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### **Dr. Denard's Rehabilitation Protocols Open Shoulder Surgery**

These rehabilitation protocols are based on current studies detailing healing time and the risk of stiffness after open shoulder surgery. You may note that these protocols are more conservative than you have seen in your experience or heard from friends. For rotator cuff tear or replacements the dogma for many years has been that immediate motion is required to prevent stiffness. This teaching is not supported by the evidence! The most important thing is for the tissue to heal. For instance with anatomic shoulder replacement we did a randomized controlled trial and found that patients who moved immediately had a lower healing rate than patients who wore a sling for 4 weeks without any shoulder motion.

## **Anatomic or Reverse Total Shoulder Replacement**

### 0 to 4 weeks after surgery:

*Goal: early recovery (decreased swelling and healing)*

These patients use a sling for 4 weeks, which they may remove for showers and meals. Ball squeezes with the hand are encouraged throughout the day.

Three times per day patients do the following exercises during this period:

- 1) Active elbow flexion and extension with the arm at the side
- 2) Isometric scapular retraction exercises

### 4 to 8 weeks after surgery:

*Goal: Focus on ROM*

The sling is discontinued at 4 weeks after surgery.

Passive motion only

Emphasize these ROM exercises:

- 1) Table slides
- 2) Passive external rotation at the side with a stick
- 3) Overhead rope and pulley

### 8 weeks after surgery:

*Goal: Continue ROM, Add strengthening*

Begin active-assist ROM, progressing to active motion as tolerated

Begin strengthening with focus on:

- 1) Wall washes
- 2) "4-pack" strengthening exercises
  - a. Resisted internal rotation
  - b. Resisted external rotation
  - c. Low row
  - d. Biceps curl

### 4 months after surgery:

-Return to gym, with avoidance of activities with rapid acceleration (throwing, golf, tennis) or high impact (overhead lifting)

-Golf: Ok for putting at 3 mos, chip at 4 mos, full swing 6 mos

-Goal for 80% of ROM by 4 mos

### Six months after surgery:

-Full activity with no repetitive lifting >25 lbs

-Anticipate gains for up to 1 year after surgery

## **Shoulder Fracture - Open Reduction Internal Fixation, Hemiarthroplasty, or Reverse Shoulder Arthroplasty for Fracture**

### 0 to 4 weeks after surgery:

*Goal: early recovery (decreased swelling and healing)*

These patients use a sling for 4 weeks (earlier motion is allowed in select cases), which they may remove for showers and meals. Ball squeezes with the hand are encouraged throughout the day.

Three times per day patients do the following exercises during this period:

- 1) Active elbow flexion and extension with the arm at the side
- 2) Isometric scapular retraction exercises

\*\*\*Less severe fractures may be allowed earlier motion (passive external rotation or table slides in some cases; this will be specified)

### 2 to 4 weeks after surgery:

*Goal: Early ROM*

Three times per the day patients continued the above exercises with the addition of:

- 1) Table slides to (only to 90 degrees until the sling is removed)

### 4 to 8 weeks after surgery:

*Goal: ROM only*

The sling is discontinued at 4 weeks after surgery

Passive motion only

Three times per the day patients continue Table Slides and add the following exercises:

- 1) Passive elevation with a rope and pulley
- 2) External rotation with a stick

### 8 weeks after surgery:

*Goal: Continue ROM, Add strengthening*

Begin active assist, progress to active motion in all planes as tolerated.

In addition to ROM, they begin strengthening with elastic bands.

Three times per the day patients do the following exercises:

- 1) Wall washes
- 2) "4-pack" strengthening exercises
  - a. Resisted internal rotation
  - b. Resisted external rotation
  - c. Low row
  - d. Biceps curl

\*Internal rotation is delayed until 8 weeks after surgery because this places increased strain on the repair

## **Latarjet Reconstruction**

### 0 to 4 weeks after surgery:

*Goal: early recovery (decreased swelling and healing)*

These patients use a sling for 4 weeks, which they may remove for showers and meals. Ball squeezes with the hand are encouraged throughout the day.

Three times per day patients do the following exercises during this period:

- 1) Active elbow flexion and extension with the arm at the side
- 2) Isometric scapular retraction exercises

### 4 to 8 weeks after surgery:

*Goal: Focus on ROM*

The sling is discontinued at 4 weeks after surgery.

Passive motion only x2 weeks, then progress to active-assist at 6 weeks

Emphasize these ROM exercises:

- 1) Table slides
- 2) Passive external rotation at the side with a stick (goal ½ opposite side at 12 weeks)
- 3) Overhead rope and pulley

### 12 weeks after surgery:

*Goal: Continue ROM, Add strengthening*

Active motion as tolerated

Begin strengthening with focus on:

- 1) Wall washes
- 2) “4-pack” strengthening exercises
  - e. Resisted internal rotation
  - f. Resisted external rotation
  - g. Low row
  - h. Biceps curl

### 3-6 months after surgery:

-At 3 months: Return to gym, with avoidance of activities with rapid acceleration (throwing, golf, tennis) or high impact (overhead lifting)

-At 4 months: Add sport-specific exercises

-At 6 months: Full activity, including contact/collision sports

## **AC Joint Reconstruction**

### 0 to 6 weeks after surgery:

*Goal: early recovery (decreased swelling and healing)*

These patients use a sling for 4 weeks, which they may remove for showers and meals. Ball squeezes with the hand are encouraged throughout the day.

Three times per day patients do the following exercises during this period:

- 1) Active elbow flexion and extension with the arm at the side
- 2) Isometric scapular retraction exercises

### 6 to 12 weeks after surgery:

*Goal: Focus on ROM*

The sling is discontinued at 6 weeks after surgery.

Passive motion only from 6-9 weeks, then progress to active-assist at 9 weeks

Emphasize these ROM exercises:

- 1) Table slides
- 2) Passive external rotation at the side with a stick
- 3) Overhead rope and pulley

### 12 weeks after surgery:

*Goal: Continue ROM, Add strengthening*

Active motion as tolerated

Begin strengthening with focus on:

- 1) Wall washes
- 2) "4-pack" strengthening exercises
  - a. Resisted internal rotation
  - b. Resisted external rotation
  - c. Low row
  - d. Biceps curl

### 3-6 months after surgery:

-At 4 months: Return to gym, with avoidance of activities with rapid acceleration (throwing, golf, tennis) or high impact (overhead lifting)

-At 5 months: Add sport-specific exercises

-At 6 months: Full activity, including contact/collision sports

## **Clavicle Fractures - Accelerated**

### 0 to 4 weeks after surgery:

*Goal: early recovery (decreased swelling and healing)*

These patients use a sling for two weeks, which they may remove for showers and meals. Ball squeezes with the hand are encouraged throughout the day.

Three times per day patients do the following exercises during this period:

- 1) Active elbow flexion and extension with the arm at the side
- 2) Isometric scapular retraction exercises

### 2 to 4 weeks after surgery:

*Goal: Focus on ROM*

The sling is discontinued at 2 weeks after surgery.

Three times per the day patients continued the above exercises with the addition of:

- 1) Table slides
- 2) Passive external rotation with a stick

### 4 weeks after surgery:

*Goal: Continue ROM*

Add passive motion with:

- 1) Passive elevation with a rope and pulley

Active motion at 4-6 weeks based on pain

Ok for running

### 6 weeks after surgery:

*Goal: Strengthening*

Active motion in all planes is allowed.

They begin strengthening with elastic bands.

Three times per the day patients do the following exercises:

- 1) "4-pack" strengthening exercises
  - a. Resisted internal rotation
  - b. Resisted external rotation
  - c. Low row
  - d. Biceps curl

### 3-6 months after surgery:

\*Weightlifting and most activity is allowed 8-10 weeks after surgery

\*\*Collision sports are delayed until there is radiographic healing for clavicle fractures

## **Clavicle Fractures - Standard**

### 0 to 4 weeks after surgery:

*Goal: early recovery (decreased swelling and healing)*

These patients use a sling for two weeks, which they may remove for showers and meals. Ball squeezes with the hand are encouraged throughout the day.

Three times per day patients do the following exercises during this period:

- 1) Active elbow flexion and extension with the arm at the side
- 2) Isometric scapular retraction exercises

### 4 to 8 weeks after surgery:

*Goal: Focus on ROM*

The sling is discontinued at 4 weeks after surgery.

Three times per the day patients add:

- 1) Table slides
- 2) Passive external rotation with a stick
- 3) Passive elevation with a rope and pulley

Passive motion only from 4-6 weeks, then active-assist, progressing up as tolerated  
Ok for running

### 8 weeks after surgery:

*Goal: Strengthening*

Active motion in all planes is allowed.

They begin strengthening with elastic bands.

Three times per the day patients do the following exercises:

- 3) "4-pack" strengthening exercises
  - a. Resisted internal rotation
  - b. Resisted external rotation
  - c. Low row
  - d. Biceps curl

### 3-6 months after surgery:

\*Weightlifting and most activity is allowed 3 months after surgery

\*\*Collision sports are delayed until there is radiographic healing for clavicle fractures