

KNEE MENISCECTOMY POST-OPERATIVE GUIDELINES

The following meniscectomy guidelines were developed by HSS Rehabilitation. Progression is both criteria-based and patient specific. Phases and time frames are designed to give the clinician a general sense of progression. Progression through the phases may vary in individuals with concomitant injuries such as degenerative joint disease, patellofemoral pain syndrome and ligament insufficiency.

FOLLOW SURGEON MODIFICATIONS AS PRESCRIBED.

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Pre-Operative Phase

PRECAUTIONS

- Avoid pain with ROM and strengthening exercises
- Modify or minimize activities that increase pain and/or effusion/edema

ASSESSMENT

- Lower Extremity Functional Scale (LEFS)
- International Knee Documentation Committee (IKDC)
- SANE
- Numeric pain rating scale (NPRS)
- Swelling - girth measurement
- Lower extremity (LE) active range of motion (AROM) and passive range of motion (PROM)
- LE flexibility
- Quality of quadriceps contraction
- LE manual muscle test or handheld dynamometer
- Gait
- Functional assessment
 - Sit to stand
 - Single limb stance (SLS), if appropriate
 - Stairs

TREATMENT RECOMMENDATIONS

- Edema/effusion reduction (including elasticized wrap/tubing)
- Activity modification
- Gait training with appropriate pre-operative assistive device if needed
- Gait training with expected post-operative assistive device
- Balance/proprioceptive training, as able
- Basic home exercise program (HEP)
 - Ankle pumps, quadriceps sets
 - Straight leg raise progressive resisted exercises (PRE)- hip flexion, hip abduction, hip extension
 - Seated knee flexion and extension active assisted range of motion (AAROM)
 - LE flexibility exercises (e.g., supine calf and hamstring stretches)
 - Passive knee extension with towel roll under heel
 - Plantar flexion with elastic band or calf raises
- Stationary bicycle, as able

CRITERIA FOR ADVANCEMENT

- Patient able to verbalize/demonstrate post-operative plan of care
- Independent ambulation on level surfaces and stairs with appropriate assistive device
- Maximize range of motion (ROM) and flexibility in pain-free range
- Maximize strength prior to surgery

EMPHASIZE

- Familiarization with post-operative plan of care
- Quadriceps contraction

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Acute Care (Ambulatory Surgery): Day of Surgery

PRECAUTIONS

- Avoid excessive loading (i.e., standing, walking) and prolonged sitting
- Do not place a pillow under the operated knee
- Avoid premature discharge of assistive device - should be used until gait is normalized

ASSESSMENT

- NPRS
- Mental status: Alert and Oriented x 3
- Wound status
- Swelling
- Post-anesthesia sensory motor screening
- AROM/AAROM of knee
- Functional status

TREATMENT RECOMMENDATIONS

- Patient education on edema control and activity modification
- Transfer training
- Gait training with assistive device on level surfaces and stairs
- Initiate and emphasize importance of HEP
 - Quadriceps sets, gluteal sets, ankle pumps
 - Seated knee AROM/AAROM
 - Straight leg raise, if able
 - Passive knee extension with towel roll under heel

CRITERIA FOR ADVANCEMENT

- Independent ambulation with appropriate assistive device on level surfaces and stairs
- Independent with transfers
- Independent with HEP

EMPHASIZE

- Independent transfers
- Gait training with appropriate assistive device
- Control swelling
- AROM/AAROM (emphasize extension)
- Emphasize quadriceps re-education (quadriceps sets)

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Post-Operative Phase 1: Weeks 0-3

PRECAUTIONS

- Do not place a pillow under the operated knee
- Avoid pain with exercises, standing, walking and other activities
 - Monitor tolerance to load, frequency, intensity and duration
- Avoid premature discharge of assistive device- should be used until gait is normalized
- Avoid forceful PROM

ASSESSMENT

- LEFS
- IKCD
- NPRS
- Swelling
- Patella mobility
- LE ROM and flexibility
- Knee AROM/PROM
- Quality of quadriceps contraction (e.g., ability to perform straight leg raise without lag)
- Ankle, hip, and gluteal MMT or handheld dynamometry
- Functional strength (e.g., squat, ability to ascend stairs)
- Gait
- SL stance
- Current activity level/demands on LE

TREATMENT RECOMMENDATIONS

- Emphasize patient compliance with HEP and weight bearing precautions/progression
- Gait training
- Patella mobilization
- LE flexibility exercises
- Knee AROM/AAROM
- Hip progressive resisted exercises
- Closed chain strengthening exercises (e.g., leg press, squat, forward step-up progression)
- Proprioception training
- Muscle reeducation using modalities as needed

- Consider blood flow restriction program with FDA approved device if cleared by surgeon and qualified therapist available
- Modalities for pain and edema as needed
- Stationary bicycle

CRITERIA FOR ADVANCEMENT

- Swelling and pain controlled
- Normal gait pattern without assistive device on level surfaces
- Full passive knee extension
- Passive knee flexion $\geq 120^\circ$
- Unilateral weight bearing on involved LE without pain
- Independent with HEP
- Ascend ≥ 6 " step

EMPHASIZE

- Normal gait pattern
- Patient compliance with HEP and activity modification
- Control of pain and swelling
- Total lower body functional strengthening

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Post-Operative Phase 2: Weeks 4-8

PRECAUTIONS

- Avoid pain with therapeutic exercise and functional activities

ASSESSMENT

- LEFS
- IKCD
- NPRS
- Swelling
- Patella mobility
- LE ROM and flexibility
- Knee AROM/PROM
- LE MMT or handheld dynamometry
- Functional strength (e.g., squats)
- SLS
- Movement strategy for gait, stairs, squat
- Alignment and control with forward step down
- Current activity level/demands on LE

TREATMENT RECOMMENDATIONS

- Patella mobilization
- LE flexibility exercises
- Progressive LE open kinetic chain exercises – isometrics to isotonic
- Functional progression of LE closed kinetic chain exercises (e.g., double leg squat to single leg squat and initiate forward step-down progression)
- Progress proprioceptive balance training
- Progress HEP
- Cardiovascular endurance training (e.g., bicycle, swimming, elliptical when able to perform 8” forward step up)
- Initiate impact activities with progressive loading (e.g., anti-gravity or underwater treadmill, bilateral to unilateral)

CRITERIA FOR DISCHARGE (OR ADVANCEMENT TO PHASE 3 IF RETURNING TO SPORT)

- Minimal to no swelling
- Full knee PROM
- Ability to ascend and descend 8" stairs pain-free with good control and alignment
- Independent with full HEP

EMPHASIZE

- Normalize flexibility to meet demands of ADL
- Eccentric quadriceps control
- Functional progression
- Establish advanced HEP/gym home program

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Post-Operative Phase 3: Return to Sport (Weeks 9+)

PRECAUTIONS

- Avoid too much too soon - monitor exercise and activity dosing
- Protect tibiofemoral and patellofemoral joint from excessive load

ASSESSMENT

- LEFS
- IKDC
- NPRS
- Quantitative assessments for limb symmetry, e.g.:
 - Flexibility
 - LE hand-held dynamometry or isokinetic testing, if available
 - Hop Test
 - Star Excursion Test
 - T-Test of Agility
- Functional assessment (e.g., HSS Return To Sport)
 - Access for movement strategy, control, alignment, deceleration and cutting:
 - Squat
 - Single leg stance
 - Forward step down
 - Single leg squat
 - Single leg bridge
 - Jumping and hopping
 - Deceleration and cutting

TREATMENT RECOMMENDATIONS

- Patient education regarding self-monitoring of exercise volume and load progression
- Collaboration with trainer, coach or performance specialist
- Advance LE strengthening
- Advance proprioceptive balance training
- Progress total body multidirectional motor control exercises to meet sport-specific demands
- Plyometrics progression
- Initiate return to running program when able to perform phase 2 impact without pain, reactive effusion or malalignment

- Sport-specific agility training
- Increase endurance and activity tolerance
- Sport-specific multidirectional core retraining

CRITERIA FOR RETURN TO SPORT

- Lack of pain, swelling and apprehension with sports-specific movements
- Quantitative assessments $\geq 90\%$ of contralateral LE
- Movement patterns, functional strength, flexibility, motion, endurance, power, deceleration, and accuracy to meet demands of sport
- Independent with gym or return to sport program

EMPHASIZE

- Be certain to incorporate rest and recovery
- Self-monitoring of exercise volume
- Self-monitoring of load progression
- Speed and power
- Agility, change of direction and deceleration
- Collaboration with appropriate Sports Performance expert

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