



Knee High Tibial Osteotomy (HTO)

Ryan W. Hess, MD
PCC: Tracey Pederson
Office: (763) 302-2223
Fax: (763) 302-2401

- Phase I – Immediate Post Surgical Phase (Week 0-2)
 - Goals:
 - Maintain integrity of repair
 - Gradually increase PROM
 - Decrease pain and inflammation
 - Prevent muscular inhibition
 - Cryotherapy for pain/inflammation
 - Ice 15-20 minutes every hour
 - Sleeping
 - Sleep in brace/knee immobilizer
 - Weight Bearing
 - TTWB with crutches in hinged brace x 6 weeks post op
 - ROM
 - Flexion to 90 degrees, gentle AAROM only
 - Okay to come out of brace for PT
 - Muscle Retraining
 - Quadriceps isometrics, SLR
- Phase II – Protection Phase (Week 2-6)
 - Goals
 - Allow healing of soft tissue/bone
 - Do not overstress healing tissue
 - Gradually increase ROM
 - Progression based on swelling/inflammation and guidelines below
 - Decrease pain and inflammation
 - Brace
 - Continue hinged brace until cleared by Dr. Hess
 - Locked in extension for ambulation for 6 weeks post op
 - Weight bearing
 - Continue TTWB
 - Can sleep without hinged brace after first 2 weeks if comfortable
 - ROM guidelines (PROM, AAROM)

- 0-120 degrees by week 6
 - E-stim to quads
 - Quad isometrics
 - SLR
 - Gentle, submaximal isometric knee extension
- Phase III – Intermediate Phase (Week 6-9)
 - DO NOT begin intermediate phase until cleared by Dr. Hess (usually with radiographic healing of osteotomy)
 - Goals
 - Gradual improvement in ROM
 - Eliminate swelling
 - Control forces on extensor mechanism
 - Weight bearing
 - When cleared by Dr. Hess based on xray, may discontinue knee brace and wean crutches
 - ROM
 - As tolerated. Goal full ROM by end of week 6
 - Continue quadriceps strengthening
 - Continue above exercises
 - Bicycle
 - May begin pool program
- Phase IV –Strengthening Phase (Week 9-16)
 - Goals
 - Maintain full ROM
 - Improve limb strength and endurance
 - Gradual return to functional activities
 - Criteria to progress to Phase IV
 - Full, non-painful ROM
 - Absence of swelling/inflammation
 - Voluntary control of quads
 - Continue above exercises
 - Wall squats
 - Knee extension
 - Progress to functional drills as tolerated
 - Begin sport specific drills as appropriate
- Phase V –Return to Activity Phase (Week 18-24)
 - Goals
 - Gradual return to strenuous work activities
 - Gradual return to recreational sports activities
 - Criteria to progress to Phave V
 - Appropriate strength level/Clinical exam

