



Total Knee Arthroplasty Rehabilitation Guideline

This rehabilitation program is designed to return the individual to their activities as quickly and safely as possible. It is designed for rehabilitation following a Total Knee Arthroplasty. Modifications to this guideline may be necessary dependent on physician specific instruction or other procedures performed. This evidence-based Total Knee Arthroplasty is criterion-based; time frames and visits in each phase will vary depending on many factors- including patient demographics, goals, and individual progress. This guideline is designed to progress the individual through rehabilitation to functional activity participation. The therapist may modify the program appropriately depending on the individual's goals for activity following Total Knee Arthroplasty.

This guideline is intended to provide the treating clinician a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-operative care based on exam/treatment findings, individual progress, and/or the presence of concomitant procedures or post-operative complications. If the clinician should have questions regarding post-operative progression, they should contact the referring physician.

General Guidelines/ Precautions:

- Observe for signs of DVT or Infection (increased swelling, severe knee or calf pain, erythema, fever)
- Avoid torqueing or twisting motions of the knee
- Revisions TKA should be progressed with more caution to ensure adequate healing
- It is recommended to have assistance/supervision for **72 hours** post hospital stay
- Specific level of assistance will be determined on an individual basis
- Weight bearing per surgeon restriction
- Cautions with kneeling and running... Check with physician
- Additional equipment may be utilized as identified by the healthcare team (CPM, etc.)
- Lifetime restrictions of high impact activities.

Total Knee Arthroplasty Rehabilitation Guideline (expected D/C at 6-9 weeks)

Phase	Suggested Interventions	Goals/ Milestones for Progression
<p>Phase I</p> <p><i>Patient Education Phase</i> <i>Pre-op Phase</i></p>	<p><i>Discuss:</i> Anatomy, existing pathology, post-op rehab schedule, bracing, and expected progressions</p> <p><i>Instruct on Pre-op exercises:</i> Prospective joint replacement candidates may participate in pre-op education individually or class setting which includes instruction in:</p> <ul style="list-style-type: none"> -Home safety -Equipment recommendations -Pre-surgical LE exercises <p>Overview of hospital stay per region may include but not limited to:</p> <ul style="list-style-type: none"> -Nursing care -Therapy services -Pharmacy -Discharge planning 	<p><i>Goals of Phase:</i> 1. Understanding of pre-op exercises, instructions, and overall plan of care</p> <p><i>Criteria to Advance to Next Phase:</i> 1. Surgery</p>
<p>Phase II</p> <p><i>Inpatient/Acute Care Phase</i></p>	<p><i>Immediate Post-operative instructions:</i> Patient and family/coach education and training in an individual or group setting for:</p> <ul style="list-style-type: none"> -Safety with mobilization and transfers -Icing and elevation -HEP -Home modification -Use of compression as indicated by physician <p><i>Exercise Examples:</i> <u>Supine:</u> Ankle pumps, quad sets, hamstring sets, heel slides, short arc quad, straight leg raises, and hip Abduction <u>Seated:</u> Long arc quad and knee flexion <u>Stretches:</u> Knee extension stretch (either supine or seated) and knee flexion stretch seated (closed chain with body overpressure by scooting toward edge of chair)</p> <p><i>HEP:</i> 2 times per day in hospital and at home</p>	<p><i>Goals of Phase:</i> Measurable goals:</p> <ol style="list-style-type: none"> 1. 5-90 degrees knee AAROM 2. Antigravity quad strength with SAQ/TKE <p>Functional goals:</p> <ol style="list-style-type: none"> 1. SBA transfers 2. SBA bed mobility with or without leg lifter 3. SBA Ambulation household distances with Appropriate AD 4. CGA stair negotiation with appropriate AD 5. Min A for car transfer with or without leg lifter 6. SBA for bathing 7. SBA for dressing with or without adaptive equipment 8. SBA for shower transfer with appropriate modification 9. SBA for toilet transfer with appropriate modification <p><i>Criteria to Advance to Next Phase:</i> 1. Discharge from acute care setting</p>

<p>Phase III</p> <p><i>Protected Motion & Muscle Activation Phase</i></p> <p>Weeks 0-3 Expected visits: 4-6</p>	<p><i>Specific Instructions:</i></p> <ul style="list-style-type: none"> -Complete Knee Outcome Measure (WOMAC or KOOS JR.) <p><i>Suggested Treatments:</i></p> <ul style="list-style-type: none"> ROM: Passive and AAROM as tolerated Manual Therapy: Patellar and tibiofemoral mobilizations Stretching: Knee extension & flexion (supine & sitting) Modalities as indicated: Edema controlling treatments <li style="text-align: center;">NMES or Biofeedback for quad control <p><i>Exercise Examples:</i></p> <ul style="list-style-type: none"> -Continue quad sets and SAQ -Progressive knee flexion (heel slides with toe tapping) -Nustep and/or stationary bike -Standing SLR in 4 directions -Supine/seated static knee extension and/or Prone leg hangs -Balance/proprioceptive retraining -Hip strategy exercises (i.e. clam, side lying hip abduction, bilateral/unilateral bridge) -Closed kinetic chain activities (standing theraband, terminal knee extension, static single limb stance) <p><i>Gait training:</i></p> <ul style="list-style-type: none"> -Continue gait/stairs training, reinforce normal gait mechanics -Progress to cane in controlled environments when patient has adequate quad control <p><i>Other Activities:</i></p> <ul style="list-style-type: none"> -Scar mobilization if incision is healed -Elevation and ankle pumps for swelling 	<p><i>Goals of Phase:</i></p> <ol style="list-style-type: none"> 1. Provide environment for proper healing of incision site 2. Demonstrate good quad control with < 5 degree lag 3. AROM (5-100 degrees) – supine position, slightly increase 4. Minimal gait deficient with least restrictive gait aid. 5. Non-restrictive scar for allowing functional ROM 6. Minimal knee joint swelling for allowing functional ROM <p><i>Criteria to Advance to Next Phase:</i></p> <ol style="list-style-type: none"> 1. Controlled swelling 2. Adequate quad control 3. Safe ambulation with assistive device 4. Control of post-operative pain (0-3/10 with ADL's)
<p>Phase IV</p> <p><i>Motion & Strengthening Phase</i></p> <p>Weeks 3-6 Expected visits: 3-6 Total visits: 7-12</p>	<p><i>Specific Instructions:</i></p> <ul style="list-style-type: none"> -Continue with previous exercise program -May complete 6-min Walk Test or Stair Climbing Test if appropriate -Driving – Any questions should be directed to physician <p><i>Suggested Treatments:</i></p> <ul style="list-style-type: none"> ROM: Progressive ROM program (0-110) Manual Therapy: Continue with patellar and tibiofemoral mobilizations Stretching: Continue knee extension & flexion (supine & sitting) Modalities Indicated: Edema controlling treatments if appropriate <p><i>Exercise Examples:</i></p> <ul style="list-style-type: none"> -Continue above exercises as appropriate -Sit to stand exercise/mini squats with theraband -Side stepping with theraband 	<p><i>Goals of Phase:</i></p> <ol style="list-style-type: none"> 1. Reduction of post-operative swelling and inflammation (no to trace effusion) 2. AROM (0-110 degrees) – supine position, slightly increase 3. Normal gait mechanics with or without assistive device <p><i>Criteria to Advance to Next Phase:</i></p> <ol style="list-style-type: none"> 1. Minimal to no gait deviations

	<ul style="list-style-type: none"> -Knee Stability/Proprioception exercises -Incorporate single limb exercises (emphasize eccentrics) -Forward/lateral step-ups, step downs (with proper mechanics, ie. avoiding contralateral pelvic tilt / dynamic valgus) -Leg extension – try to eliminate extension lag -Leg press <p>Gait training:</p> <ul style="list-style-type: none"> -Reinforce normal gait mechanics – equal step length, equal stance time, Heel to toe gait pattern, etc. -Ambulate without an assistive device in controlled environment and progress as appropriate <p>Other Activities:</p> <ul style="list-style-type: none"> -Initiate hydrotherapy program if incision is healed and appropriate -Soft tissue mobilization techniques for pain management & ROM 	
<p>Phase V <i>Advanced Movement and Strengthening Phase</i></p> <p>Weeks 6-9 Expected visits: 1-2 Total visits: 8-14</p>	<p>Specific Instructions:</p> <ul style="list-style-type: none"> -Complete outcome measure (WOMAC or KOOS) -May complete 6-min walk test (60 m change significant) -May complete Stair Climbing Test (5.5 s change is significant) <p>Suggested Treatments:</p> <p>ROM: Progressive ROM program (0-120) Manual Therapy: Continue with patellar and tibiofemoral mobilizations Modalities: If appropriate</p> <p>Exercise Examples:</p> <ul style="list-style-type: none"> -Continue with exercises as above with progression of resistance and repetitions -Agility exercises as appropriate (sidestepping, retro walking, braiding) <p>Other Activities:</p> <ul style="list-style-type: none"> -Continue Aquatic program - including pool exercises and walking 	<p>Goals of Phase:</p> <ol style="list-style-type: none"> 1. AROM 0-120 degrees 2. Reciprocal ascend/descend stairs independently <p>Criteria to Advance to Next Phase:</p>
<p>Phase VI <i>Return to Activity phase</i></p> <p>Weeks 9+ Expected visits: 0-1 Total visits: 9-15</p>	<p>Exercise Examples:</p> <ul style="list-style-type: none"> -Continue progression of above exercises as appropriate <p>Other Activities:</p> <ul style="list-style-type: none"> -Initiate return to specific recreational activities (i.e. golf, progressive walking or biking program) 	<p>Suggested Criteria for Discharge:</p> <ol style="list-style-type: none"> 1. Independent non-antalgic gait 2. Return to pain-free activities 3. Normal lower extremity strength 4. AROM 0-120

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