Saint Louis University – SSM Health Physical Therapy Orthopedic Residency in Collaboration with Dr. Scott Kaar and Dr. Christopher Kim

| ral for Physical Therapy | | | |
|---------------------------|--------------|--------------|--------------|
| | SP | SLU | Care |
| | \bigcirc | Physici | an Group |
| Arthroplasty | | | |
| Total Duration: ~4 months | | | |
| | arthroplasty | Arthroplasty | Arthroplasty |

These guidelines, treatments, and milestones have been established to assist in guiding rehabilitation based on the most current available evidence. They are not intended to be substitute for sound clinical judgement with consideration of the individual contextual features of the patient and the demands of various functions/sports.

Pre-Physical Therapy / Home Therapy Phase (Approximately Weeks 0 – 2)

Milestone to advance to next phase: MD appointment for follow-up

Sling or immobilizer at all times¹ except to exercise, and shower/bathe Home program: perform minimum of 3 times/day: AROM cervical spine, elbow, wrist, hand

Initiation of mobility – Phase 1 (Approximately Weeks 2 – 6)

| Milestone to advance to next phase: | Passive ER to 30° |
|-------------------------------------|---|
| | Passive FF in scapular plane to 130° |
| | Discontinue use of sling or immobilizer |
| | Minimal pain and inflammation |

Suggested Interventions

Scar mobility, Diaphragmatic breathing, MLD of the UE for edema management $^{\rm 2-3}$ PROM

Recommended precautions:

Limit passive ER to 30°, horizontal abduction and extension to neutral⁴⁻⁶ Limit passive FF to the scapular plane Limit passive IR to the scapular plane

Aerobic conditioning⁷ Scapular retraction⁸

Progression Toward Functional ROM Phase 2 (Approximately Weeks 6-10)

| Milestone to advance to next phase: | Passive FF to 150° |
|-------------------------------------|---|
| | Passive ER to 60° |
| | Active supine FF to 90°, ER to 45° ⁹ |
| | Optimal humeral head control |
| | Minimal to no pain with light ADLs |

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Suggested Interventions:

Passive & Active assisted ROM¹⁰

Recommended precautions:

FF in scapular plane (wall slides⁸ wand exercises, pulleys)¹¹

ER (gentle beyond 30° to respect subscapularis healing)

FF AROM in supine

Manually resisted scapular side-lying stabilization exercises¹²

Initiate PNF patterning supported such as wall slides¹³

Isometrics:

Deltoid in neutral

ER (modified neutral) ROM < 30°

IR (modified neutral)

Aerobic conditioning including UBE⁷

Optimizing Functional Range of Motion/Early Strengthening Phase 3 (Approximately Weeks 10-16)

| Milestone to advance to next phase: | Axioscapular muscle strength grades 4/5 MMT Optimal scapulohumeral rhythm to 90° elevation Minimal pain and inflammation with application of the soreness rules ¹⁴ for intensity of exercise | | |
|--|--|--|--|
| Suggested Interventions | | | |
| Progress ROM as tolerated ¹¹ | | | |
| Uniplanar flexibility exercises into extension and internal rotation | | | |
| PNF patterning | | | |
| Recommended precaution: in supine or supported until week 12 ¹⁵ | | | |
| Isotonic strengthening: | | | |
| Emphasis on axioscapular muscles (scapular rows ¹⁶) | | | |
| Continued attention to humera progresses | al head control and scapulohumeral rhythm with as load | | |

Return to Full Function Phase 4 (Approximately Weeks 16 to Discharge)

Milestone to discharge:

Optimal ROM Full Independent ADLs Optimal scapulohumeral rhythm to > 120° elevation Home program with dosing per application of the soreness rules¹⁴ for intensity of exercise

Suggested Interventions

Flexibility exercises: towel stretch (IR), posterior capsule stretch Progressive resistive strengthening: Dumbbells Progressive resistive equipment Elastic band IR/ER

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For questions regarding the patient's medical care, new orders, or insurance questions please contact your physician's office directly.

For additional questions, comments, or concerns regarding the implementation of these physical therapy guidelines, please contact: Chris Sebelski, PT, DPT, PhD, OCS SLU SSM Health Physical Therapy Orthopedic Residency Program Director chris.sebelski@health.slu.edu. 314 977 8724

Please respond to our anonymous survey regarding these guidelines to assist in improving patient care

and advocacy. https://slu.az1.qualtrics.com/jfe/form/SV bpX7Z9AaVTzGblj



Appendices of referenced assessments

| Soreness Rules Adapted from Fees et al. 1998 ¹⁴ | | |
|--|---|--|
| Criterion | Action | |
| 1. Soreness during warm-up that continues | 2 days off, drop down 1 step | |
| 2. Soreness during warm-up that goes away | Stay at step that led to soreness | |
| 3. Soreness during warm-up that goes away from | 2 days off, drop down 1 step | |
| redevelops during session | | |
| 4. Soreness the day after lifting (not muscle | 1 day off, do not advance program to the next | |
| soreness) | step | |
| 5. No soreness | Advance 1 step per week or as instructed by | |
| | healthcare professional | |

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Saint Louis University – SSM Health Physical Therapy Orthopedic Residency in Collaboration with Dr. Scott Kaar and Dr. Christopher Kim

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