# REHABILITATION GUIDELINES FOR TOTAL KNEE REPLACEMENT

## PHASE I (0-2 WEEKS)

<table>
<thead>
<tr>
<th>Appointments</th>
<th>Begin physical therapy 3 x week for the first 2-4 weeks</th>
</tr>
</thead>
</table>
| Rehabilitation Goals | • Active quadriceps muscle contraction  
• Safe isometric control for ambulation  
• Passive knee ROM 0-90°  
• 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 7 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, SLR, TKE, gentle hamstring sets, hamstring stretching, calf stretching, patella femoral mobilizations  
• NMES for quad disuse/atrophy PRN  
• Day 5-14: add hip ABD/ADD, knee extension 90-0° if available |
| Cardiovascular Exercises | • Short crank stationary bike if ROM is available, begin with partial revolutions and progress to full revolutions as able |
| Progression Criteria | • Leg control, able to perform SLR without lag  
• ROM 0-90°  
• Minimal pain or swelling  
• Independent ambulation/transfers |
# REHABILITATION GUIDELINES FOR TOTAL KNEE REPLACEMENT

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

<table>
<thead>
<tr>
<th>Appointments</th>
<th>Continue physical therapy 2-3 x week</th>
</tr>
</thead>
</table>
| **Rehabilitation Goals** | - ROM 0-120° flexion  
- 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 125-130° degrees  
- Status reports at 5 weeks - if 120° of 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  
- Hamstring curls, ¼ 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, 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  |

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

| Appointments | Physical therapy 2 x week |
### REHABILITATION GUIDELINES FOR TOTAL KNEE REPLACEMENT

**Phase III continued**

#### Rehabilitation Goals
- Progression of ROM to 125° 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 125° 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 0-125°
- Strength 4+/5, good eccentric control
- Minimal to no swelling and pain

**Phase IV (3-5 Months)**

| Appointments | · Physical therapy 1-2 times per week  
| · 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 |

| Precautions | · Do not push motion greater than 125 especially with weight bearing/squatting |
### 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

PT name and date: Ariel Duvall 8/26/16
MD name and date: Karch 8/26/16