

## Advanced Orthopedics and Sports Medicine

### ACL reconstruction-Treatment Parameters based on Graft type

#### I. Graft Type: Patellar Tendon (accelerated rehab protocol: Wilk et al)

- WB status: Progression to FWB without crutches by 10-14 days
- Post-op brace: Immobilizer locked at 0° ext during ambulation for 2-3 wks
- PROM/AROM
  - 0°-100° PROM in wk 1
  - 0°-115° PROM in wk 3
  - 0°-125° AROM by wk 10.
- Strength/Proprioception: Isometric knee extension, CKC and proprioception exercises wk 1. PRE extension as of wk 2.
- Gradual return to sports: 16-22 weeks

#### II. Graft Type: Hamstring tendon (Modified from Wilk, Howell and Taylor)

- WB status: Progression to FWB without crutches 2 wks-6 wks
- Post-op brace: Brace locked at 0° ext for ambulation to wk 3, unlocked to 0°-125° until wks 4-7 wks
- PROM/AROM:
  - 0°-90° PROM wk1
  - 0°-105° PROM wk 2
  - 0°-115° PROM wk 3
  - 0°-130° PROM wk 4-7
  - 0°-130° AROM wk 6-12
- Strength/Proprioception: Delay hamstring strengthening until 2 wks post op. At 2-6 wks start submax isometric hamstring contractions. At 6-8 wks start, light resistance exercises. At wk 8 PRE for strengthening.
- Return to running/sports: Running straight line, jumping PWB-FWB at 10-12 weeks, no twisting and hard cutting for 16 wks, return to sports 5-6 months

#### III. ACL reconstruction with meniscal repair (Brontzman and Wilk et al)

- WB status: Immediate WB
- Post-op brace: Hinged brace of immobilizer locked in full extension during ambulation until wk 2-3
- PROM/AROM
  - Flexion ROM Peripheral tears: 90°-100° by wk 2, 105°-115° by week 3, 120°-135° by wk 4
  - Complex tears: 90°-100° by wk 2, 105°-110° by week 3, 115°-120° by wk 4
- Strength/Proprioception: No isolated hamstring contraction for 8-10 wks, no squatting past 60° of knee flexion for 8 wks. No squatting with rotation or twisting for 10-12 wks. No lunges past 75° knee flexion for 8 wks.
- Return to running/sports: 5-7 mos

#### IV. ACL reconstruction with articular cartilage pathology (Microfracture)

- WB status: NWB-TTWB for 2-4 weeks, 50% WB in wks 5-6, 75-100% WB in 7-8 weeks
- Post-op brace: No specific recommendation
- PROM/AROM
  - 0°-100° PROM in wk 1
  - 0°-115° PROM in wk 3
  - 0°-125° AROM by wk 10.
- Strength/Proprioception: No excess loading for 3-4 months
- Return to running/sports: 6-9 mos

#### **V. ACL reconstruction with articular cartilage pathology-OATS/ACI (Wilk et al)**

- WB status: NWB 2 weeks, TTWB for 2-6 wks, 50% WB in wks 6, 75-100% WB in 7-8 weeks
- Post-op brace: Locked in extension for 2 wks
- PROM/AROM
  - 0°-90° PROM in wk 2
  - 0°-105° PROM in wk 3
  - 0°-125° AROM by wk 6.
  - 0°-135° AROM by wk 8.
- Strength/Proprioception: OKC exercises including proprioception, CKC exercises by wk 6.
- Return to running/sports: Low-impact activities by 8 mos, high impact activities by 12 mos.

#### **VI. ACL reconstruction with MCL injuries/repair (Modified from Irrgang & Fitzgerald and Wilk et al)**

- WB status: FWB within 2 wks.
- Post-op brace: Locked in extension for 1 wk, then unlocked for ambulation, discontinue after 4-6 wks with 90°-100° flexion. Functional brace with valgus/varus movement in gait.
- PROM/AROM
  - Full extension (AROM and PROM) by wk 2
  - 90°-100° flexion by wk 4
  - Full flexion AROM by wk 8.
- Strength/Proprioception: CKC in 0°-45° flexion. Medial hamstring strengthening to increase anteromedial stability of the knee. Caution with hip adduction exercises (valgus stress on knee)
- Return to running/sports: Running at 6 mos and return to sports by 12 mos

#### **VII. ACL reconstruction with LCL injuries/repair (Irrgang & Fitzgerald)**

- WB status: PWB for 6 wks.
- Post-op brace: Locked in extension for 6 wks
- PROM/AROM
  - Full extension (AROM and PROM) by wk 1- avoid hyperextension
  - 0°-90° flexion by wk 1-6
  - Full flexion AROM by wk 6.
- Strength/Proprioception: Quad sets and SLR for 6 wks. Progress to OKC and CKC exercises-caution with hip abduction exercises.
- Return to running/sports: Running at 6 mos and return to sports by 9-12 mos

#### **VIII. ACL reconstruction with PCL injuries/repair (Modified from Irrgang & Fitzgerald and Wilk et al)**

- WB status: 50% WB- wk 1, 75% WB wk 2, FWB by wk 4.
- Post-op brace: Locked in extension for 1-4 wks, then unlocked for ambulation 5-8 wks. May need functional brace.
- PROM/AROM
  - 0°-75° by wk 1
  - 0°-100° flexion by wk 2
  - 0°-115° flexion by wk 6
  - 0°-125° flexion by wk 7.
  - Full flexion by wk 8-10
- Strength/Proprioception: No active hamstring for 6 weeks, Quad sets and SLR's. OKC from 75°-60° knee flexion, 0°-45° CKC by wk 3, Leg press wk 4. Stationary bike-no toe clips
- Return to running/sports: Walking program 8-12 wks, light running 4-5 months, agility drills by 5-6 months, Return to sports 9-12 months.