

## Total Knee: Part 2

Post-operative rehabilitation of a patient with total knee replacement plays an extremely important role in the patient's return to normal function. It is vital that the patient play an **active** role in the rehabilitative process from in-patient initial assessment and treatment to the formal outpatient physical therapy (PT) setting. As an inpatient, initial assessments in functional mobility are completed. This assessment includes early ambulation (walking), bed exercises as well as stair training. Early ambulation and mobility assessment focuses on preventing post-operative complications of deep vein thrombosis (DVT) and pneumonia. After successful completion of inpatient PT the patient usually completes either 2-3 weeks of home health PT or continued post-surgical rehab at a rehabilitation facility where functional mobility in the home environment is stressed. Upon release from home health PT or a rehabilitation facility, the patient is referred for formal outpatient physical therapy.



The primary focus of formal outpatient physical therapy is to regain normal end range of motion (the ability to fully extend and flex the joint) as well as regain functional strength of the surrounding muscles (quadriceps, hamstrings as well as lateral hip). It is important the patient is not only focused on regaining range of motion but **maintaining** that motion gained on a daily basis. Factors such as changes in activity level and excessive weight bearing (prolonged walking and standing) can cause the knee to swell and become stiff. Consistent performance of home exercise programs focusing on flexibility and strength is crucial for positive outcomes. Regaining full functional range of motion should be attained in the first three to four weeks of outpatient PT (this would be approximately five to six weeks post-surgery). The typical length of formal outpatient PT last from two to three months depending upon the attainment of goals reached in therapy.

Regaining normal strength and balance of the operative knee is crucial for regaining full function during activities of daily living. Good quadriceps strength emphasizes the extension mechanism needed to walk without a limp. Full quad extension needed when the patient places the foot on the ground (heel-strike) to provide stability needed to transfer body weight onto the lower extremity. Without full, terminal knee extension the knee is not stable and the patient feels as if they are "stepping in a hole" or that their knee is "giving way". Higher level activities such as stair-climbing with a reciprocal gait sequence (an alternating gait pattern, one leg after the other) with good safety are addressed in the outpatient setting. Performing such activities requires good strength and balance of the operative limb. Other activities to challenge balance include functional squatting and single limb balancing in functional scenarios applicable to the patient lifestyle. A good comprehensive rehabilitation program where the patient takes an active role (from HEP to attending outpatient PT) is vital for the patient's regaining full functional ability following a total knee replacement.

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