



High Tibial Osteotomy and Anterior Cruciate Ligament Reconstruction Rehabilitation Program

PHASE I – Immediate Postoperative Phase (Day 1-5)

Goals:

- o Diminish swelling/inflammation (control hemarthrosis)
- o Diminish postoperative pain
- o Initiate voluntary quadriceps control
- o Independent ambulation

• Brace:

o Brace for ambulation only (POD 1 to Week 6)

• Weight Bearing:

o As tolerated with two crutches (approx. 50% WB)

• Swelling/Inflammation Control:

- o Cryotherapy
- o Compression bandages
- o Elevation and ankle pumps

• Range of Motion:

- Full passive knee extension
- o Flexion to 45° (day 1-4)
- o Flexion to 60° (day 5)
- o PROM and gentle AAROM only

Flexibility:

- Hamstring and calf stretches
- o PROM/AAROM with ROM limitations

PHASE II – (Weeks 2-4)

• Goals:

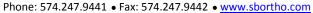
- Control swelling and pain
- o Promote healing of realignment tibial tuberosity
- Quadriceps strengthening

• Brace:

- o Continue brace for ambulation only
- o Discontinue brace (week 8)

• Weight Bearing:

- o Unlock brace for ambulation (week 4)
- o Non-weightbearing x6 weeks
- o Partial weightbearing 6-8 weeks
- o Discontinue crutches (week 8)





• Swelling/Inflammation:

- o Continue use of cryotherapy
- Compression bandage
- o elevation

• Range of Motion:

- o PROM/AAROM exercises
- o ROM 0-75° (week 1-3)
- o ROM 0-90° (week 4)

• Muscle Retraining:

- o Electrical muscle stimulation to quads
- Quad setting isometrics
- o Straight leg raises (flexion)
- o Hip adduction/abduction
- Hip extension
- o GENTLE submaximal isometric knee extension
- o Week 4
 - Light leg press
 - Vertical squats (no weight)

• Flexibility:

o Continue hamstring, calf stretches

Phase III – Subacute Phase "Motion" Phase (Week 5-8)

• Goals:

- o Gradual improvement in ROM
- o Improve muscular strength and endurance
- Control forces on extension mechanism

• Weight Bearing:

- o One crutch (week 4-6)
- o Discontinue crutch (week 6)

• Range of Motion:

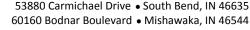
- o PROM 0-115°
- o PROM 0-125°
- o PROM 0-125/135°

• Exercises:

- o Continue electrical muscle stimulation to quadriceps
- Quadriceps setting isometric
- o Hip adduction, abduction, and extension
- Vertical squats
- o Leg press
- o Knee extension light $(0--60^{\circ})$
- o Bicycle (week 6-8)
- o Pool program [walking, strengthening (when able)]

Flexibility

o Continue all stretching exercises for LE





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Phase IV – Strengthening Phase (Weeks 9-16)

• Criteria to Progress to Phase IV

- o ROM at least 0-115 degrees
- o Absence of swelling/inflammation
- o Voluntary control of quads

• Goals:

- Gradual improvement of muscular strength
- Functional activities/drills

• Exercises:

- \circ ½ vertical squats (0---60°)
- o Wall Squats (0---60°)
- o Leg press
- o Forward lunges
- o Lateral lunges
- o Lateral step-ups
- \circ Knee extension (60°-0)
- o Hip adduction/abduction
- o Bicycle
- o Stairmaster

Phase V – Return to Activity Phase

• Criteria to enter Phase V

- o Full non-painful ROM
- o Appropriate strength level (80% or greater for contralateral leg)
- o Satisfactory clinical exam

Goals:

o Functional return to specific drills

• Exercises:

- o Functional drills
- o Strengthening exercises
- o Flexibility exercises