Avoiding the Subscap Ruture: Rehab of the Prosthetic Replaced Limb

………Tips and Tricks

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Total Shoulder Arthroplasty

- TSA not a THA not a TKA
- Technically challenging procedure for the Surgeon
- Equally challenging for the Physical Therapist

The Post-Operative Subscap tear … Whose to Blame ? … How do we Prevent it ?

Surgeon

Physical Therapist

Patient

Rehab: Tips and Tricks ?

#1 Patient Education

Pre-operative physical therapy visit
Pathway to recovery book
Instruct in sling use
Goals/Expectations
Precautions *
Overview of exercise program
Assess ROM and Strength status
Assess current ADL function (DASH)

#2 Communication

Surgeon ↔ Patient ↔ Physical Therapist ↔ Surgeon

Pre-Operative Condition (↓ ROM, ↓ Strength, ↓ Function)
#3 Create a Safe Environment

Surgical Procedure

Knowledge of Quality of Soft Tissue (RC) and Bone

e.g. Hydrotherapy (Pool Exercises)

#4 Don’t hurt the patient

Don’t Have the Patient Hurt the Patient

#5 Follow a Functional Progression

Range of Motion

Emphasize Scapular Plane

Strengthening

Start with the Scapular mm.

Deltoid

Rotator Cuff

#6 Criteria Based Guideline vs Protocol

Individualization vs Timeline

e.g. Total Shoulder Arthroplasty: Treatment Strategies: Post-OP Week 0-4

- Sling immobilization except for light activities of daily living and therapeutic exercises
- Codman / Pendulum exercise
- Passive range of motion exercises
- Active-assisted range of motion exercises
  - External rotation (supine with wand, in the plane of the scapula, (MD directed ROM limit)
  - Forward flexion (supine with contralateral limb)
- Scapulothoracic mobilization
- Scapula Strengthening
  - Sidelying active range of motion → active manual resistive strengthening
  - Scapula retraction (sitting)
- Deltoid Strengthening Progression (Isometrics)
- Hydrotherapy
- Distal active range of motion exercises (elbow, wrist, hand)
- Cryotherapy / TENS as needed

Criteria for Advancement:

- Pain controlled
- Range of motion, elevation to 120°, external rotation to 30°
- Independent light activities of daily living
- Independent home exercise program
Reverse Total Shoulder Arthroplasty: Concerns and Precautions

Compensates for loss of RC
Deltoid is able to elevate the arm
  Center of rotation moved medially and inferiorly
  Deltoid moment arm increased
Higher risk of dislocation
  Avoid adduction with internal rotation and extension, e.g. Tucking in a shirt
  Patient should always be able to see their elbow
Longer period of immobilization (Abduction Sling) vs TSA
  ROM begins POST-OP Week #3
  Deltoid strengthening progression at 6 weeks
Goals:
  Functional use of arm
  ROM: 90-130 degrees elevation, 30 degrees ER

Return to Sport Following TSA and R TSA

Golant  J Shoulder Elbow Surg 2012
  Survey of ASES surgeons found:
    59.1% of  would allow their patients to participate in low-impact sports  without restrictions,
    19.6% high-impact sports, and 8.2% contact sports;

  Survey of North American and European surgeons looking at sports participation found:
    81% allowed patients to swim after TSA
    93% golf, 65% rowing, 67% bowling
    Disallow Weight-Lifting (Europe 80%, North America 29%)

  100 patients with unilateral TSA followed ≥1 year.
  Postoperative questionnaire
  55 participated in sports prior to undergoing TSA.
  49 patients (89%) were playing sports at a mean 3 years' follow-up.

  Retrospective review of 76 consecutive RTSA patients who played sports preoperatively
  Average follow-up was 31.6 months (range, 12-65 months),
  Patient-reported questionnaire &ASES) Shoulder Score
  85% rate of return to ≥ 1 sporting activities at an average of 5.3 months after surgery.
  Age >70 years was a significant predictor of decreased return to activities.

Summary

Utilize Tips and Tricks of Rehabilitation for Successful outcome
  Patient Education is key
  Functional Progression throughout Rehab Course
  Return to Sport is attainable with modifications
REFERENCES


Wilcox RB, Arslanian LE, Millet PJ. Rehabilitation Following Total Shoulder Arthroplasty. JOSPT. 2005;5: 821-832.