

OPTIONS FOR TREATING SHOULDER PAIN



DePuy Synthes

People inspired™

The shoulder joint

Your shoulder joint has the largest range of motion out of all the joints in your body. This flexibility allows you to hit a backhand swing in tennis or stretch to reach something on a top shelf. The shoulder also helps you position your hand for movements such as waving goodbye or using the mouse on your computer. The shoulder consists of 3 bones:

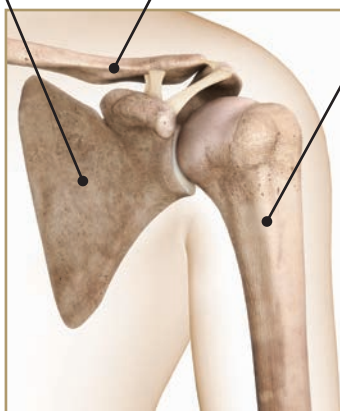
- shoulder blade (scapula)
- collar bone (clavicle)
- upper arm bone (humerus)

Healthy Shoulder

**Shoulder Blade
(Scapula)**

**Collar Bone
(Clavicle)**

**Upper Arm
Bone
(Humerus)**



Two main joints help your shoulder move easily:

Glenohumeral joint

Commonly called the shoulder joint, the glenohumeral joint helps you move your shoulder forward and backward. It also enables your arm to rotate in a circular manner or move outward.

The shoulder joint is composed of the socket on your shoulder blade (glenoid) and the “ball” at the top of your arm bone (the humerus).

Uniquely, the ball of the upper arm bone is twice the size of the shoulder blade socket.

One way of picturing this joint is to think of a golf ball on a tee.

Acromioclavicular joint

The acromioclavicular joint is located between your shoulder blade (scapula) and your collar bone (clavicle).

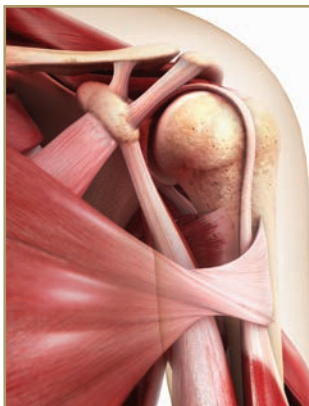
**Shoulder Socket
(Glenoid)**

**Acromioclavicular
Joint**

**Upper Arm Bone
(Humeral Head)**



Shoulder Anatomy



This complex arrangement of bones, muscles, tendons and ligaments can be injured by an accident or overuse. Disease also can affect the shoulder. When that happens, the pain and lack of mobility can be severe enough to affect your ability to work and to enjoy normal activities of daily life.

Shoulder conditions

Most shoulder problems involve the shoulder's soft tissues: the tendons, ligaments or muscles. The bones also can be affected.

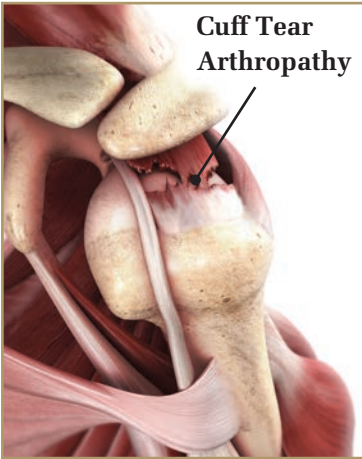
Your doctor will help determine your condition and work with you to develop a treatment plan.

Many conditions of the shoulder are interrelated. For example, tendinitis may be related to a torn rotator cuff. Frozen shoulder (adhesive capsulitis) may be related to bursitis. Other shoulder problems are:

- Arthritis
- Torn Rotator Cuff
- Dislocation/Instability
(includes Bankart Tear and SLAP Lesion)

- Frozen Shoulder (adhesive capsulitis)
- Sports Injuries
- Synovitis
- Tendinitis, Bursitis and Impingement Syndrome
- Fractures

Torn Rotator Cuff



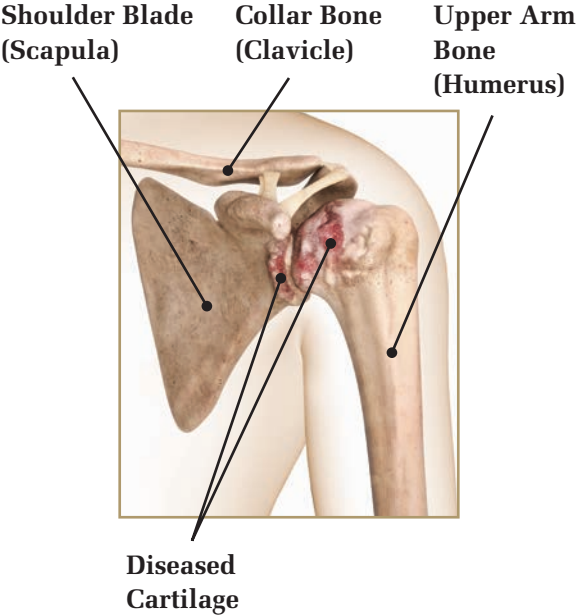
Shoulder pain

How many people in the United States have arthritis?

Currently, an estimated 52 million Americans reported that their doctor told them they had arthritis. As our nation's population ages, the prevalence is expected to increase.¹

Arthritis is the loss or damage of joint (articular) cartilage. Cartilage is a smooth, shiny surface that covers the ends of your bones. Normally, when cartilage rubs together, you have smooth and painless motion. When your cartilage degenerates, however, you can suffer from pain and limitation of motion. When you have arthritis, your soft tissues — the muscles, tendons, and ligaments surrounding and supporting the joint — can also become weak and unable to function.

Arthritic Shoulder



Arthritis can be caused by several factors, depending on the form it takes and what area within the shoulder is affected. Three main types of arthritis generally affect the shoulder:

- **Osteoarthritis** —
Wear-and-tear arthritis

Sometimes the protective outer layer of the articular cartilage that covers the ends of your bones deteriorates. The result is called osteoarthritis. Osteoarthritis affects the entire joint — causing cartilage loss, bone damage, formation of bone spurs, and soft tissue inflammation. Your cartilage loses its ability to absorb shocks and repair itself.

- **Rheumatoid arthritis** —
Inflammation of the joints

Rheumatoid arthritis is a systemic disease because it may attack any or all joints in the body. It affects women more often than men and can strike young and old alike. Unlike osteoarthritis, rheumatoid arthritis causes



destruction of the joint through severe inflammation. The body's immune system attacks and destroys the synovial lining covering the joint capsule, the protective cartilage and the joint surface. This causes pain, swelling, joint damage and loss of mobility.

- **Trauma-related arthritis** — Arthritis resulting from an injury

Trauma-related arthritis results from damage to the joint from a previous injury. It also results in joint damage, pain and loss of mobility.

The shoulder joints most commonly affected are:

- The ball and socket (glenohumeral) joint
- The acromioclavicular joint (where the shoulder blade and collarbone meet)

To provide you with effective treatment, your physician will determine what type of arthritis you have and which joint is affected.

Other types of arthritis of the shoulder

There also are other, less common, forms of arthritis that can affect the shoulder. **Septic arthritis** can result from infection from bacteria, viruses, or other microorganisms. It also is associated with rheumatoid arthritis.

Avascular necrosis (osteonecrosis) develops when the blood supply to the bone is disrupted and the bone begins to die. Both forms of arthritis can result from injury, fracture, or nontraumatic causes.

Treatment options

One minute you were leaping for the ball, the next you were doubled over, your shoulder feeling like it was on fire. Or maybe it has been a gradual progression where the pain increasingly interferes with your daily activities.

Now you can't sleep at night. You may have trouble with even simple activities such as getting dressed or combing your hair. If your job involves overhead activities like painting or stocking shelves, you may be on disability.

You're asking yourself: **Do I have to live with this pain? What can I do?**

Talk to your surgeon about treatment options to help reduce your pain, regain your shoulder mobility, and help get you back to the activities you love.



Is surgery my only option?

Your doctor probably will suggest surgery only when your symptoms don't improve with conservative treatment. The majority of shoulder conditions may have treatment options that include pain medications and physical therapy. When surgery is believed to be the best choice, a form of minimally invasive surgery called arthroscopic surgery may be appropriate for you. Or if your condition is more advanced, you may benefit from a shoulder replacement procedure.

When it comes to treating your shoulder problem, there are a number of options. Your physician will counsel you on the best solution for your situation.

Start with R.I.C.E.

Here are steps to take when you first have shoulder pain. These steps are commonly called RICE.

- **Rest** — Relax or stop using the injured area for 48 hours
- **Ice** — Put an ice pack on the injured area for 20 minutes at a time, 4 to 8 times per day. Use a cold pack, ice bag, plastic bag filled with crushed ice, or frozen vegetables wrapped in a towel. (Never put ice directly on the affected area.)
- **Compression** — Compression may help reduce the swelling. Compress the area with elastic bandages
- **Elevation** — Keep the injured area elevated above the level of your heart. You can use a pillow to help elevate the shoulder

If pain and stiffness continue, call your doctor.

Using pain medications

When you have a shoulder problem, pain is a constant reminder that something is wrong. Over-the-counter or prescription pain medication may help your symptoms. The pain medications usually are combined with substances that reduce inflammation (anti-inflammatories). They include:

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

NSAIDs are medications that reduce pain, fever, and inflammation. They may be prescribed by your physician or purchased over the counter. They may be taken orally, and are also available in creams. Your physician can recommend specific products to address your particular needs.



Over-the-counter NSAIDs

Over-the-counter NSAIDs medications include:

- Ibuprofen. This NSAID is available in generic form and in brand-name products.

Corticosteroids

Prescription anti-inflammatory medications include drugs called corticosteroids. The drugs block production of chemicals called prostaglandins that trigger inflammation and pain. They are available by prescription only.

They may be prescribed in two different forms:

- **Corticosteroid injections.**

These anti-inflammatory drugs are injected directly into the shoulder joint area to reduce inflammation. They are available by prescription only and will be administered by a healthcare professional.

- **Corticosteroid medications.**

Corticosteroids also are available in medication form, by prescription only.

If you are taking corticosteroids, always talk to your doctor first before discontinuing their use. Abrupt discontinuation of corticosteroid medications may have serious side effects.

Non-NSAIDs

There are other over-the-counter pain medications that do not reduce inflammation. They include:

- Acetaminophen. This pain reliever is available in generic form and in brand-name products.

If pain persists or is severe, call your doctor.

Physical therapy

Physical therapy involves activities to restore your shoulder's mobility and reduce pain. A physical therapist is a key member of your medical team, and will be involved in all phases of your shoulder's rehabilitation. Physical therapy may be a good solution to your shoulder problem. If your condition doesn't improve after a period of treatment, however, your physician may recommend surgery.

If you have had surgery, your surgeon will recommend and supervise your rehabilitation program.

Your physician will let you know when it is appropriate to undertake mobility and strengthening exercises for your shoulder — and may recommend specific exercises to address your shoulder pain.

Physical therapy will continue to be an integral part of your recovery after surgical treatment.



Choosing surgery

The diagnosis and treatment of shoulder problems has advanced over the past decade. When severe shoulder pain starts interfering with your daily activities, it may be time to consider treatment options that can provide pain relief and restore freedom of movement.

Keep in mind that orthopaedic experts say many shoulder patients seek treatment later than recommended. Experts advise individuals who have pain more than just a little bruise, ache, or a muscle strain to seek early evaluation.

This section describes the different surgical treatment options.

Arthroscopic surgery

The treatment of shoulder joint problems has improved greatly since a minimally invasive procedure called arthroscopy was developed. Arthroscopy allows your surgeon to see inside your shoulder and to carry out procedures through small incisions.

Arthroscopic surgery can be used to diagnose and treat shoulder injuries.

Arthroscopic surgery may be an option for treating the following shoulder problems:

- Torn rotator cuff
- Shoulder impingement
- Shoulder dislocation/separation (instability)
- Arthritis
- Tendinitis (tendonitis) and bursitis

Shoulder Resurfacing

If you are suffering from rheumatoid arthritis or osteoarthritis of the shoulder, shoulder resurfacing might be right for you. Resurfacing allows patients to retain more of their natural bone, replacing only the diseased surface of the joint. Shoulder resurfacing is potentially less traumatic, less invasive, and a more bone-preserving procedure than total shoulder replacement.

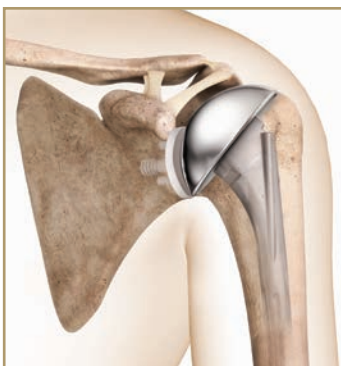
Shoulder Resurfacing



Total Shoulder Replacement

An increasing number of patients are returning to active lifestyles, thanks to advancements in the materials and procedures used in shoulder implants. Today, shoulder replacement is the third most common type of joint replacement.²

Total Shoulder Replacement



Reverse Shoulder Replacement

Reverse shoulder replacement is a procedure developed for those who have exhausted all other treatment options. When damage within the shoulder has reached advanced stages, causing weakness, loss of function and pain, it may become necessary to make changes in the normal mechanics of the shoulder.

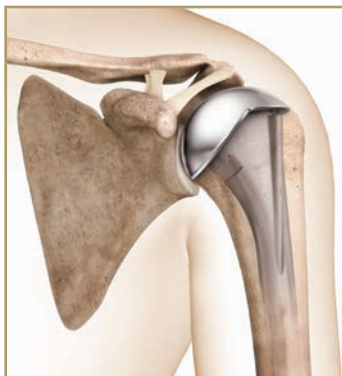
Reverse Shoulder Replacement



Rotator Cuff-Tear Arthropathy

Rotator Cuff-Tear Arthropathy (CTA) is an arthritic condition that occurs when there is a large rotator cuff tear for an extended period of

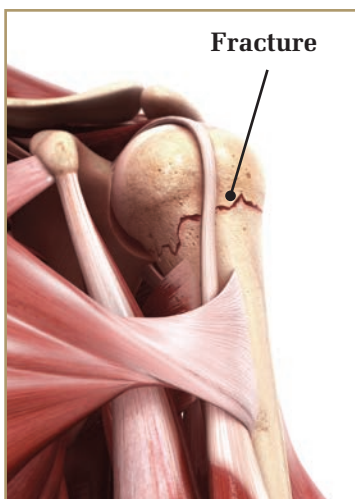
CTA Shoulder Replacement



time. It is the combination of a massive rotator cuff tear and the collapse of the surface of the upper arm bone (humerus). People with cuff-tear arthropathy typically experience severe pain and very limited movement. Your surgeon will decide what procedure to use based on the extent of damage to the shoulder bones and surrounding tissues. CTA may require shoulder replacement.

Shoulder Fracture Repair

When a shoulder fracture occurs, or heals poorly, it may be time to consider surgical options. When the main arm bone (humerus) is broken in several places, a doctor may suggest shoulder replacement surgery to restore movement and reduce pain. If the ball portion at the top of the humerus bone is broken, split or crushed, a shoulder replacement may be needed.



Important safety information

As with any medical treatment, individual results may vary. The performance of shoulder replacements depends on age, weight, activity level and other factors. There are potential risks, and recovery takes time. People with conditions limiting rehabilitation should not have this surgery. Only an orthopaedic surgeon can tell if shoulder replacement is right for you.

Choosing a surgeon and starting your doctor–patient relationship

Shoulder replacement surgery has helped thousands of people get back to activities they love. But is it right for you? That's a question that you and your orthopaedic surgeon have to answer together.



The relationship between you and your surgeon is a key factor in success. It is important for you to choose a surgeon who instills confidence in you regarding your treatment plan.

So how do you go about choosing a surgeon and developing a good relationship? The good news is that it's easier than ever for patients to find skilled surgeons close to home.

Ask your family doctor if he or she can recommend an orthopaedic shoulder specialist, or explore the Surgeon Locator on www.depuysynthes.com to find shoulder specialists in your area. Orthopaedic doctors tend to specialize in different areas of the body, so it is important to choose one that has experience with, and specializes in the shoulder. Once you identify one or more surgeon(s), you can evaluate their credentials. Let's take a closer look at the types of training and experience required of orthopaedic surgeons.

How are surgeons trained?

Orthopaedic surgeons are medical doctors or osteopaths. After college they attend medical school for four years to receive an MD or DO degree. Following medical school, surgeons must complete a residency in orthopaedics. This is usually a minimum of five years. While in residency, the surgeon learns much more about the bones, joints, and muscles of the body. It is here that the orthopaedic surgeon-in-training learns to operate and perfects his or her surgical skills under the guidance of the professors of orthopaedic surgery.

After the residency, the surgeon begins practice. The new surgeon must obtain surgical privileges at the hospitals where surgery will be performed. This requires extensive credentialing by the hospital. The surgeon's background and training are checked by the hospital.

What is Board Certification?

Orthopaedic surgeons may be certified by the American Board of Orthopaedic Surgeons. To become board certified, the surgeon must pass exams that are given two years after entering practice. To maintain board certification, the surgeon must take an additional test every ten years and prove that he or she has attended a minimum number of hours of continuing education.

What is Fellowship Training?

Many orthopaedic surgeons choose to specialize further. This requires even more training in the form of a fellowship. A fellowship usually lasts 6 to 12 months. During the fellowship, the surgeon trains under one or more experts experienced in specific fields, such as joint replacement, spinal surgery, hand surgery, children's orthopaedics, or sports medicine, to name a few.

Your relationship with your surgeon

Choosing a surgeon is an important first step in seeking relief from your pain.

- Be ready to talk about your relevant medical history. You may want to write down previous treatments you have used, so you don't forget to mention anything. An injury that occurred decades ago may be relevant, as are prior surgeries and non-surgical treatments like physical therapy and medicines. Your surgeon also needs to know about other medical conditions that could affect surgery.

- Make a list of all the medications you take, and take copies with you when you go to the doctor. Your list will save you time and assure that your doctor gets all the accurate information. This is especially important for people who take several types of medicine. Your surgeon needs to know about all pills, creams, injections, or other forms of medicine that you are taking. Be sure to discuss over-the-counter pills (such as aspirin or decongestants). And don't forget about vitamins and nutritional supplements.
- Mention any allergies you may have, even if you're not asked about it.
- Bring any previous tests such as X-rays, lab tests, etc., to your appointment if you can. This saves a lot of time and duplication and helps your surgeon assess your symptoms.
- Tell the surgeon about your lifestyle, the activities you enjoy, and how shoulder pain is affecting you physically and emotionally.



Some questions you may want to ask during your visit:

- Can shoulder replacement surgery relieve my pain and stiffness?
- Am I a candidate for shoulder surgery?
- What type of shoulder procedure would you perform?
- What type of shoulder replacement do you use?
- What are the benefits and risks of shoulder replacement surgery?
- How long does recovery and rehabilitation take after surgery and what can I expect?
- What activities could I participate in after I recover?

Resources

The website links below have additional information on treatment options for shoulder pain including rehabilitation, finding a surgeon in your area, and hearing about real patients who overcame their shoulder pain. In addition, you can request information kits and register for a shoulder pain seminar in your area.

www.depuysynthes.com

www.strengthforcaring.com

The Strength for Caring network can help you connect and share your experiences with others. Whether you are coping with osteoarthritis, considering surgery, or caring for a patient with arthritis, Strength for Caring offers resources to assist you.

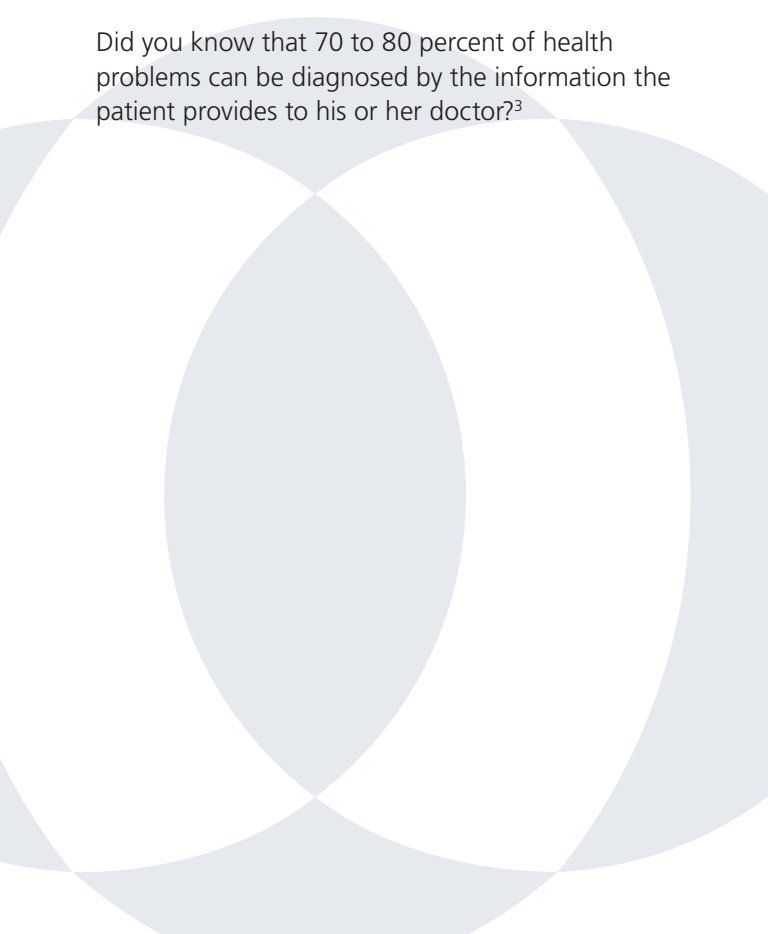
For Caregivers

Help Your Doctor Help You

One of the important ways to support your loved one is to ensure he or she receives the best medical care possible by acting as their patient advocate. This means asking questions when you don't understand something, educating yourself, being an active member of your loved one's care team and seeking guidance from qualified medical professionals. This is especially important when your loved one is not able to communicate with their health care providers on their own.

While a caregiver may not have a medical or healthcare background, his or her day-to-day experiences with a loved one can provide critical information, so it is important to stay involved. Your healthcare professional may rely on this information in order to care for your loved one.

Did you know that 70 to 80 percent of health problems can be diagnosed by the information the patient provides to his or her doctor?³

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References

1. <http://www.cdc.gov/arthritis/basics/faqs.htm#12>. Accessed February 2015.
2. AAOS. <http://orthoinfo.aaos.org/topic.cfm?topic=A00094> Accessed February 2015.
3. Jacoby, Dana. The Exclusive Guidebook to the World of Medicine. *Med Ed Pub*, Page 44. Publication date 4/28/2007.

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