Total Knee Replacement Protocol

Applicability: Physician Practice	**Date Effective:** 12/2016
Department: Rehabilitation Services	**Date Last Reviewed / or Date Last Revision:**10/2017
Supersedes: Total/Uni Knee Replacement Protocol (Dr. Beattie)	
Administration Approval: Amy Putnam, VP Physician Services	

Purpose: Define the protocol to be followed for all patients referred from Northwestern Orthopedics after the above procedure has been performed.

Policy Statement: Treatment will follow the defined protocol below and be carried out by Physical Therapist, Athletic Trainer and/or Physical Therapy Assistants. Individual circumstances may result in variations of the information below.

Background: N/A
Definitions: N/A
Procedure:

<u>Acute Care POD 0 – 3</u>
Acute Care Physical Therapy begins on day of surgery or Post op day #1 (dependent on anesthesia and patients motor control). Frequency 2x/day

Goals: Knee ROM 0-90
Edema education
Safe bed mobility, transfers & ambulation for discharge
Patient education- Cryocuff, HEP, quadriceps contraction, frequent walking, prevent blood clots, use of sequential compression devices (whenever not up ambulating).

Edema Control:
Ice/Cryocuff/Elevation
Gait:
Expectation that patients are in a chair for breakfast and lunch
Ambulation with walker, cane or appropriate assistive device
Stair training performed on POD#1 or POD#2
Exercises:
(see attached copy at end of document)

Education:
Cryocuff, Home Exercise Program, Frequent Walking

Preventing Blood Clots- Most patients will qualify for the simple use of a baby aspirin and home Venopros (sequential compression device) for prevention of blood clots. Some patients that are at a higher risk of getting a blood clot will require the compression wraps and the use of a medicine called an anticoagulant (blood thinner). Everyone should gently (but frequently) exercise your calf, foot, and ankle muscles to prevent blood clots. Exercise your toes as often as possible. It is quite common to experience some mild to moderate pain at the operative site when you do this. It hurts less if you move your ankles slowly but frequently(every 15 minutes while awake), do ankle pumping exercises, pulling the foot up and pointing it down. The home venapros should be used for the first 30 days after discharge. These will be worn whenever you are not up ambulating. The more you start to move around the better. Getting up for frequent short periods is better than getting up for one long period. You should always be wearing the venopros at night when going to bed and whenever you are not up walking.

Phase One (Post Op Day 4 to Post Op Week 4)

Outpatient physical therapy will begin on land and/or in the aquatic environment depending on physician direction and/or patient request. Aquatic PT can be considered once the incision is fully healed. Average frequency 2x/wk variations pending objectives & functional status.

Goals: Control edema - <2cm difference to uninvolved knee
Full knee extension
Gradually increase knee flexion 0-110
Independent quadriceps control evident by strong SLR without lag
Independent with ADLs individualized to patient

Edema Control:
Ice/Cryocuff/Elevation
Home Venapros
Tensogrip (compression)/kinesiotape
ESTIM
Aquatic Therapy

Dressing change:

Aquacell AG dressing is removed at post op day 7-10 and then using good sterile technique, the wound is cleansed with an antiseptic and a new Aquacell AG dressing is re-applied with the knee in 30-40 degrees of flexion. Leave the dressing in place an additional 7 days and then leave open to air. If incision is still draining re- apply Aqua cell AG until no drainage. The dressing should always be applied with the knee in 30-40 degrees of flexion. Patients may shower but cover the dressing with plastic to keep the dressing dry. Patients should not soak in bathtub, hot tub or pool until incision is healed, at least 2 weeks after surgery. If the therapist or patient note wound problems such as progressive redness, pain, swelling, heat, and in particular drainage or fever, call the orthopedic office at (802) 524-8915

Gait:
Independent with ambulation without an antalgic gait with or without cane.
Independent negotiating stairs with or without an assistive device

Initial focus on household environment, progressed to community environment.

Exercises:
Progression of ROM as tolerated
Bicycle (partial revolutions progressed to full revolutions)
Patellar Mobilizations
Progression of acute care home program (available at end of this document)
Progressive Resisted Exercises, open/closed chain activities as tolerated
Functional strengthening

Phase Two Weeks 4 +

Frequency 1-2x/wk to 1x/every other week with tapered frequency until goals are met or patient plateaus. (Average time 4–12 weeks). Documentation to justify variations pending objectives & functional status. NMC Physical Therapy will recommend that patients utilize our 'open gym' for continuation of non-skilled exercises developed by the therapist.

Goals:

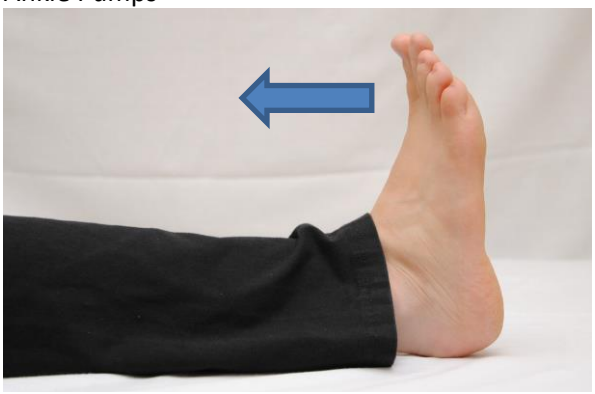
AROM > or = 0-120 degrees
MMT > or = 4+/5 LE strength with patient specific functional activities
Good proprioception with patient specific functional activities
Independent gait without an assistive device (if safety allows) on uneven surfaces
Independent negotiation of stairs, reciprocal gait pattern without rail/cane if safe
Independent driving if applicable

Exercises:

Progressive Resistive Exercises
Functional Strengthening
Proprioceptive Training/Neuromuscular Re-education

Acute Care Exercise Program that patient is discharged with:

Ankle Pumps

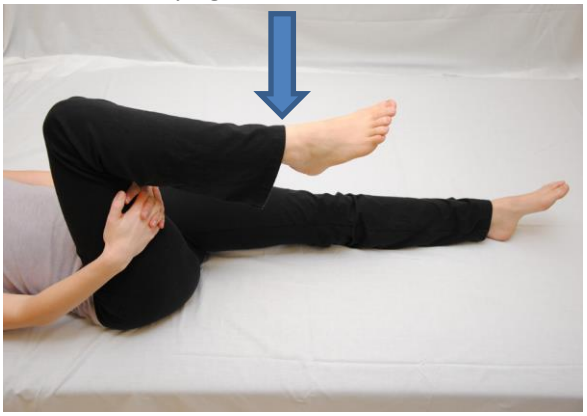


Seated Knee Flexion

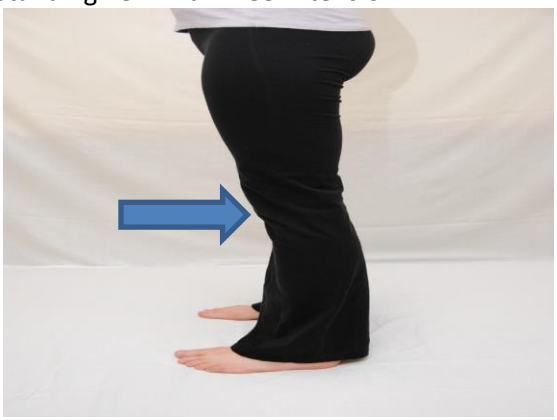
Quadricep Sets

Supine Knee Flexion

Knee Flexion Lying Down



Standing Terminal Knee Extension



Straight Leg Raise

Note Well: Variances will be communicated by the surgeon directly to Rehabilitation Services.
Monitoring Plan: Rehab Chart Audit
Related Policies: N/A
References: N/A
Reviewers: Rehab and Ortho

A. **Key Stakeholders:** Michael Barnum, Ortho Medical Director
B. **Committees: N/A**
C. **Key Process Owner (KPO):** Kristy Cushing, Manager Rehab Services. Karen Staniels Director of Ortho and Rehab

Not part of policy: **[ADD Key words for policy search if end user didn't know the name]**