REHABILITATION GUIDELINES FOR TOTAL KNEE REPLACEMENT

PHASE I (*0-2 WEEKS*) DATES:

Appointments	• **Begin outpatient physical therapy within 3-5 days of surgery** • **PT 2x/week**
Rehabilitation Goals	• Active quadriceps muscle contraction • Safe isometric control for ambulation • **Passive knee ROM 0-90°, gain full extension ASAP, okay to push aggressively to tolerance to increase ROM** • Control swelling, inflammation, and protect incision
Precautions	• WBAT- wean from walker to crutches to cane; avoid torque or twisting forces • Safe transfers • Micro current dressing to stay on (and dry) until first post op visit with PA at 14 days • Use of continuous passive motion (CPM) machine is not standard care at Mammoth Hospital. Use will only be indicated if MD deems appropriate in special circumstances • Observe for signs of DVT or infection • Patient education to avoid putting a pillow under the knee, emphasize extension
Suggested Therapeutic Exercises	• Ankle pumps with leg in elevation, quad sets, passive knee extension, AAROM knee flexion, SAQ, TKE, gentle hamstring sets, hamstring stretching, calf stretching, sit to stands, patella mobilizations • Exercises to promote WB quad control • NMES for quad disuse/atrophy PRN
Cardiovascular Exercises	• Short crank stationary bike if ROM is available, begin with partial revolutions and progress to full revolutions as able
Progression Criteria	• Quad control, able to perform SLR without lag • ROM 0-90° • Minimal pain or swelling

	• Independent ambulation/transfers

PHASE II (*2-6 WEEKS*) DATES:

Appointments	Continue physical therapy 2-3 x week based on ROM progression
Rehabilitation Goals	• **ROM 0-120° flexion, okay to push aggressively to tolerance to increase ROM** • Enhance muscular strength/endurance • Dynamic joint stability • Diminish pain and swelling • Establish return to functional activities • Improve general health
Precautions	• WBAT- wean from assistive devices when patient has adequate strength and balance • No flexion past 130° degrees • Status reports at 5 weeks- if 0-120° of extension/flexion will not be achieved by week 6, MUA is considered; after 6 weeks arthrofibrosis may require arthroscope versus MUA
Suggested Therapeutic Exercises	• Continue phase 1 exercises progress according to patient tolerance and functional needs • Hamstring curls, TKE vs band, mini squats, stretching HS, quad, gastroc, soleus, knee extension stretching, perturbation exercises if stability is present, front and lateral steps up at minimal height, ¼ front lunge • Balance and stability progressions
Cardiovascular Exercises	• Can start regular stationary bike once patient has available ROM (110deg), begin with partial revolutions and progress to full as able, no or minimal resistance • Walking • Swimming or aquatic therapy if incision is fully closed
Progression Criteria	• ROM 0-120° flexion • Good voluntary quad contraction in standing • Independent ambulation • Minimal pain/inflammation

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PHASE III (*6-12 WEEKS*) DATES:

Appointments	Physical therapy 2 x week
(Phase III continued) Rehabilitation Goals	• Progression of ROM to 130° max • Good patella femoral mobility • Enhancement of strength and endurance • Eccentric/concentric control of the limb • Cardiovascular fitness • Functional activity performance
Precautions	• Do not push motion greater than 130° especially with weight bearing/squatting
Suggested Therapeutic Exercises	• Continue all exercises in phase II • Initiate progressive walking program, lunges, step ups, ½ squats, emphasize concentric and eccentric strength, begin work on transfers from floor to standing • Progress balance/proprioception, uneven surfaces, perturbation, core and hip strength
Cardiovascular Exercises	• Stationary bike • Walking • Swimming or aquatic therapy if incision is fully closed
Progression Criteria	• Full non painful ROM 0-130° • Strength 4+/5, good eccentric control • Minimal to no swelling and pain

PHASE IV (*3-5 MONTHS*) DATES:

Appointments	• Physical therapy 1-2 times per week prn • progress to HEP based program at therapist's discretion
Rehabilitation Goals	• Return to prior level of function • Enhance strength and endurance • Allow selected patients to return to advanced activity

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Precautions	• Do not push motion greater than 130 especially with weight bearing/squatting
(Phase IV continued) Suggested Therapeutic Exercises	• Continue with progression of exercises for eccentric quad control • Integrate return to golf, tennis, hiking, cardiovascular program • Advance balance and proprioception
Cardiovascular Exercises	• Bike riding • Walking • Swimming

References: Dr. Karch's TKA protocol from 2015, Brigham and Women's Hospital TKA protocol

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