**Rehabilitation following:**

**“Ream and Run” Shoulder Arthroplasty**

**Background:**

The TSA involves replacing the humeral head with a metal prosthesis made of titanium and cobalt chrome alloy. The glenoid is essentially resurfaced to fit the new metal ball. “Changing the tires and paving the road” analogy. This operation was began by Dr. Matsen in Seattle at the University of Washington, who I trained under while at UW.

It is important to realize that the subscapularis, a rotator cuff muscle, must be cut and then reattached to complete this operation. It takes approximately twelve weeks for tendons to heal, and the subscapularis should be protected during this time by avoiding external rotation (ER) stretching and internal rotation (IR) strengthening.

The great news about this shoulder procedure is that there are minimal to no lifetime restrictions compared to traditional total shoulder replacements. The reason being, there is no plastic socket that replaces the old worn out bone socket. This is a great procedure for those who want to still lift heavy weights and maintain a high level of function.

**Restrictions:**

1. Patients should avoid excessive stretching of the shoulder in ER for 12-weeks.
2. Patients should not strengthen the shoulder in IR for 12-weeks.

**Phase I: (weeks 0-6)**

**Goals:**
- Maintain the passive forward elevation obtained at surgery (> 150 degrees)
- Promote soft tissue healing. Protect subscapularis repair.

**Restrictions:**
- No stretching of the shoulder into external rotation (ER) beyond neutral.
- No active range of motion of shoulder (AAROM/AROM).

**Sling Wear:**
- Patients should wear the sling at all times except when showering, dressing or stretching the shoulder. (6 weeks unless otherwise directed by physician, NP-C or ATC)
- Patients may continue to ice the shoulder 3-5X/day for 20-25 for the first few weeks or as needed.
Exercises:
- Stretching exercises should be performed 5X/day!
  - Pendulums
  - Supine passive forward elevation stretches.
    ▪ This should be done with the patient using the other hand to move the operated extremity. Each stretch should be held for a minimum of ten seconds. Goal of > 150 degrees of passive forward elevation by 2-4 weeks
  - Table slides sitting parallel to table edge.
  - Doorway pulley if tight (no sooner than 5-6 weeks post-op)
- PROM/AROM of elbow, wrist, and hand
  - Elbow curls with 0-5 lbs. dumbbells
  - Ball squeezes
  - Finger web exercises
  - Forearm curls
- Scapular stabilizers
  - Shoulder shrugs (minimal weight 0-5 lbs.)
  - Shoulder blade pinches/rows (minimal weight 0-5 lbs.)

Phase II: (Weeks 6-12)

Goals:
- Transition to AROM, and light strengthening.
- Continue to increase PROM aggressively

Precautions:
- No ER stretching beyond 30 degrees’ weeks 6-10
- Ok to progress as tolerated weeks 10-12, stop at 50 degrees.

Sling Wear:
- Patients may discontinue (D/C) sling wear at this time
- Focus on regaining normal shoulder swing with gait.

Exercises:
- PROM
  - Continue supine passive forward elevation; >160 degrees.
  - May progressively stretch IR to get hand behind and up the back.
  - Initiate AAROM for flexion, ER and IR (ER to 30 degrees, IR to tolerance)
    ▪ Wall walks
    ▪ Finger ladder
    ▪ L-Bar for flexion and ER
  - Initiate AROM (no resistance) for flexion, ER and IR; ER to 30 degrees only.
    ▪ Forward elevation with 5 second hold (progress hold time).
o Continue posterior RC isometrics (submaximal, non-painful)
  ▪ Scaption
  ▪ ER
  ▪ IR
o Prone rows/scapular retraction (progress weight gradually, given lifetime restrictions).
o Initiate bench press plus maneuvers
  ▪ Supine arm raises to 90 degrees followed with plus maneuver for serratus anterior activation.
o Initiate progressive inclination supine bench presses (0, 20, 40, 60, 80 degrees)
  ▪ Begin on flat bench
  ▪ Begin with no weight
  ▪ When able to complete 20-reps for 3 sets increase incline and weight
    • Repeat process; increase weight to 2lbs.
    • Continue the process until strength as increased.
    • Gradually continue to add more weight within lifetime restrictions.

**Phase III: (weeks 12 and beyond)**

**Goals:**
- Increase AROM of shoulder and increase strength
- Maintain PROM > 170

**Precautions:**
- Don’t get stiff…
- No restrictions going forward (must progress strength gradually and return to work/duty/activity as tolerated)

**Exercises:**
- Continue AAROM, AROM all planes.
- May actively ER as tolerated; no restrictions
- May stretch in ER as tolerated; no restrictions
- May actively IR as tolerated; no restrictions
- May stretch in IR as tolerated; no restrictions
- May strengthen IR as tolerated; no restrictions
- Continue with progressive incline presses and bench press pluses
- Begin seated rows
- Lat pull-downs
- Progress forward elevation in scaption with weight as tolerated.