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Shoulder Rehabilitation

BACK TO BASICS – PART II

SALVADOR BONDOC, OTD, OTR/L, BCPR, CHT, FAOTA

REVIEW OF PART I
KEY CONCEPTS

1. Anatomy and Biomechanics of the Shoulder Complex
   - KINETIC CHAIN CONCEPT
   - ROLE OF THE SCAPULA

2. Common Orthopedic Shoulder Conditions
   - TRAUMATIC: FRACTURES, DISLOCATIONS
   - DEGENERATIVE: ARTHRITIS
   - IMPINGEMENT – ACUTE CONDITION WITH CHRONIC DYSFUNCTION

3. Tissue Healing
   - BONE HEALING ➔ PREDICTABLE PATTERNS
   - SOFT-TISSUE: TENDON/MUSCLE ➔ LIGAMENTS
Objectives

By the end of this course, participants should be able to:

1. Recognize key concepts in the evaluation process in shoulder rehabilitation.
2. Describe the goals of and strategies for treatment from the acute to reintegration phases of shoulder rehabilitation.
3. Identify occupation-based strategies to integrate in the intervention plan along the phases of rehabilitation.

Content Outline

Review of Part I
Evaluation and Examination
General Rehabilitation Principles
Phase I Rehabilitation
Phase II Rehabilitation
Phase III Rehabilitation
Basic Components

History
Occupational Profile
Analysis of Occupational Performance
Physical Examination
Functional Outcomes Measures

---

History

Pain in/around the shoulder is the most typical symptom.

- How did your pain/symptoms begin?
  - Clear account of precipitating event/s vs.
  - Vague or “less plausible” explanations

- When is it worse (or what makes it worse)? better?
  - Temporal quality (worsens by end of the day?)
  - Spatial quality (environmental conditions?)
  - Task-related (avoidance of certain movements?)
More on Pain

LOCATION
- Anterior acromion/AC Joint area
- Biceps groove
- Lateral acromion
- Mid-deltoid → elbow/arm
- Upper trapezius/base of the neck

DURATION
- Worse at night or at bed time
- Constant
- Associated neck stiffness


## History

**Medical history**
- Diabetes
- Depression or anxiety
- Pain syndromes
- Immunity syndromes
- Arthritis

**Interventions?**
- Medications
- Cortisone injection
- Surgeries

## Additional Elements in the Acute Setting

**Medical Status**
- Admitting Diagnosis
- Surgery and Other Consults
- Lab values

**Medical Management**
- Vital signs - surveillance
- Mental status
- Pain Management
- Anti-coagulants
Additional Elements in the Acute Setting

White Blood Cells
- 3.5 - 11

Red Blood Cells
- Hemoglobin: 12 - 16
- Hematocrit: 35-47%

Platelets
- Count = 150-450 K/dL
- PT = 10 - 14s
- PTT = 21 - 38 s
- INR = 1.0

Blood Chemistries
- Sodium: 135-145
- Potassium: 3.5-5.0
- Chloride: 101-110
- Carbon Dioxide: 24-32
- BUN: 5-25
- Creatinine: 0.4-1.5
- Glucose: 70-110

Diagnostic Imaging

1. Conventional radiograph (X-ray)
   - First step
   - Best for bone and joint pathology
   - May/may not reveal bone spurs

2. Magnetic Resonance Imaging
   - Gold standard!
   - Best for chronic RC tears
   - Main tool for detecting labral tears (with contrast)

3. Diagnostic ultrasound
   - cheap and portable!
   - can detect partial tears
   - sensitivity of 0.95 and specificity of 0.96 in full-thickness RC tears
Occupational Profile

Occupational Patterns
- Prior occupational history
- Daily routine at work and home
- Sleep history
- Living situation and social support

Personal Goals and Role Expectations
- Current roles expectations
- Future role expectations (if a surgical candidate)

Clinical Examination & Analysis of Occupational Performance

BOTTOM-UP:
- Palpation
- Range of motion
- Postural Observation
- Visual inspection
- Orthopedic Screening Tests

TOP-DOWN:
- Dynamic movement analysis of chosen occupations
- Functional outcome report
  - Activity limitations
  - Independence vs. Participation
Palpation

**BONY PALPATION**
- Posterior:
  - Borders of the scapula
  - Spine of the Scapula
- Lateral
  - Acromion
  - Humeral head and tuberosities
- Anterior
  - SC Joint
  - AC joint
  - Bicipital Groove

**MUSCLE PALPATION**
- Posterior:
  - Upper trapezius
  - Middle trapezius
  - Rhomboids
  - Supraspinatus belly and insertion
- Antero-Lateral
  - Scalenes
  - Upper Trapezius
  - Pectorals

---

Postural Observation and Visual Inspection

How the client sits/stands?
- Cervico-cephalic posture
  - Forward head
  - Neck folds
- Thoracic/Upper body posture
  - Rounded shoulders
  - Increased kyphosis
- Lumbopelvic position

---

**continued**
Postural Observation and Visual Inspection: Upper Quadrant

Scapular alignment
- Resting position
- Holding position
- Transitional movement

Muscle bulk
- Atrophy
- Asymmetry

Posteriorly:
- Position of the medial border in r/t spine
- Superior-inferior gliding of the scapula

Anterolaterally
- Anterior tilting via of the scapula via acromion position
- Tightness of pectoral minor

Bondoc, Arabit, & Ruffolo (2017)
Observation and Manual Palpation

Scapulohumeral Rhythm
Range of Motion/Joint Kinematics

Joint Play
- Glenohumeral Joint
- A-P Glides
- Distraction/Sulcus sign
- Acromioclavicular Joint
- S-I Glides
- Compression

Scapular Play
- Passive mobility
- Retraction, protraction
- Depression
- Active engagement
- Initiation of upward rotation
- Termination of downward rotation

Composite Motion: Apley Scratch
Muscle Testing: Strength and Length

1. THORACIC EXTENSION

2. SCAPULAR STABILIZATION
   - Scapular Retraction with Pull (Trapezius/Latissimus)
   - Scapular Protraction with Push (Serratus Anterior)
   - Scapular Down Rotation with Hyperextension (Rhombooids)
   - Scapular Up Rotation with Resisted Flexion (Lower Traps)

3. DELTOIDS

4. ROTATOR CUFF
   - External rotation at 0
   - External rotation at 90 abd
   - Internal rotation at 45, 90 abd

Examination of Pain

Pain at rest and during movement?
- Active
- Passive
- Compression
- Distraction

Muscle (Agonist)
Muscle (Antagonist)
Joint?
Capsule?
Orthopedic Screening Tests

Physical examination tests of the shoulder: a systematic review with meta-analysis of individual tests
E J Hegedus, A Goode, S Campbell, A Morin, M Tamaddoni, C T Moorman III, C Cook


Caveats

Each orthopedic screening test (OST) is
- not definitive on their own; and
- not to be confined in a vacuum!

Diagnostic values may increase when combining with:
- Other orthopedic screening tests
- Historical data and progression
- Diagnostic procedures

Continued

BONDIO, ARABIT, & RUFFOLO (2017)
Impingement Syndrome

START with:
- Kennedy-Hawkins
- Neer Sign

CONFIRM with:
- Supraspinatus Test

OTHER SIGNS:
- Painful arc

Impingement Signs

Hawkins  Neer
Rotator Cuff Integrity (Partial vs. Full Tear)

START with
- Supine Impingement

CONFIRM with:
- Infraspinatus (IS) Test
- ER Lag Sign (IS, Teres Minor)
- Drop Arm Test (Supraspinatus)
- Bear Hug Test
- Napoleon Belly Press (Subscapularis)

Supine Impingement Sign

Passive arm elevation while neutral to external rotation (stop if positive for pain)

Adduct arm (if negative prior)

Internally rotate arm (if negative prior)
1 Supraspinatus and 2 Drop Arm Tests

Client: Shoulder elevated, int. rotated
Therapist: applies downward force

Client: From elevation, slowly lowers arm
Therapist: observes “drop”

1 External Rotation Lag/Teres Minor Test
2 Infraspinatus Tests

Client: holds arm in partial salute
Therapist: observes “lag”

Client: Shoulder adducted, 0 rotation
Therapist: applies inward force
1. Bear Hug, 2. Belly Press (Napoleon), and 3. Lift-Off Tests

Client: holds opp. shoulder
Therapist: lifts hand off shoulder

Client: applies pressure on belly with both hands
Therapist: notes asymmetry

Client: attempts to lift hand off back
Therapist: stabilizes scapula

Orthopedic Screening Tests

Labrum and Biceps Injury
- Biceps load (fairly sensitive, very specific to labrum)
- Yergason Test
- Speed’s Test

Glenohumeral Instability
- Apprehension, relocation, and release tests
- When apprehension > pain, then (+) diagnostic
Superior Labrum and Biceps Tests

SPEED’S TEST
Client: holds arm out
Therapist: applies downward force

YERGASON TEST (MODIFIED)
Client: attempts to touch shoulder
Therapist: applies downward force

Anterior Slide Test

BONDOC, ARABIT, & RUFFOLO (2017)
Glenohumeral Stability: Apprehension → Biceps Load

OST Sequence

1. ER Lag (modified) → 7. Speed →
3. Cross over (O’Brien) → 9. Infraspinatus →
4. Neer → 10. Lift Off →
5. Drop Arm → 11. Anterior Slide →
Select an outcome measure

Clinical importance:
- Goal setting
- Track of “meaningful” gains
- Insurance compliance
- Marketing

Common Measures:
- Disabilities of the Arm, Shoulder & Hand (DASH)
- American Shoulder and Elbow Scale (ASES)
- Upper Extremity Function Test (UEFI)
- Shoulder Pain and Disability Index (SPADI)

Minimum Detectable Change (MDC)

Shoulder Pain and Disability Index (SPADI)

Please place a mark on the line that best represents your experience during the last week attributable to your shoulder problem.

Disability scale

How much difficulty do you have?
Circle the number that best describes your experience where: 0 = no difficulty and 10 = so difficult it requires help.

<table>
<thead>
<tr>
<th>Activity</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
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<td>Washing your hair?</td>
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<td>Putting on your pants?</td>
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<td>Placing an object on a high shelf?</td>
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<tr>
<td>Carrying a heavy object of 10 pounds (4.5 kilograms)</td>
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<tr>
<td>Removing something from your back pocket?</td>
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</table>

BONDOL, ARABIT, & RUFFOLLO (2017)
Rehab Principles

A Primer for Occupational Therapy Practitioners

General Principles

1. Understand and respect the healing process
2. Restore functional capacity
3. Regain motion with muscle function
4. Promote engagement in occupations
   > restore a sense of self-efficacy
#1
Understand Healing

INFLAMMATION
- Cardinal signs = Pain, Redness, Warmth, Swelling
- Chronic inflammation mimics Acute inflammation but to a lesser degree

REPAIR / REGENERATION
- Dependent on extent of damage (intrinsic)
- Influenced by external factors

REMODELING
- Fibrosis/scar formation is a natural process but may have negative consequences on movement functions if unaddressed

#1
Respect the Healing Process

Consistent, regular re-examination
- *How is the patient responding to treatment?*

Prioritize findings based on stages of healing
- Control Pain and Edema  *Acute Phase (ongoing)*
- Restore Motion  *Acute to Repair Phase*
- Restore Strength  *Remodelling Phase*
#2
*Restore functional capacity*

For older adults and deconditioned persons, CDC recommends...

1. Aerobic/Endurance Exercises 150min/week of mild-moderate intensity

And

2. Strengthening 2x/week of major postural muscles

---

### Strength Training Guidelines
(adapted from Gschwind et al, 2013)

<table>
<thead>
<tr>
<th>Exercise Variable</th>
<th>Recommendations</th>
</tr>
</thead>
</table>
| Intensity         | Beginner (moderate: 5-6/10 RPE)  
Advanced (hard: 7-8/10 RPE) |
| Quality           | Technically correct movement  
Maximal range of motion |
| Quantity          | 10-15 reps with moderate resistance (beginner)  
8-12 reps hard resistance until muscle fatigues (advanced)  
2 – 3 sets of concentric contraction  
2 – 3 sets of eccentric contraction |
| Rest              | 2 minutes between sets |
**Foundational Principles of Exercise Prescription**

CONSIDER 3 ELEMENTS of MUSCLE PERFORMANCE
- Strength – functionally, to lift, lower, control load in a coordinated manner
- Power – aerobic vs. anaerobic power
- Endurance – resistance to fatigue

OVERLOAD PRINCIPLE
- Apply demands that challenge existing metabolic capacity
- Strength – requires incremental loading (intensity)
- Endurance – requires incremental duration (volume)

S.A.I.D. PRINCIPLE (Specific Adaptation to Imposed Demands)
- Specificity of training to replicate the functional task

REVERSIBILITY PRINCIPLE

---

**#3 Regain Motion / Restore Movement**

Maintain motion in non-involved but at-risk structures
- Incorporate stretches
- Proper positioning

Maintain/Restore muscle balance
- Primes: Deltoids vs. Rotator Cuff
- Synergists/Fixators: Scapular stabilizers

Stabilize “The Core”
- Incorporate postural training
- Core stabilization before limb training

**Abnormal motion is a learned behavior**
#3

**Stretching Tips**

1. Ensure proper form
   - Alignment and Stabilization
2. Heated tissue
   - is more extensible and “safer”
3. Duration and intensity
   - Prolonged 30-60 second duration
4. Progression in healing tissues
   - Active ROM with active holds at end-range (dynamic stretches)
   - Slow applied stretch (overpressure)
   - Proprioceptive neuromuscular stretch

---

#4

**Why Engage in Occupations?**

1. Intrinsically motivating
2. Promotes a sense of self-efficacy
3. Promotes motor learning
4. Lasting positive effects
Occupation-Based Principles (Bondoc & Arabit, 2016)

1. Increase opportunities for engagement in occupations within the limits of tissue healing through task performance and environmental adaptations
2. Regain sense of self-efficacy and self-control over one’s own self-care
3. Restore semblance of normal/occupational routines while continually engaged in self-management of one’s own health and rehabilitation process

General Principles

1. Understand and respect the healing process
2. Restore functional capacity
3. Regain motion with muscle function
4. Promote engagement in occupations
   > restore a sense of self-efficacy
Pre-Operative Program

CONTEXTS
- Acute Setting:
  - Part of a standard protocol
  - Often in collaboration with MD, RN, case management
- Outpatient:
  - MD determines failed conservative management

CONTENT
- Acute Setting:
  - Pre-op work-up → surgery
  - Post-op expectations → follow-up care (i.e., MD appointment)
- Outpatient:
  - Conditioning exercise program
  - Follow-up care, including rehab
Goals of Pre-Operative Program

- Increase patient preparedness
- Promote adherence to precautions, home program
- Set expectations regarding course of recovery and return to full participation with usual occupations
  - Work or School
  - Leisure
  - Sexual activity
- Educate patient and their caregiver on post-operative self-management strategies to address
  - Pain and related sx
  - Sleep and rest
  - ADLs, functional mobility

Acute Post-Surgical Phase

POST-OP DAY 1 → ACUTE REHAB
## Surveillance of Acute Post-Surgical Status

### Pain
- Routine
- Check for autonomic (vaso-vagal) response

### Monitor Surgical Site
- Drainage
- Cardinal signs
- Dry, itchy skin

### Orthostatic Hypotension
- Monitor BP, HR
- Check O2 Sats Level

### Monitor peripheral regions
- Numbness, tingling
- Cyanosis in fingers
- Deep vein thrombosis

---

## Acute Post-Surgical Status

### Bloodwork
- Increased WBC/Infection?
- Anemia/Blood loss
- Low Platelet Vount

### Dehydration or Electrolyte Imbalance

### Mental Status
- Alertness level
- Delirium/Confusion

### Constipation

---

*CONTINUED*
OT Focus: Address Impairments

<table>
<thead>
<tr>
<th>Manage Pain</th>
<th>Reduce Edema</th>
<th>Prevent Stiffness</th>
<th>Protect Healing Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cryotherapy Program</td>
<td>• Active exercise in distal joints • Compression</td>
<td>• Pendulums • Scapular pinches • Postural education</td>
<td>• Sling Management • Positioning • Educate on Precautions</td>
</tr>
</tbody>
</table>

**Medical Pain Control**

- Nerve block (Interscalene Block) in conjunction with general anesthetic in OR
  - Nerve block may provide pain relief for up to 4-18 hours post surgery
- Patient-controlled analgesia (PCA) - can be used for up to 24 hours post surgery
- Peripheral nerve catheters (PNC)
- Oral Medications
Medical Pain Control

#1 Manage Pain: Cryotherapy
1. Include in therapy orders as needed
2. Helps with reduction of swelling
3. May help reduces reliance on prescription rx
4. Instruct patient to self-monitor
Cryotherapy

Patient Education: Managing Pain

- Slow, deep breathing techniques
- Mindful meditation
- Gentle ROM of the head/neck and trunk
- Short walks
- Leisure reading or listening to music
#2 Protect Healing Structures

**SLING/ SHOULDER IMMOBILIZER**

- Provides support and comfort
- Worn at all times unsupervised
- May remove during exercise and bathing under skilled supervision
- Sling timelines: 4-6 weeks

---

**Sling/Shoulder Immobilizer**

Must be of adequate length to extend up to the MCPs.
- If too short, wrist may lack support, resulting in wrist pain
- If too long, fingers and hand may not be used well

Position of wear:
- Often slight abduction, up to neutral rotation
- May include hip bolster
**Patient Education: Precautions**

- Do not put weight on the surgical arm
- Do not lift any heavy items
- Do not raise your surgical arm
- Keep surgical arm supported in the sling
- Keep sutures/incision dry at all times
Positioning

Postural Considerations
- Encourage patients not to “hunch” shoulders
- Remind patient to hold the shoulders down and relaxed
- Discourage forward-head and increase thoracic kyphosis

Positioning in Bed
- Avoid flat supine position in bed, place small pillow behind scapula
- Keep arm elevated with a small pillow or towel behind elbow

#3
Reduce Edema
#4
Reduce Stiffness

Retraction and depression  Small amplitude
Caution: Stretch ant. capsule  May require initial guidance

Supine Exercises
External Rotation\(^1\) & Forward Flexion\(^2,3\)

1  2  3
Check for Maladaptive Compensatory Strategies

- In-coordinated breathing (holds breathe)
- Muscle guarding and substitutions
- Protective stance before and after exercise
- General apprehension, anxious behaviors

Home Programs as Key to Re-Educating Motor Functions

Consider evidence from MOTOR LEARNING
Can functional restoration return through rote exercise alone?

How many repetitions is needed to relearn normal movement?

How do we ensure consistent carry-over?
Successful Home Programs:

Apply adult learning principles
- Explain why, incorporate life experiences
- Facilitate personal responsibility

Consider Health Literacy
- Readability level
- Use of culturally appropriate images, language

Has built-in feedback process
- Client logs performance
- Major part of the therapy plan of care

Occurs “naturally” in the course of a daily routine
- Take time to know the natural rhythm of the client’s day
- Grant permission vs. demand compliance

Focus: Occupation and Participation

<table>
<thead>
<tr>
<th>Self-Care and Sleep</th>
<th>Leisure and Home Management</th>
<th>Transfers and Mobility</th>
<th>Driving and Transportation</th>
</tr>
</thead>
</table>
| • Practice 1 handed techniques for dressing and hygiene  
• Sleeping  
• Create routine to include HEP | • Medication management  
• Meal Preparation  
• Quiet recreation, leisure tasks | • Sling interrupts balance  
• PT Collaboration for gait and stairs  
• One-arm strategy with transfers | • Practice transfers only  
• MD Clearance |
#1
Self-Care Management
1. Practice modified 1-handed techniques
2. Create a sleeping routine
3. Incorporate HEP in the self-care routine

UB Dressing
Donning UB garment:
   ○ Sleeve first on surgical arm
   ○ Pull sleeve up as far as possible

Doffing UB garment:
   ○ Remove garment from non-surgical arm

Use front opening garments
Use oversized shirts/clothing
Use bathrobes to drape
Dressing Strategy

BONDIC, ARABIT, & RUFFOLD (2017)
LB Dressing

Donning LB Garment (Pants & Underwear):

- Sit at all times while donning LB garment
- Cross same side leg (surgical arm side) on top of other leg. Using non-surgical arm don leg inside pant sleeve followed by the other leg (non-surgical side)

Doffing LB Garment (Pants & Underwear)

- Remove pant leg from non-surgical side first followed by pant leg from the surgical side

Use loose sweat pants with elastic waist band; stretchy clothing

---

LB Dressing

Recommend slip-on shoes or shoes with Velcro straps

Replace standard shoelaces with elastic laces

Use oversized socks

---
Bathing/Showering

Full bathing vs. Sponge bathing
- Avoid getting the incision area/wound wet.
- Cover wound with cling plastic or a plastic bag

Check incision area daily for signs of increased swelling or drainage

Gently clean the underarm area daily with soap and water:
- Use damp washcloth to wash armpit and skin.
- Dry well with a towel.

Hygiene and Grooming
Bathing/Showering Tips

1. Use shower chair or bench for safety
2. Install non-skid mat and/or grab bars
3. Use unaffected arm for lathering
4. Keep surgical arm supported on lap or side
5. Use hand-held shower

Toileting

Use a raised toilet seat or a grab bar
Use of toilet aide to enhance reach
Use of bidet seat or bidet spray
Rest and Sleep

Use recliner in the first 3 weeks

Keep sling on but may loosen straps for comfort

Place pillow under and behind arm (prevent hyperextension)

Practice relaxation (there’s an app for that!)

Sleep Hygiene

Maintain routine
Avoid caffeinated drinks 12 hours prior
Avoid exposure to “blue light” 1 hour prior
Sleep in total darkness
Discuss with MD re melatonin supplement
#2
IADLs and Leisure

Medication management
- Medication schedule
- Manipulation of medicine bottles

Meal Preparation
- Practice with microwave oven and refrigerator
- Practice opening containers
- Meal planning at daytime (e.g., frozen meals, ready-made)

Quiet recreation and virtual social participation
- Use of tablet, laptop
- Social media vs. social gathering

#3
Transfers and Functional Mobility

BED MOBILITY
- Practice rolling and rising from non-surgical side
- Encourage dangling on EOB before rising

AMBULATION & STAIRS
- Leisure walks with cane as needed
- Approaching stairs/use of rails
#4
Driving and Transportation

IF SURGICAL ARM IS DOMINANT
- Typically driving is avoided for 6-8 weeks

IF SURGICAL ARM IS NONDOMINANT
- Driving may be allowed once no longer dependent on pain meds
- Hold steering wheel at 5-6- or 7-o’clock position

AVOID WEIGHTBEARING

AVOID USING SURGICAL ARM TO OPEN DOORS AND FASTEN SEATBELT
PRACTICE TRANSFERS (IN/OUT OF VEHICLE)

Repair and Remodeling Phase to Return to Usual Occupations

REHAB GOALS AND INTERVENTIONS
Phases of Shoulder Rehabilitation

Phase I: Acute Phase
- Maintain integrity of healing tissues
- Promote active healing
- Re-establish functional ROM as soon but as safe as possible

Phase II: Retraining Phase
- Establish normal arthrokinematics (dynamic control of glenohumeral alignment)
- Re-establish muscle balance
- Retrain motor control

Phases III and IV: Strengthening Phases

Evidence-based Treatment Principles during Phase I and Phase II (Klintberg et al, 2009)

1. Increase metabolic and aerobic capacity in healing tissues
2. Regain stability and normal patterns of the scapula
3. Restore correct thoracic posture and position of the scapula
4. Restore humeral head depression exerted by the RC*
5. Regain normal flexibility of the posterior capsule*
Phase I Rehabilitation: 

**Standard Program**

**Exercise Program:**
- Pendulum exercises
- Passive FF/Elevation scapular plane to 120°
- Passive ER to 30°
- Active Elbow→Hand

**Immobilization**
- Small tears: up to 3 weeks
- Large tears: up to 6 weeks

**Time frame:** 0-4 (6) weeks
- Pain Management
  - Cryotherapy 3-5x/daily
  - Heat pre-exercise after 2 weeks
- Edema Control

---

Phase 1: Pendulum and Forward Flexion
Pendulum and Forward Flexion

Pendulum Exercises

Small amplitude
- Therapist assisted at first
- Self-assisted when there is less internal rotation

Large amplitude require more force than desirable
Phase I External Rotation

Phase I:
External Rotation and Elbow
Phase 1: Scapular Exercises

Postural Training
Phase I: 
*Functional Program*

**Positioning**
- Use of Arm pillow during rest
- Rest and sleep

**Basic ADLs**
- Dressing strategies
- Hygiene/Sink bath strategies
- Toileting strategies

**Develop Sleep/Rest Routines**
Simple leisure tasks – iPad, Web browsing, Solitaire

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**Functional Program:**
*Forward Flexion, Circular Pattern*
Functional Program:
External Rotation Gravity Minimized

Phase II Rehabilitation
Standard Program

Exercise Program:
♦ Shoulder elevation > 120
♦ External rotation at 90 abd
♦ Stretching of IR and Adduc
♦ Submax resistance to RC
♦ Scapular stabilization

Grade II mobilization
Monitor/Assess for impingement signs

Time frame: weeks 6-8
Rehabilitative Goals:
♦ Restore normal AROM
♦ Achieve normal patterns of muscle recruitment

♦ Pain Management
♦ Hot and Cold Modalities
♦ Electrical Stimulation
Functional Program: Forward Flexion with Progression

Functional Program: Progressive Elevation
Functional Program: Progressive External Rotation

Range of Motion

*** Not for shoulder replacements ***

Stretching

BONDIC, ARABIT, & RUFFOLO (2017)
Phase II:
Scapular Rehabilitation
Phase II:
Stretching to Target Post-Inf Capsule

Stretching:
Consider structures with propensity for tightness or contractures!
Aerobics as warm up...
But caution if impingement is present...

Instead, try these...

ELLiptical machine

STAtionary bike
Phase II: Guiding Principles
Functional Program

Consider FIRST patient/client’s priorities
- Reports from COPM or PSFS
- Ongoing analysis of chosen activities/occupations

Problem-solving on ways to engage in pain-free activities
- Adapt/modify tasks
- Self-monitoring of signs

Empowerment, support and encouragement
- Giving permission vs. demanding compliance
- Offering choices

Initial Assessment:
I am going to ask you to identify up to three important activities that you are unable to do or are having difficulty with as a result of your ______ problem. Today, are there any activities that you are unable to do or having difficulty with because of your ______ problem? (Clinician: show scale to patient and have the patient rate each activity).

Patient-specific activity scoring scheme (Point to one number):

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to perform activity</td>
<td></td>
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</tbody>
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(Assessment score)

Activity | Initial
---|---
1. | 
2. | 
3. | 
4. | 
5. | 
Additional | 
Additional | 

Phase II: Functional Program

Apply Diagonal Patterns

D1 Extension

D2 Extension
Late Phase II: Scapular Rehabilitation - Protraction

http://www.in.gov/inshape/images/wallPushUp.jpg

Protraction

BONDIOC, ARABIT, & RUFFOLO (2017)

125

126
Late Phase II: Scapular Rehabilitation - Retraction

Retraction
Overhead Press

Phase III:
Scapular Rehabilitation
Phase III Rehabilitation

Plyometric Exercises
- T-Band Repetitive motion at end ranges
- Plyoback
- Body Blade
Questions?
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