

## **Total knee replacement protocol Phase preoperative**

1. Instruct patient on lower limb exercise including in postoperative handout.
2. Assess level of muscle power for lower limb, especially knee extensor.
3. Assess level of muscle power for upper limb to ensure ,the patient has good muscle power for using walker.
4. Assess pre- operative baseline for ambulation ,transfers, and bed mobility .
5. Ensure patient education.

### **Phase :hospital stay post –opGoals:**

1. Active knee flexion to 90 degree or greater.
2. Full passive knee extension.
3. Safe independent ambulation with assistive device.
4. Control of pain swelling ,pain, infection.

### **1st week**

#### **1st day**

1. Crayotherapy for 20 min.
2. Correct position on bed (towel roll under lower calf for relief of heel pressure and allow some knee extension- no pillow under knee.

### 3. Therapeutic exercise

- a) Patella mobilization.
  - b) Ankle pumps ,quad sets.
  - c) SLR with or without support.
  - d) Achieve max. knee ROM on sliding board to reach max knee flexion as possible.
  - e) Knee extension from sitting.
  - f) Trumenal full knee extension.
  - g) Hamstring stretching
  - h) Hip abduction from supine and using board if patient unable to abduct leg.
4. Weight bearing by physician order. Initial ambulation using assistive device continues wearing knee brace until achieve good control of quad.

### **2nd day**

1. Continue exercise program as day 1.
2. Ambulate with assistive device as tolerate .

### **3rd day**

1. Same protocol as second day.
2. Stairs as ascending with sound knee ,descending with operated knee.
3. Closed chain exercise as tolerated.
4. Avoiding sitting with knee flexed over 30 min.

#### **4th & 5th day**

1. Same protocol as 3rd day.
2. Weight shifting with hip flexion.
3. Encourage patient to walk as tolerate .

#### **Discharge criteria**

1. Walking for more than 15 m.using walker with supervision of caregiver.
2. Independent with transfers needed only supervision.
3. 90-0 active ROM or expected to achieve this independently.
4. Muscle power about 5/3.
5. Patient /watcher understand home exercise programmed.

#### **After discharge**

##### **Long term goal**

- To improve ROM. Knee flexion (120 or more)knee extension (0-10).
- Short quad.arc.
- Enhance muscle strength, endurance .
- Decrease swelling.
- To be independent sit to stand.
- Independent function activity walking, stairs.

#### **(4-2week)**

- Appointment as possible .
- Increase resistance gradually.
- Terminal knee extension.
- Knee flexion up to 120 or more.
- Cryotherapy as needed.
- Bicycle as patient tolerates.
- Propositions exercise.

#### **(8-4 week)**

- Patient should continuous weight program.
- Walking on treadmill as tolerate.
- Bicycle as tolerate.
- Walking can increased according patient tolerated.
- Walking independent without support.

#### **Patient discharge from out patient if he had:**

- No pain or mild pain.
- ROM about 120 or more.
- MP is good.
- Patient can walk with no or mild limping unless it is caused by reason other than TKR.

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