

### **Explanation of Diagnosis and Procedure**

Shoulder Separation—Acromioclavicular (AC) joint injury:

The main joint of the shoulder is a ball-and-socket joint formed by the glenoid socket and the humeral head. Most people think of this when they think of the shoulder joint. In fact, several joints make up the shoulder.

The AC joint is a small joint directly on the top part of the shoulder and is the junction of the outer end of the clavicle (collarbone) and the acromion (upper part of the shoulder blade).

Shoulder separation occurs when the acromion is forced away from the collarbone. Typically, it is forced up above the acromion resulting in a bony prominence on top of the shoulder. This usually happens as a result of a traumatic injury to the outer part of the shoulder. Common forms of this injury occurring in athletes include a hockey player going shoulder-first into the boards or a football player landing directly on the ground shoulder-first, often with another player on top, driving him into the ground. Non-athletic mechanisms can include falls onto the shoulder (often over the handlebars of a bike) or when trying to break a door down with one's shoulder.

The collarbone is held to the shoulder blade by two sets of ligaments, which often injured with a shoulder separation. If these ligaments are injured, the result is usually a higher grade or severity separation.

### **Symptoms**

Common symptoms of AC separation include:

- Pain caused by shoulder injury
- Prominence or deformity on the top of the shoulder
- Painful grinding on the top of shoulder with movement
- Pain or weakness with vigorous overhead activities

Typically, in lower grade injuries, these symptoms get better without surgery, with the exception of the prominence on top of the shoulder.

### **Treatment**

For lower grade injuries, nonsurgical treatment is usually successful. Time, rest and gradual rehabilitation typically result in a shoulder free of pain and functional limitations. The recovery time varies from patient to patient, but full recovery typically occurs within 6-12 weeks. A return to contact sports may require more recovery time to reduce the risk of re-injury. Some degree of protrusion at the AC joint often remains, but does not require surgery.

In higher-grade injuries, or those that fail to respond to non-surgical management, surgery may be needed.

### **Nonsurgical Treatment**

- Activity modification include making some temporary changes in your lifestyle and avoiding activities that aggravate your symptoms.
- Anti-inflammatory medicine like aspirin and ibuprofen reduce pain and swelling.
- Home exercise/physical therapy can strengthen your shoulder muscles and improve shoulder stability.

### **Surgical Treatment**

Reconstructive Surgery involves making an incision over the top of the shoulder and performing the repair under direct visualization. The AC joint is “reduced”, or placed back into its normal anatomic position. This can be held with a variety of methods, some requiring metal implants and others with sutures. Generally, the ligaments attaching the clavicle to a bone on the shoulder blade called the coracoid process must be repaired or, more commonly, reconstructed. This may require use of tissue from elsewhere in the body or donor tissue (allograft). This can be done as an outpatient surgery or occasionally may require an overnight stay in the hospital.

### **Preparing for Surgery (if required)**

If the surgery involves your dominant arm, it may present several challenges for you. Following shoulder reconstruction, your arm will be in a sling. Performing activities of daily living with your non-dominant hand requires some adjustments and patience. Strange as it seems, bathroom hygiene is quite difficult with your non-dominant hand and should be practiced. It will be several weeks before you will be able to use your dominant hand normally.

Women have several additional considerations. Women may need to avoid wearing a bra for several weeks after surgery since the strap goes directly over the surgical incision.

Additionally, most women may want to have a close shave of the armpit as it will be difficult to do this for several weeks after surgery.

Before having shoulder surgery, you should make sure your doctor is aware of:

- All medical conditions, including any not previously disclosed
- All allergies
- Any medications that you are taking
- Any bleeding problems
- Pregnancy status

You will be required to not eat or drink anything after midnight the night before surgery. Unless told otherwise you should skip medications the day of surgery. You should not take aspirin or anti-inflammatory medicines (i.e. Advil, Motrin, Ibuprofen, Aleve) for 10 days before your surgery because they can interfere with blood clotting.

You must arrange for someone to pick you up after surgery and stay with you for the first 24 hours after your procedure. It is important to plan ahead for this. We will do our best to make your return home after surgery as easy as possible.

### **What to Expect at Surgery**

On the Day of Surgery

- Wear clothing roomy enough to accommodate the bulky bandage and sling that will be wrapped around your shoulder after surgery
- Remove all jewelry
- Go to the bathroom just before surgery

Before your surgery you will spend a short period in the pre-operative holding area. Nurses will prepare the surgical site and administer any medications that have been ordered. An intravenous (IV) line will be started. You will receive pre-operative antibiotics to help prevent infection. The IV will remain in until you have recovered or until you no longer need intravenous support.

Before any surgery requiring anesthesia, a short pre-operative exam will be done by an anesthesiologist. During this exam your anesthesiologist will be assessing whether you have any conditions that may affect the course of your anesthesia. You will be asked questions pertaining to any allergies you may have and medications you may be taking. The anesthesiologist will also ask about any prior anesthetics that you have had and your reaction to them. Your anesthesiologist will also ask about any previous or current health conditions as well as physical symptoms you currently have.

A brief physical exam will include assessment of your heart and lungs. The anesthesiologist will also perform an exam of your airway to assure you will not have any breathing difficulty during your surgery.

A general anesthetic is usually the anesthesia choice for a shoulder surgery but it may be possible to use other methods. With your input, your anesthesiologist will determine the anesthetic that assures the best outcome for your procedure. Regardless of the type of anesthesia, your anesthesiologist will monitor your condition throughout the surgical process.

### **Care After Surgery**

After your surgery, you will go to the post anesthesia care unit (PACU). You will remain there until the effects of your anesthetic have begun to wear off and until you can eat, drink and urinate without difficulty.

Specially-trained nurses work in the PACU and will monitor your progress and give you verbal and written discharge instructions. Your surgeon or anesthesiologist will discharge you from the PACU to home or your hospital room. However, you will not be able to drive home after surgery and should have someone stay with you overnight.

### **What is the Recovery in the Immediate Postoperative Period?**

Ice is applied immediately after surgery and thereafter intermittently for 20-30 minutes at a time over the first seven days. This reduces swelling and relieves pain. The incision(s) takes several days to heal, sometimes up to two weeks. The shoulder dressing is usually kept on for 48 hours.

### **Medications/Pain Management**

If you had a nerve block as part of your procedure, you will likely be home before the effects of the block have completely worn off. Therefore, you may experience some numbness and weakness. In many cases, the block will not wear off until the evening. However, you should start taking your pain pills (as prescribed) when you get home, even though the block has not worn off and you are having little pain. If you wait until you have pain to start taking your pain pills, it will be very hard to catch up.

Narcotic pain medications such as Norco (hydrocodone) or oxycodone are used for severe pain. Take as prescribed. They can be taken up to every four hours as necessary. Most patients only require these medications for the first week. Once pain is better controlled, you may simply take Tylenol (acetaminophen) every four to six hours, not to exceed 3000 mg in one day. Take these medications with food. If you have any problems taking the medications, please stop them immediately and notify the clinic.

### **Follow-Up**

Your initial follow up visit will be one to two weeks after surgery. These visits will be arranged for you.

### **Care/Rehabilitation After Surgery**

After surgery, your shoulder will be held still with a sling. The sling is for used for 6 weeks but the time can vary depending on the specific surgery.

Other than dressing, showering and periodic elbow stretching, the sling must remain on in the weeks following surgery. No active reaching or lifting with the arm is permitted for up to two months after the surgery.

When the period of sling wear is complete, exercises to rehabilitate the soft tissues will be started. These will improve the range of motion in your shoulder and prevent scarring as the ligaments heal. Exercises to strengthen your shoulder will gradually be added to your rehabilitation plan. Your physical therapy will help restore the motion and strength of your shoulder.

Although your rehabilitation may seem like a slow process, your dedication to physical therapy is the most important factor in returning to all the activities you enjoy.

### **Possible Complications and Instructions**

The risk of complications after shoulder reconstruction is low. However, as with any invasive procedure there is some risk that the following conditions may arise:

- Bleeding
- Infection. Common signs of infection include increasing pain after surgery, increased redness around the incision, swelling, and drainage.
- Complications from anesthesia, including death
- Permanent or temporary nerve or blood vessel injury
- Failure of fixation
- Need for further surgery
- Damage to other tissues or fracture
- Loss of limb or function
- Recurrent instability is possible though uncommon
- Development of arthritis at the AC joint can happen later in life because of the original injury

Please contact our office immediately if you are experiencing any of these complications.

### **Questions**

The CORE Institute is dedicated to your outcome. If any questions or concerns arise, please call The CORE Institute at 1.866.974.2673.