General Rehabilitation Guidelines

Hemiarthroplasty for Proximal Humerus Fracture

Precautions:

Basis
- Tuberosities are repaired to prosthesis shaft and bony healing must occur before stress is applied to rotator cuff tendons
- Recent literature suggests that early motion may result in tuberosity migration
  - Tuberosity migration causes stiffness from mechanical impingement
  - Tuberosity migration causes weakness from abnormal soft tissue tension
- The current trend in rehabilitating these injuries is to go slower rather than quicker and promote anatomic tuberosity healing
  - It is much easier to treat postoperative stiffness with a manipulation than it is to treat tuberosity malunion with an second reconstruction procedure

Precautions
- No external rotation past 40° for 6 weeks
- No active internal rotation for 6 weeks
- No cross body adduction for 6 weeks
- No lifting/pushing/pulling > 5lb for first 6 weeks
- Long Term: no forceful jerking movements (starting outboard motor, push mower or chain saw; no repetitive impact loading (chopping wood)

Inpatient: (0-4 days)
- Instruct to don and doff sling or shoulder immobilizer
  - Shoulder should be completely immobilized at all times except to change
- Instruct on proper use of ice or cryocuff
  - 20-30 minutes at a time, several times per day
  - should be done especially after exercises
- Instruct in home program, and begin, cervical, elbow and wrist range of motion
- Instruct in home program, and begin grip strengthening
- Arrange for outpatient physical follow-up to begin on day of office follow-up

Other Instructions
- dry gauze to wound q day until dressing totally dry, then cover prn
- may shower at 7 days but no bath or hot tub for 3 weeks
- no anti-inflammatory medications x 6 weeks unless on ASA for other reasons
**Outpatient Phase 1**: (Hospital discharge – Week 3)

- **ROM**
  - Continue cervical, elbow and wrist ROM
  - Pendulum exercises only
  - No passive ROM or self-assisted ROM yet
  - No mobilizations

- **Strengthening**
  - No cuff strengthening
  - Begin and instruct in program of postural correction
  - May begin scapular retraction and depression

- **Sling**
  - Arm in sling at all times except for exercises and bathing
  - Includes sling at night

- **Other**
  - Continue cryotherapy
  - Incision mobilization and desensitization
  - Modalities to decrease pain and inflammation

**Outpatient Phase 2**: (Weeks 4-8)

- **ROM**
  - Instruct in home program and begin self-assisted forward elevation to 90° and progress in 20° increments per week
    - May use pulleys
  - Instruct in home program and begin self-assisted ER to 40°
  - IR in scapular plane as tolerated
  - No IR behind back
  - No cross body adduction
  - Grade I-II scapulothoracic and glenohumeral mobilizations
  - **NOTES**: Hydrotherapy program is okay in provided the limits of no active internal rotation and ER limit to 40° are kept. Should not begin prior to week 3 so wound is fully healed

- **Strength**
  - No cuff strengthening
  - Continue scapular retraction and depression
  - Lower extremity aerobic conditioning

- **Sling**
  - May discontinue use of the sling in the daytime but continue to wear at night through the six week mark

- **Other**
  - Continue modalities to decrease pain and inflammation
  - Incision mobilization and desensitization techniques
  - Continue cryotherapy as necessary
Outpatient Phase 3: (Weeks 9-12)

- **ROM**
  - Progressive return to full forward elevation and external rotation
  - May begin posterior capsular stretching program
  - May begin IR behind
  - Grade III-IV glenohumeral and scapulothoracic mobilizations
  - Begin anterior chest wall stretches (pec minor)

- **Strength**
  - Instruct in home program and begin submaximal isometrics in flexion, abduction, IR, ER and extension
  - Add progressive isotonics with low resistance, high repetitions as tolerated
  - Progressive two-hand supine
  - Emphasize anterior deltid strength and scapular stabilization
  - Emphasize upper trapezius, serratus anterior force couple rehabilitation to create stable scapular base
  - Assess for and correct compensatory movement patterns
  - UBE with low resistance
  - Continue aerobic conditioning

Outpatient Phase IV: (> Week 12)

- **ROM**
  - Progressive return to full motion in all planes
  - Emphasize posterior capsule stretching
  - Maintenance home flexibility program

- **Strength**
  - Continue rotator cuff and scapular strengthening program
    - Progressive increase in resistance as strength improves
  - Continue UBE with progressive resistance as tolerated
  - Maintenance home exercise program
  - Recreation/vocation specific rehabilitation
  - Maintenance aerobic conditioning program