

# TOTAL SHOULDER REPLACEMENT

## **General Considerations:**

- Immobilization: adduction, internal rotation, and slight flexion; elbow is flexed and supported with a sling. While lying supine, sling is maintained and a pillow is placed longitudinally under the humerus to maintain 10-20° of flexion. Few days to 6 weeks if rotator cuff has also been repaired.
- Regardless of procedure, early PROM of the GH joint is essential to prevent capsular adhesions and fibrosis; PROM should be done in a position which shortens involved muscles and ligaments ("scapular plane" – flexion with abduction and ER) → ER is most important to regain early in order to halt tightening of the coracohumeral ligament.

## **Phase I (0-4 weeks; 6 weeks with rotator cuff repair)**

- Encourage proper posture and relaxation of upper quarter musculature; soft tissue release and active movement of neck and scapula to maintain normal motion and minimize guarding
- Maintain normal hand, wrist and forearm motion by active exercises immediately after surgery
- Remove sling during first week to begin passive and active assisted ROM, emphasizing flexion, scaption, and abduction to 90 degrees with the arm internally rotated and elbow flexed, as well as ER to neutral with the arm at the patient's side
- Subscapularis is repaired during surgery so be careful with excessive passive ER
- Active elbow flexion and extension can also be performed out of the sling
- Immediately initiate pendulum, gearshift, wand, overhead pulley and wall climbing exercises in diagonals as well as anatomic plane movements
- Hand gripping exercises should be initiated
- Icing!!

## **Phase II (begin 2-4 weeks, end 4-6; 6-8 with rotator cuff repair)**

- Transition from active assisted to active ROM exercises
- Open chain exercises in supine, sidelying, prone, sitting, and standing
- Continue to perform external rotation with arm at side and be careful with endrange ER due to overstretch of subscapularis
- Begin isometrics against gentle resistance at multiple points in the ROM with arm at side emphasizing rotator cuff, deltoid, and scapular musculature
- No active internal rotation until 6 weeks post-op

### **Phase III (6-12 weeks)**

- Progressive resistive exercises (PRE's) through available ROM, low loads and high repetitions
- Closed chain exercises such as rhythmic stabilization and wall push ups
- Stretching and self-stretching to further increase ROM
- Target is to achieve full A/PROM by 8 weeks
- Be functionally specific by emphasizing speed and direction of motions – replace functional activity
- Discharge with maintenance program to be performed for 6 months to 1 year

### **Functional Outcomes:**

- Substantial to total relief of shoulder pain – therefore increase in function
- AROM and strength may be partially limited on a permanent basis for an extended period of time
- 70% normal strength and motion by 1year post-op
- AROM improves 30-60% post-op and flexion ranges from 100-115 degrees (adequate for most functional activities)