that there is any improvement in rotator cuff repairs.](#) Whether the patient reported successful outcomes of the surgery or not has no connection to if the rotator cuff has healed.

So shoulders are being operated on at a furious pace, yet [research shows that 6 out of 10 surgical repairs of the rotator cuff fail](#). And, clearly, as shown in number 1 above, surgery isn't doing anything for shoulder pain. Medicine is like any other field: ideas take hold and then spread like wildfire. The idea in this case was that sewing a rotator cuff tear back together was a good idea. And while it may be in some severe cases—for example, if you have a massive tear with otherwise good healthy tissue and you are an active person—most cases are not severe.

If you have a partial rotator cuff tear or a full-thickness rotator cuff tear without retraction (the two ends pulled apart), then you should consider [nonsurgical injection-based repair rather than shoulder surgery](#). These injections allow the patient to be more active during recovery, and hopefully this increased activity will allow the patient to have a stronger and more functional shoulder rotator cuff repair when compared to a more invasive shoulder surgery.

4. Acromioplasty During Shoulder Surgery Has No Advantage in Most Cases

Acromioplasty is sometimes done with a rotator cuff repair as well. This is where surgeons cut these ligaments and shave a piece of the acromion, the bone that sticks out at the front of the shoulder blade. Acromioplasty is typically in response to an impingement, where the bones and ligaments are pressing on the rotator cuff. Unfortunately, [acromioplasty can lead to instability, arthritis, and other complications](#) and can also lengthen recovery time. Is it imperative that these ligaments be cut?

[One study showed that muscles must work harder when these ligaments are cut during acromioplasty](#), and this overloads the rotator cuff and could lead to arthritis. [Another study on acromioplasty done with rotator cuff surgery](#) concluded that there was no advantage to shaving the bone and cutting these important ligaments. Some surgeons may protest that removing the stabilizing ligaments of this part of the shoulder is without side effects, but the body has no spare parts, and this study seems to support that acromioplasty just places more stress on the rotator cuff.

Note that if there is a severe impingement by either an extra-large acromion bone or very large bone spurs, acromioplasty may be a good option.

5. Shoulder Surgery Can Result in Long-Term Inactivity

Sewing a shoulder rotator cuff tear means prolonged immobilization as you must substantially weaken the area through shoulder surgery before you can get it to heal. This type of long-term inactivity for the rotator cuff muscles and tendons can lead to shoulder rotator cuff atrophy and/or a weaker rotator cuff tendon.

Surgery for shoulder dislocation instability, common in sports injuries, is also a very big deal. First, repairing the labrum often means detaching and then reattaching important tendons, like the biceps. In addition, the labrum is notoriously difficult to completely heal with surgery. Sewing the stretched-out ligaments back together or burning them in surgery can result in a shoulder capsule that's too tight and places too much pressure on the cartilage of the shoulder joint. [Shoulder dislocation surgery recovery time](#) can be anywhere from 3-6 months with limited movement of the joint. And a full return to sports, if it happens at all, is not likely to happen until 6-12 months after surgery.

This amount of [downtime shoulder surgery causes can even be difficult for active weekend warriors and fitness enthusiasts alike](#), and many people in these categories will actively seek out [shoulder surgery alternatives, such as stem cell injections](#), to minimize that downtime.

For patients over 60, [shoulder surgery recovery is even more difficult, with 1 in 3 rotator cuff tears not healing in that age group](#). Suffice it to say that these big shoulder surgeries have big recovery times.

6. Large Tears Repaired Surgically Are More Likely to Tear Again

At an American Academy of Orthopedic Surgeons meeting a few years ago, research was presented that demonstrated that large rotator cuff repairs that were repaired surgically re-tear at a rate of 57% in a series of 500 patients—[that's nearly 6 out of 10 rotator cuff surgery failures](#). The researchers demonstrated that the repairs with the largest tears were more likely to tear again. If the patients made it to six months after surgery without a re-tear, they did better than patients who didn't have intact cuffs at that point.

Why do we think these larger tears are re-tearing? Just sewing back the torn ends does nothing to address why the tear happened in the first place (e.g., the tissue quality was poor). This includes a reduction in the blood vessels that supply nutrition to the area as well as the quality of the raw materials—the collagen and muscle fibers.

Based on our experience with many patients with torn rotator cuffs, [we would recommend trying to fix torn rotator cuff muscles and tendons with stem cells through an injection](#) where possible. When that's not possible due to the size of the tear, we would recommend that surgeons consider using stem cells with surgery to address tissue quality. [Many torn rotator cuffs have lost the ability to heal due to a lack of local stem cells to initiate healing](#). More attention needs to be focused on how to improve the strength of the tissue, as sewing back together “tissue paper” is unlikely to be an effective strategy for patients.

7. Many Patients Never Regain Full Range of Motion After Rotator Cuff Surgery

Of all the joints in the body, the shoulder joint has the greatest range of motion. Unfortunately, [many patients never regain full range of motion after rotator cuff surgery](#), likely due to the same immobilization and prolonged bracing needed to get the rotator cuff to heal. This makes sense then that the research doesn't support that rotator cuff surgery is more effective than no surgery.

We've seen patients for years who complain of less function after surgery than they had before surgery. Is this possible? Yes. The [Orthopedic Research Society presented a study on range of motion and stability in the shoulder following rotator cuff surgery](#). Researchers looked at the shoulder that underwent rotator cuff surgery versus the opposite shoulder without the surgery. They used sophisticated high-speed X-ray to check on how much the shoulder joint moved. The shoulder movement was analyzed at 3, 12, and 24 months after surgery. They concluded that shoulder strength and joint stability as well as range of motion wasn't restored.

What long-term implications might this have? Shoulder stability is crucial to protecting the shoulder joint long-term. Lost range of motion also means that other joints must be used more to compensate. The reason? Rotator cuff repair is a big surgery that can reconnect severed rotator cuff tendons, but often these tendons can't be surgically repaired to their pretear integrity, and range of motion suffers in the process.

8. Shoulder Bone-Spur Removal Leads to Shoulder Instability

Known as distal clavicular resection, bone-spur removal is one of the most common shoulder surgeries performed with rotator cuff repair. However, research shows that [bone spur removal doesn't help and causes more shoulder instability](#), and with greater instability usually comes more pain and arthritis.

Rotator cuff surgery is the most common shoulder surgery in the United States, and most patients will also end up with a distal clavicular resection surgery. This surgery involves chopping off the end of the collar bone. The concept—which is based on the idea that the constant compression of the muscles or tendons that make up the rotator cuff is what may have caused the muscle to tear—is to “open up” space for the rotator cuff.

Is distal clavicular resection needed? The study at the link above concluded that cutting off the end of the clavicle did not help pain or function any more than not cutting off this piece. The study also showed that in the distal clavicular resection group, some patients developed instability of the shoulder—adding to this, the design of this study likely vastly underestimated this number as the X-ray test for unstable shoulders is far less sensitive than other tests that could have been used. As a side note, in both groups, about one-third of subjects failed to have healing of their rotator cuff tears after surgery, which is consistent with other [studies showing high rates of failure for rotator cuff repair](#).

Another reason distal clavicular resection may not be needed is because [bone spurs usually are not the monsters surgeons make them out to be](#). In fact, most form in order to provide needed stability. Bone is made up of osteoblasts (mature cells) and stem cells, and these cells react to their environment. Bone spurs develop in the presence of an unstable environment and grow to help stabilize the structure. If we remove these bone spurs, the shoulder becomes unstable, and the body will react by just placing more bone spurs back in this location. These functional bone spurs serve a purpose, and their removal doesn't positively impact the patient. In fact, removing them recreates the instability the body formed them to correct. There are nonfunctional bone spurs as well, those that cause mischief and may need to be removed, but these are less common.

9. Shoulder Steroid Shots Are Toxic to Cells and Tissues

While steroid injections may be used to relieve pain and swelling in the shoulder and allow patients to forego surgery for a while, they are highly toxic to body tissues. We have some articles addressing this on the Regenexx blog, including the following:

- [More Bad News About Shoulder Steroid Shots!!](#)
- [Shoulder Steroid Injection Side Effects: Shocking New Research!](#)
- [Shoulder Steroid Injections: New Research Shows Why This Is a Really Bad Idea](#)

Study after study shows that steroids damage tissue at the cellular level, and a recent study shows they decrease the blood supply that's critical for healthy tissue. However, because they're covered by insurance, steroids are the most common injections for orthopedic pain conditions.

Steroids and anesthetics are the most common shoulder injections worldwide. The type of steroid injected is called a "corticosteroid." Steroids harm tissue, and we've known this for a long time. A search of the US National Library of Medicine pulls up more than 62,000 research papers on the side effects of corticosteroid. [The first paper on the side effects of steroids in arthritis was published all the way back in 1951, so we've known the bad news about steroid shots for a long time!](#)

Why are steroids so bad for tissue? First, there is a dosing issue. Dosage was never determined by studying the effect of steroids on human tissues, like cartilage, tendon, or muscle; it was instead determined by observing that a certain dose (milligrams) was beneficial to diseases like asthma when given intravenously. Unfortunately, the damage done at the tissue level shows us that the dosage is way off. How off? Imagine the amount of steroid a normal tendon is exposed to when produced by the body to control swelling is the height of a matchbook—the amount that doctors inject into shoulder tendons is the height of the Empire State Building!

The second issue is the direct effects of steroids on tissue. All bones, muscles, cartilage, and tendons have reserve cells, called stem or progenitor cells, living inside them. They are there to help maintain cells that die off due to normal wear and tear. However, [studies have shown](#) that when steroids are given at high doses, they hurt these cells. This leaves the tissue without any ability to repair or maintain itself for many months.

[This study](#) focused specifically on the effects of steroids on the tendons of patients who were undergoing rotator cuff surgery. The original goal of the study was to map the density and amount of blood vessels located in different parts of the rotator cuff tendons. This is important because [newer studies show](#) that rotator cuff tears don't heal well when the tendon has developed fewer blood vessels and has poor blood supply. While the study showed a pattern of blood vessels that might be helpful to surgeons, the most startling finding was that patients who had shoulder steroid shots before the surgery had one-third fewer blood vessels than the patients who didn't get the shots.

10. Shoulder Anesthetic Shots Are Also Toxic to Local Cells and Tissues

It isn't just the [steroids](#); the [anesthetics typically used to inject them damage tissue at the cellular level](#) as well. Numerous studies ([including our own](#)) have shown that [local anesthetics, like Marcaine, are highly toxic to local cells and tissues, killing them quickly](#).

In fact, [the use of Marcaine after shoulder surgery was the subject of a class-action lawsuit because the anesthetic was so efficient at destroying shoulder cartilage](#). In addition, when steroids and anesthetics are combined, you can get a 1+1=3 synergistic effect, with the concoction being more toxic than either drug alone. Additional [research shows that when used to treat inflamed tendons, when the pain does return, it's worse than before the steroid injection](#). This study focused squarely on shoulder steroid injection side effects.

With so many studies showing steroid and anesthetic shots are highly toxic to local tissues, why are doctors continuing to give them? We have more than enough data showing that these medications in their usual doses should never be injected into joints or tendons.

Stem Cell Alternatives to Shoulder Surgery

Traditional options for patients suffering from shoulder issues include arthroscopic shoulder surgery, to repair tears or other injuries, or even shoulder replacements. Due to the complexity of the joint, shoulder surgery can be particularly difficult. Postsurgical recovery can be painful, requiring a lengthy rehab period to restore strength and mobility to the shoulder, and you must be aware of and prepared to take on the risks.

If you have encountered an injury to the shoulder or have chronic shoulder pain due to a past injury or osteoarthritis (also known as degenerative joint disease or wear-and-tear arthritis of the shoulder), you may be a good candidate for a [stem cell procedure for the shoulder](#).

Through years of research and perfecting the use of stem cells and platelets to repair rotator cuff tears, the Regenexx stem cell procedure improves the rotator cuff's regenerative potential rather than further damaging an area that has given way because of tissue weakness.

Using a precise, image-guided injection of the patient's own stem cells and growth factors, we are able to get more of the body's natural "repairmen" directly into the tear. By mobilizing the body's own healing mechanisms and eliminating the trauma of surgery and atrophy caused by immobilization, Regenexx has produced good results in the treatment of partial rotator cuff tears, and has even shown encouraging success with completely retracted tears; shoulder arthritis; shoulder tendonitis; recurrent dislocations; joint separation; and other shoulder issues. Here are a few shoulder patients' stem-cell-success stories:

- [A weightlifter's stem cell story](#)
- [A CrossFit enthusiast's stem cell story](#)
- [A dentist's stem cell story](#)

Disclaimer: Like all medical procedures, Regenexx Procedures have a success & failure rate. Not all patients will experience the same results.

Regenexx Rotator Cuff - Stem Cell Procedure for Rotator Cuff Tears



Regenexx[®] is VERY Different - Why Regenexx Stem Cell Treatments are Superior to Other Solutions





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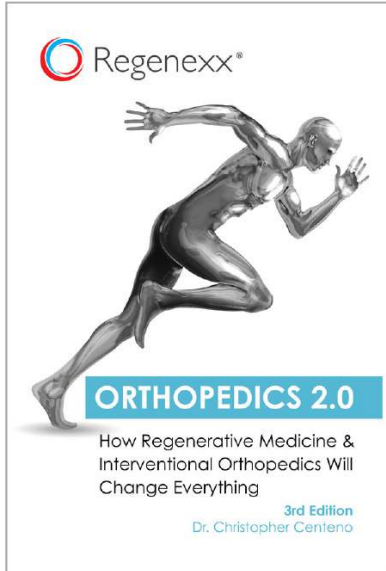
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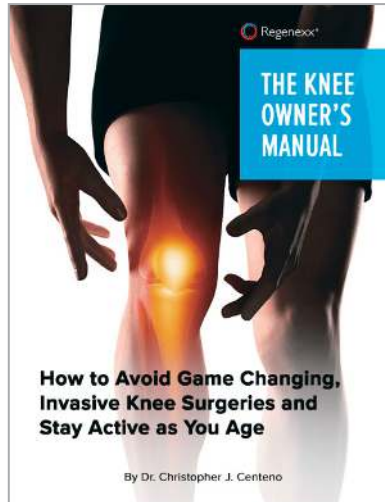


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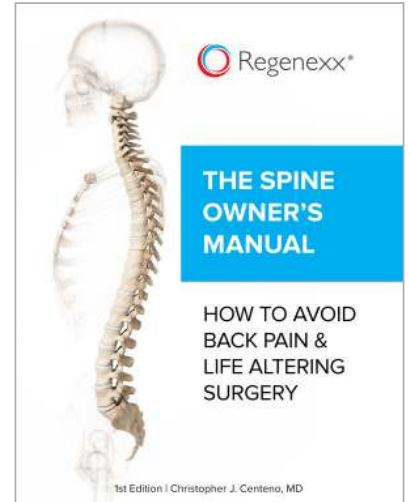
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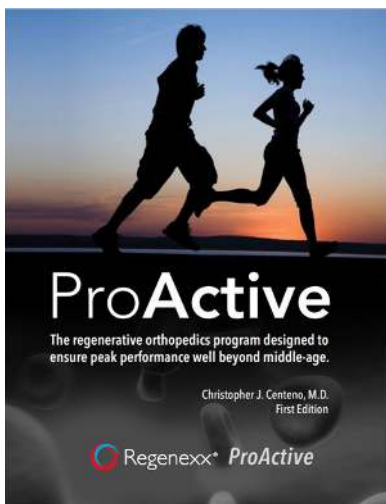
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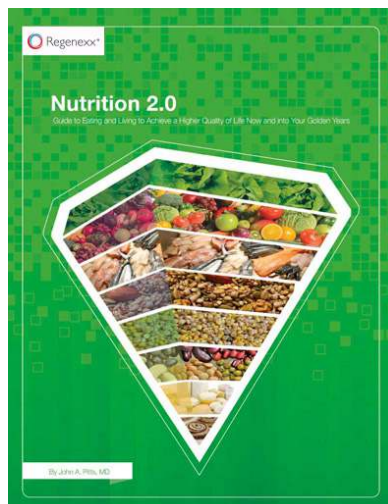
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