

# PATIENT GUIDE TO ARTHRITIS OF THE SHOULDER

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## WHAT IS ARTHRITIS OF THE SHOULDER?

Arthritis is a word for damage to the cartilage which is present in every joint in the body. Cartilage is the white tissue which is on the surface of the bones in the joints which makes the surface soft. The cartilage covers the surface of the bone similar to Teflon on a ball bearing. The shoulder is a ball and socket joint and the cartilage in the shoulder covers the ball of the humerus (called the humeral head) and also the socket (called the glenoid) (Figure 1). The cartilage is a living tissue which is about 2 to 3 millimeters thick (the thickness of one or two or layers of cardboard).

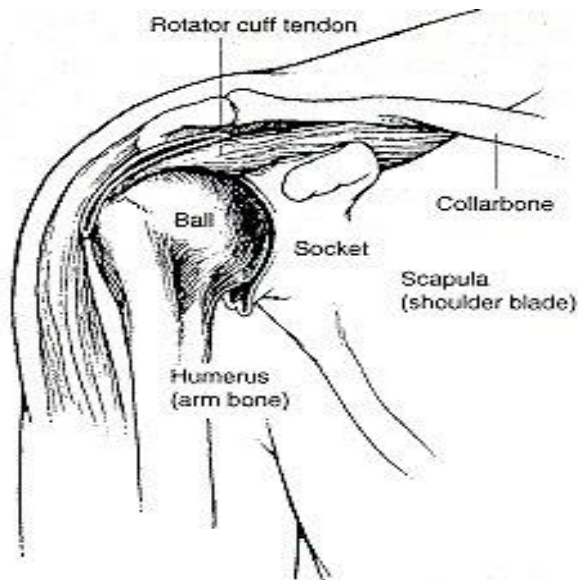


Figure 1

Like intact Teflon covering the surface of a ball bearing, if the cartilage is intact with no defects it can take multiple rotations with no wear of the surface. This is because the surface is smooth and there is no wear between the cartilage on the surfaces of the bone. However, for some reason as we get older, the cartilage begins to “break down”. As a result, not only the surface of the cartilage but also deeper layers begins to lose their ability to act as a smooth, gliding surface. The first change in the cartilage is

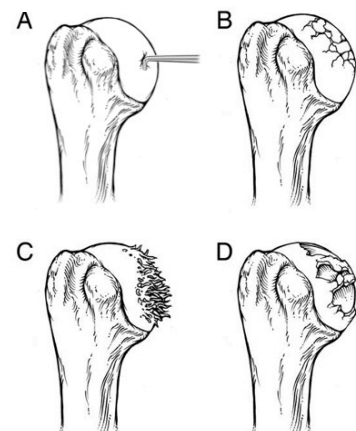


Figure 2

that it gets soft, then it develops, cracks in the surface, then it begins to “fibrillate” (looks like crab meat) and finally it wears away to expose the surface of the bone (Figure 2).

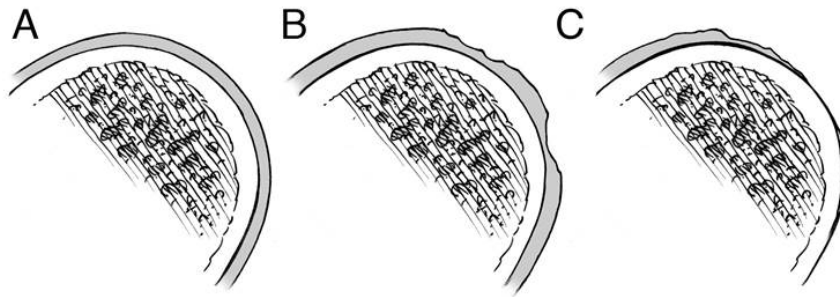


Figure 3

The cartilage does not wear away all at once over the entire surface of the bone in the joint. Instead, it wears at different rates in different parts. So if you consider the surface of a ball bearing which was covered with Teflon, this type of wear would be as if the Teflon had pits in it and the surface would now be irregular (Figure 3). Once the surface becomes irregular, the cartilage is subject to further wear or damage. As the cartilage is damaged it begins to thin out over time so that eventually it is possible that the bones of the shoulder rub on each other (stage 4 cartilage loss). Many people think that arthritis is bone on bone in the joint, but in reality arthritis is the process that can lead to the bone on bone. However, the amount of cartilage loss varies from person to person and as a result, the symptoms that a person feels may be different from another person with less or more arthritis.

#### HOW DO I KNOW THAT I HAVE ARTHRITIS?

The major sign of arthritis is pain in the shoulder joint area. Sometimes this pain is present in the front, side or back of the shoulder. Some people have pain even when they are not using their arm, and some people have pain only with use of the arm. Arthritis pain can occur at night or in the morning, and it can be present with or without a sense of shoulder stiffness. Often the pain is worse with lifting or carrying heavy objects or after exercise.

Another sign of the progression of arthritis is that the joint can get stiff, which is mostly noticed as a loss of range of motion. As the motion decreases, the person will find that they can do fewer things with the arm and that their activities may be limited due to pain and loss of range of motion.

Lastly, since the surface of the cartilage is irregular the patient may feel some grinding, clicking or cracking (called “crepitus”). This crepitus may or may not be painful. Sometimes the shoulder may “lock up” and occasionally, because the surfaces are no longer smooth, the patient may feel the shoulder slide in certain positions.

## WHAT IS THE PROGNOSIS FOR MY SHOULDER IF I HAVE ARTHRITIS?

It is impossible to determine how fast the arthritis in any shoulder joint will get worse as every person's shoulder joint has different degrees of damage to the cartilage. Typically activities that produce pain mean that the cartilage is seeing stress during those activities, and that the joint is not happy. Generally, the more painful an activity, the more likely that activity is damaging the cartilage and the shoulder joint further.

## WHAT IS THE TREATMENT OF ARTHRITIS OF THE SHOULDER?

The initial treatment for arthritis of the shoulder is medical treatment (also called "non-operative" treatment). The first thing recommended when you have arthritis of the shoulder is to perform range of motion exercises to prevent the shoulder motion from getting any worse. If a person does not have loss of range of motion, then the goal is to prevent the motion from deteriorating. Once the joint begins to get stiffer, often the pain will get worse, and the ability to do activity may also get worse. To try to prevent or slow down this loss of motion, we recommend that someone with arthritis of the shoulder stretch for 2 to 3 minutes every day whether they have loss of motion or not. The reason for this is that the loss of motion in the shoulder joint due to arthritis is often gradual, and occurs without you being aware of it. By consciously stretching everyday it may slow down the loss of motion that can come with arthritis.

The second medical treatment is to avoid, within reason, the things that make the shoulder painful. What you give up depends upon your pain and what things you do that make you happy and fulfilled. Generally anything that causes pain should be avoided, especially if after doing that activity your pain is out of control afterwards and makes you miserable. If after activity you have pain for several days and it is awakening you at night, then it might be reasonable to question how important that activity is for you. For example, if you have pain while playing golf, it might be necessary to play only once a week as opposed to playing daily.

The third medical treatment is to try to control the pain. This can be done several ways. Ice packs are great for pain and can be used once a day, or several times a day, if needed to reduce the pain. The best techniques are to use a bag of ice or to buy a cold therapy pad which can be placed in the freezer and be used over and over. The ice pack should be placed on the front, across the top, and on the back of the shoulder and can be used for 20-30 minutes at a time. If the pain is awakening the person at night, we recommend that they consider icing the shoulder close to bedtime prior to going to sleep. The great advantage of ice therapy is that it can be used anywhere and anytime.

Some people feel that heat is a better treatment for their arthritis pain and if that is the case, we recommend that it be used as needed. Heat is often good for warming up the joint prior to stretching. However, we tell patients that they should use whatever makes them feel best, whether that is the application of ice or heat to the shoulder.

The next medical treatment involves the use of medication to control the pain. It is important to realize that all medicines have good attributes but also they all have potential complications. Any medication you use should be done with discussion with your primary care doctor and your surgeon to make sure you do not have any reasons to avoid that certain medicine.

#### WHAT MEDICATION CAN I USE FOR MY ARTHRITIS?

We typically suggest that a person with arthritis first try acetaminophen (generic or Tylenol) since it has few side-effects. However, it can affect the liver if used with high doses, so consult with your physician about the best dose.

The next class of medicines which help arthritis are called “non-steroidal anti-inflammatory drugs” (NSAID’s) and include several different kinds of medicines (naprosyn/aleve, motrin/ibuprofen, Celebrex, meloxicam). Some of these (ibuprofen and naproxen) are available over the counter at the store without a prescription. These medicines are often very effective at helping with arthritis pain. Most of these medicines can be taken only every now and then, and can be effective at controlling the pain. If you have pain only every now and then, or if your pain is unpredictable, then these medicines can be taken only when you have pain and not taken when you do not. If your arthritis is very painful and using the medicines every now and then does not help, then you should speak with your doctor about using them on a more regular basis.

The major reason to ask your doctor about regular use of these medicines (NSAID’s) is that more regular use may be associated with side-effects. The most common complication of NSAID’s is irritation of the stomach lining (called gastritis) and even bleeding (known as “GI bleeding” or bleeding ulcer). These medicines can also make bruising easier and should not be taken with other forms of blood thinners. In some people with heart disease there is concern that it may make the symptoms worse. Lastly, at high doses, the NSAID’s can damage the kidneys, so they should not be taken by anyone with pre-existing kidney problems, kidney transplants or only one kidney. If you have any questions about these medicines you should speak with your doctor.

Another medicine you can take which is over the counter and does not require a prescription is glucosamine or chondroitin sulfate. About 60% of people who take glucosamine or chondroitin sulfates get some pain relief, so it is generally worth a try for at least awhile. It has to be taken daily and it does not regenerate cartilage at all. It can be expensive as it is considered a supplement and not paid for by most insurance plans. Once you stop taking it then it is possible your symptoms may return.

Sometimes cortisone (prednisone) by mouth can be given for arthritis if someone has had a recent flare of the arthritis or has suddenly lost motion due to the arthritis. This is typically given as cortisone pack which is a taper lasting about 5 to 6 days. This is not enough cortisone to make you swell or thin your bones. Also, cortisone by mouth does not cure the disease but it can help the symptoms temporarily.

The last type of medicine which can be taken for severe arthritis are pain pills. These would include Tylenol with codeine, hydrocodone, oxycodone and other narcotic drugs or patches (e.g. fentanyl

patches). These medicines sometimes are used when a patient does not want surgery or has medical conditions which prevent them from having surgery.

The major side effects of narcotic medications are that they can cause sleepiness, poor breathing, constipation and inability to urinate (“urinary retention”). They also can be addictive, so they should be used with caution and with the direction of a physician.

One last medicine that can be used for pain which is not a narcotic is a medicine Ultram. This medicine is a pain reliever which can be effective, and is not as addictive as narcotics. While it is not emotionally addictive, it can be physically addictive so it should not be stopped suddenly if it has been used in high doses.

#### WHAT ABOUT INJECTIONS FOR ARTHRITIS IN THE SHOULDER?

There are currently two types of injections that can be done for the arthritis of the shoulder. These injections are primarily performed for pain relief. The first type is cortisone shots, which are typically done with the cortisone mixed with a numbing agent like lidocaine or marcaine. These shots usually give immediate pain relief due to the numbing agent which helps to know if the cortisone is in the right place. Once the numbing medicine wears off the joint may be sore for a day or so until the cortisone kicks in, so it is important to ice the shoulder for a day or so after the shot.

There is no number of shots which would lead to damage of the shoulder, but most surgeons do not like to give more than a few cortisone shots a year in most cases of arthritis. The one issue with cortisone shots is that they may increase the risk of infection if the person has a total joint replacement within a couple months of the cortisone shot. If you are thinking about a total joint replacement, then you should go without cortisone shots if possible within a few months of your surgery.

The other medicine which can be injected into your shoulder joint is a naturally occurring lubricant which is manufactured now and can be injected into arthritic joints. This substance is “hyaluronic acid” which comes as a liquid and has been injected into patient’s knees for arthritis for many years. This shot can also cause your shoulder to be sore after the shot, so you may need to ice the shoulder for a couple days after the injection. This injection sometimes helps with the pain for a year or maybe two years, but it is unusual for it to take all the pain away for an extended period of time.

#### WHAT ABOUT PHYSICAL THERAPY?

Physical therapy for arthritis of the shoulder is typically not needed except in some occasions where the person is losing range of motion. The therapist can show you a set of stretching exercises which should be done daily. Another good way to stretch is to obtain a home pulley unit which can be used to stretch daily. We typically do not recommend strengthening of the shoulder when there is arthritis as in some instances it make the shoulder more painful. However, if exercises do not bother the shoulder then they are perfectly fine to do.

## WHAT DO I DO WHEN NONE OF THIS HELPS ANYMORE?

When the medical (non-operative) treatments reviewed above do not work any longer, there are surgical options which depend upon your age and the degree of the arthritis.

The first operation to consider is an arthroscopic operation to “clean out” (also called a debridement)

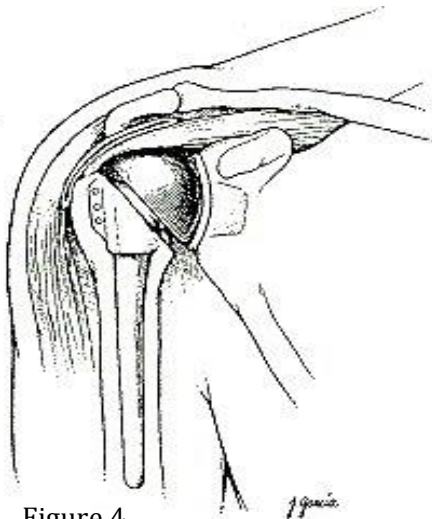


Figure 4

the joint. This procedure is limited to patients who have lower grades of arthritis. If the patient has some cartilage left in the joint sometimes this can provide pain relief. This procedure does not need to remove any spurs as the spurs are a result of the arthritis and not the cause of it. This operation is considered a success if it relieves the patient’s pain for 12 to 24 months; in some cases the pain relief may last longer but it is unpredictable. As a result, an arthroscopic operation is often not a permanent solution for arthritis as it does not change the presence of the disease. In most cases this operation should not be done when the shoulder has bone on bone, as it is not effective. The next best operation for arthritis of the shoulder is a total shoulder replacement (Figure 4). This procedure is discussed in our “Patient Guide to Shoulder Replacements” but it is the preferred procedure for bone on bone arthritis. The reason it is preferred is

that it predictably relieves the pain of arthritis and it has been shown to last for many years.

There are many different systems of total joint replacement available to surgeons. It is suggested you read our “Guide to Shoulder Replacements”.

There are other types of shoulder replacements which have been available in the past. One type is a “hemi-arthroplasty” where you replace only the ball of the humerus and do not put a socket piece in place. This operation is not recommended in most cases because around 10% of people do not get pain relief, and about half of people will need this converted to a total shoulder (by putting in a socket replacement component) within 5 years. A second surgery to convert a hemi-arthroplasty to a total shoulder is known not to be a very effective operation (it has a high failure rate), so most surgeons feel it is best, in most instances, to perform a total shoulder replacement rather than a hemi-arthroplasty.

There is also an operation called a “cup arthroplasty” which is similar to a hemi-arthroplasty of the shoulder, except that in this surgery, you do not remove all of the bone under the humeral head (ball). Instead you remove just the surface and smooth the area so that it is more round. This allows a replacement which is like a hollow half of a ball placed on the end of the humerus. While this operation is occasionally done for very young people, it also has the problem of not providing pain relief in some patients. Also, if it does fail, it has to be converted to a total shoulder replacement.

The last type of shoulder joint replacement is called a “Reverse” total shoulder replacement. There is more information about it in our “Guide to Reverse Total Shoulder Arthroplasty” (Figure 5). A reverse total shoulder replacement can be done for many conditions, but the main reason to get a reverse

prosthesis is if there is a rotator cuff tear in the shoulder with arthritis. In other words, if you have a rotator cuff tear in your shoulder then you should have a reverse total shoulder replacement and not a standard total shoulder replacement.

#### HOW DO I KNOW WHEN I NEED A SHOULDER REPLACEMENT

The main reason for performing a shoulder replacement is for pain relief, and the secondary reasons are improved motion and function. Studies have shown that the most important factor which creates satisfaction with shoulder replacement surgery is relief of pain. Total shoulder replacement is helpful for relieving pain at rest, pain at night and pain with activity. Usually the patient has tried many of the non-operative treatments for pain as well and they have run out of options for getting pain relief. Typically the pain is not just an annoyance, but is affecting the person's life or well being.

The second reason to do a shoulder replacement is when the pain and limited motion are affecting your quality of life, especially the ability to do activities of daily living such as eating, cleaning, walking etc. Often patients with arthritis of the shoulder have given up things that they love doing such as swimming or fishing or sewing. These activities can often be performed easier and without pain after a shoulder replacement.

If some unusual cases where there is bone on bone in the shoulder there may be wearing away of the bone of the socket to the extent that it may make a shoulder replacement more difficult to perform. In these rare cases it might be important to perform the operation before the bone gets worn away so much that shoulder replacement becomes difficult. The amount of bone in the socket (glenoid) can be evaluated with X-rays or with CT (computed tomography) scans.

A total shoulder replacement is a "quality of life" operation and should be undertaken only after considering the options and after failing non-surgical treatment. However, every patient is different, and these issues can be discussed with your doctor.



Figure 5