

Total Knee Arthroplasty (Replacement) Rehabilitation Protocol

Time	Precautions	Goals	Recommended Exercises
Phase 1: Day 1 – Hospital D/C	<ul style="list-style-type: none"> WBAT with crutches or walker unless otherwise ordered by MD Screen for DVT Screen for sensory/motor deficits 	<ul style="list-style-type: none"> Control pain and swelling ROM: knee flexion to at least 90°, knee extension 0° Establish LE muscle activation Restore independent functional mobility 	<u>ROM</u> <ul style="list-style-type: none"> P/AA/AROM knee flexion and extension Heel slides Ankle pumps <u>STRENGTH</u> <ul style="list-style-type: none"> Quad/glut/hamstring sets Hip Abd/Add LAQ Seated Hip Flexion SLR (NO lag) <u>FUNCTIONAL MOBILITY</u> <ul style="list-style-type: none"> Gait training with appropriate assistive device on level surfaces Transfer training Stair training <u>POSITIONING (when in bed)</u> <ul style="list-style-type: none"> Towel roll under ankle to promote knee extension Trochanter roll to maintain hip neutral rotation and promote knee extension Never place anything under the operated knee
Phase 2: Hospital D/C – 6 weeks	<ul style="list-style-type: none"> WBAT with crutches or walker, progressing to cane, then weaning all devices as appropriate Monitor for proper wound healing Monitor for signs of infections Monitor for increased swelling 	<ul style="list-style-type: none"> ROM: 0 to at least 100° Normalize all functional mobility Wean all assistive devices Begin to restore LE strength, especially quads Initiate proprioceptive training Initiate endurance training 	<u>ROM</u> <ul style="list-style-type: none"> Continue with all phase 1 exercises Heel slide with towel Prone knee flexion Heel prop and/or prone knee hang to promote full extension Initiate stationary biking <u>Joint Mobilizations and Stretching</u> <ul style="list-style-type: none"> Initiate patellofemoral and tibio-femoral joint mobilizations as indicated Initiate hamstring, gastroc/soleus, and quadriceps stretching <u>Strengthening</u> <ul style="list-style-type: none"> Quad/glut/ham sets Use NMES to quads if poor quad recruitment in noted SLR without lag, adding resistance towards the end of this phase Hip abduction/ adduction/ extension against gravity, adding resistance towards the end of this phase Closed chain exercises (TKEs, mini-squats, step ups, mini-lunges) by the end of this phase <u>Proprioception</u> <ul style="list-style-type: none"> Single leg stance <u>Functional Mobility</u> <ul style="list-style-type: none"> Gait training with appropriate device emphasizing normal gait pattern Stair training with appropriate device



Physical therapy protocols, post-operative instructions, and other information can all be accessed at any time at www.frantzorthopedics.com

<p>Phase 3: 6-12 weeks</p>	<ul style="list-style-type: none"> • Avoid high impact activities • Avoid activities that require repeated pivoting/ twisting 	<ul style="list-style-type: none"> • Maximize knee ROM • Restore normal LE strength, especially normal quad function • Return to baseline functional activities 	<p><u>ROM</u></p> <ul style="list-style-type: none"> • Continue phase 1 and 2 exercises <p><u>Joint Mobilizations and Stretching</u></p> <ul style="list-style-type: none"> • Continue with phase 2 activities as indicated <p><u>Strengthening</u></p> <ul style="list-style-type: none"> • Continue with phase 2 exercises, increasing resistance as tolerated • Add resistance machines as appropriate (leg press, hamstring curl, 4-way hip) <p><u>Proprioception</u></p> <ul style="list-style-type: none"> • Single leg stance • Static balance on Bosu/wobble board/foam/etc • Add gentle agility exercises (i.e. tandem walk, side stepping, karaoke, backwards walking) <p><u>Endurance</u></p> <ul style="list-style-type: none"> • Biking program, adding mild to moderate resistance as tolerated • Begin walking program
<p>Phase 4: 12 weeks and beyond</p>	<ul style="list-style-type: none"> • Avoid high impact, and contact sports • Avoid repetitive heavy lifting 	<ul style="list-style-type: none"> • Continue to improve strength to maximize functional outcomes • Work with PT and MD to create customized routine to allow return to appropriate sports/ recreational activities (i.e. golf, doubles tennis, cycling, hiking) 	<p><u>ROM</u></p> <ul style="list-style-type: none"> • Continue daily ROM and stretching exercises <p><u>Strengthening</u></p> <ul style="list-style-type: none"> • Continue with all strengthening exercises increasing resistance and decreasing repetitions <p><u>Proprioception</u></p> <ul style="list-style-type: none"> • Continue with all phase 3 exercises, increasing difficulty as tolerated <p><u>Endurance</u></p> <ul style="list-style-type: none"> • Continue with walking, biking, elliptical machine programs <p><u>Functional Progressions</u></p> <ul style="list-style-type: none"> • Activity/sport-specific training exercises

- Table and protocol taken from South Shore Health (<https://southshoreorthopedics.com/wp-content/uploads/2019/10/TKA-Protocol-2019.pdf>)



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