

Glenohumeral Joint Osteoarthritis

Glenohumeral Joint Osteoarthritis (OA) is a degenerative disease that occurs most often in people over the age of 60. This disease affects the shoulder joint, which is a ball and socket joint; with the ball being the rounded head of the upper arm bone (humerus bone), and the socket being the cup portion of the shoulder blade (scapula). Both the ball and socket are lined with a smooth surface called cartilage which serves as a cushion and allows for smooth movement of the joint. In OA, the cartilage wears away. Unfortunately, the body does not grow new cartilage, and the cartilage wears down to the bone. This results in the rubbing of bone against bone, resulting in swelling, pain, and stiffness, along with possible pain while sleeping.



WHAT INCREASES MY RISK OF DEVELOPING GLENOHUMERAL JOINT OA?

Age is the biggest risk factor for developing glenohumeral OA. Additionally, a past shoulder injury or surgery, and certain occupations that may cause repeated stress to the shoulder joint, may increase your chances of developing glenohumeral joint OA.



HOW CAN I TELL IF I HAVE GLENOHUMERAL JOINT OA?

A key symptom for glenohumeral joint OA is pain while moving the shoulder and after moving the shoulder. Additionally, you may experience a decrease in the distance you can move your arm, along with the direction it can move, have pain while sleeping, and may experience a clicking noise when moving your arm.



HOW IS GLENOHUMERAL JOINT OA DIAGNOSED?

During your appointment, your physician may request that you complete a self-administered questionnaire to measure your experience with pain, symptoms, function, range of motion, and your quality of life.

Your physician will speak with you about your symptoms, and conduct a physical exam. This exam involves moving your arm, which may cause shoulder pain. This exam will

test your shoulder's range of motion, and pain points. He/she may also test you for muscle weakness.

Additionally, your doctor may order x-rays to evaluate the narrowing of space between the ball and socket, which is a sign of OA. X-rays may show the formation of bone spurs, which are known as osteophytes. These spurs often form where the two bones meet, and may add to pain and a reduced range of motion. Furthermore, your clinician may find it necessary to order additional imaging to view the muscles and tendons around the joint (rotator cuff). This imaging could include either magnetic resonance imaging (MRI), a computerized tomography (CT) Scan, or an ultrasound.



WHAT NON-SURGICAL TREATMENT OPTIONS ARE AVAILABLE FOR GLENOHUMERAL JOINT OSTEOARTHRITIS?

Many non-surgical treatment options are available to treat shoulder OA. Your physician may recommend modifications in activities that are causing you pain. Exercise or physical therapy may be prescribed, as it might be beneficial in decreasing pain, and restoring function in select patients with glenohumeral joint OA. Over-the-counter medications, such as acetaminophen and nonsteroidal anti-inflammatory drugs may be recommended, as these could provide short-term pain and function relief. If these options do not provide relief, your physician may recommend a corticosteroid (steroid) injection directly into the joint. Additionally, complementary and alternative medicines such as acupuncture, dry

needling, cannabis, cannabidiol (CBD) oil, shark cartilage, glucosamine and chondroitin, cupping, and the use of a transcutaneous electrical nerve stimulation (TENS) unit may provide pain relief and increased function in patients with glenohumeral joint OA. Strong evidence supports that there is no benefit to the use of hyaluronic acid in the treatment of glenohumeral joint OA. Physicians also agree that opioids not be prescribed as routine and long-term pain management for glenohumeral joint OA, as outcome scores, range of motion and function were lower in patients taking narcotic medications prior to total shoulder replacement surgery.



WHAT SHOULD I DO IF NON-SURGICAL TREATMENT OPTIONS DO NOT PROVIDE RELIEF?

When non-surgical treatment options fail to provide adequate pain relief, a total shoulder replacement, or total shoulder arthroplasty (TSA) may be considered. During TSA, a ceramic or metal ball on a stem is inserted into the upper arm bone (humerus), and a metal cup and a plastic or ceramic liner is surgically implanted in the shoulder blade (scapula) to replace the damaged cartilage and bone within the shoulder joint. This creates a new, smooth joint that reduces pain and improves function. Additionally, due to certain situation such as an extensive-ly torn rotator cuff, your surgeon may consider reverse total shoulder arthroplasty versus a regular shoulder replacement. This means the ceramic or metal ball and

the metal cup and plastic or ceramic liner would switch sides. Physicians may use risk assessment tools to assist with predicting any potential complications, assessing surgical risks and educating the patient as he or she decides to undergo a total shoulder replacement.

Several modifiable risk factors such as poorly controlled diabetes, high blood pressure, mental health or substance abuse, tobacco use, opioid use, and malnutrition may need to be addressed prior to any surgical intervention as these can lead to poor patient-reported outcomes.



If you have any of these conditions, please bring this up with your orthopaedic surgeon when you are discussing surgery.



WHAT SHOULD I EXPECT FOLLOWING SURGERY?

Patients should experience significant reduction in pain and improved mobility after TSA. Many factors, including physical condition, activity level, personal anatomy, and adherence to instructions prior to and after surgery will play an important role in recovery. Most patients can be discharged within one to three days after surgery and go directly home. Occasionally, patients may be admitted to a rehabilitation or skilled nursing facility after being discharged from the hospital. Patients may participate in a regular light exercise program (physical therapy) program to maintain strength and mobility of the new shoulder joint.

Resources:

American Academy of Orthopaedic Surgeons 2020 *Clinical Practice Guideline on the Management of Glenohumeral Joint Osteoarthritis* .

Please note: This is a patient information handout that orthopaedic surgeons and physicians can provide to their patients. This information was current at the time of publication. However, medical information is always changing, and some information given here may be out of date. This patient handout is based off recommendations from the 2020 AAOS *Clinical Practice Guideline on Management of Glenohumeral Joint Osteoarthritis*.

To review this guideline please visit <http://www.orthoguidelines.org/topic?id=1031>