

## **MENISCECTOMY GUIDELINES**

The following meniscectomy guidelines were developed by Hospital for Special Surgery 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 PHYSICIAN'S MODIFICATIONS AS PRESCRIBED.**



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## MENISCECTOMY GUIDELINES

### Pre-Operative Phase

PRECAUTIONS	<ul style="list-style-type: none"> <li>▪ Avoid severe pain with ROM and strengthening exercises</li> <li>▪ Modify or minimize activities that increase pain</li> </ul>
ASSESSMENT	<ul style="list-style-type: none"> <li>▪ Lower Extremity Functional Scale (LEFS)</li> <li>▪ Numeric pain rating scale (NPRS)</li> <li>▪ Swelling- girth measurement</li> <li>▪ Lower extremity (LE) AROM and PROM</li> <li>▪ LE flexibility</li> <li>▪ LE strength</li> <li>▪ Quality of quadriceps contraction</li> <li>▪ Single leg stance (SLS)</li> <li>▪ Gait</li> <li>▪ Current activity level/demands on LE</li> </ul>
TREATMENT RECOMMENDATIONS	<ul style="list-style-type: none"> <li>▪ Patient education           <ul style="list-style-type: none"> <li>○ Post-operative plan of care</li> <li>○ Edema control</li> <li>○ Activity modification</li> <li>○ Gait training with expected post-operative assistive device</li> <li>○ Basic home exercise program (HEP)               <ul style="list-style-type: none"> <li>▪ Ankle pumps, quadriceps sets</li> <li>▪ Straight leg raise PRE's- hip flexion, hip abduction, hip extension</li> <li>▪ Seated knee flexion and extension AAROM</li> <li>▪ LE flexibility exercises e.g. supine calf and hamstring stretches</li> <li>▪ Passive knee extension with towel roll under heel</li> <li>▪ Plantar flexion with elastic band or calf raises</li> </ul> </li> </ul> </li> <li>▪ Gait training with appropriate pre-operative assistive device if needed</li> <li>▪ Additional recommendations for patients attending multiple sessions pre-operatively           <ul style="list-style-type: none"> <li>○ Edema control</li> <li>○ ROM exercises e.g. seated knee flexion AAROM, supine knee extension PROM</li> <li>○ LE flexibility exercises</li> <li>○ LE progressive resistive exercises e.g. quadriceps sets, straight leg raises in multiple planes</li> <li>○ Balance/proprioceptive training</li> <li>○ Stationary bike</li> </ul> </li> </ul>
CRITERIA FOR ADVANCEMENT	<ul style="list-style-type: none"> <li>▪ Maximize ROM and flexibility in pain-free range</li> <li>▪ Maximize strength prior to surgery</li> <li>▪ Independent ambulation on level surfaces and stairs with appropriate assistive device</li> <li>▪ Patient able to verbalize/demonstrate post-operative plan of care</li> </ul>
EMPHASIZE	<ul style="list-style-type: none"> <li>▪ Familiarization with post-operative plan of care</li> <li>▪ Quadriceps contraction</li> </ul>

## MENISCECTOMY GUIDELINES

### Acute Care (Ambulatory Surgery) – Day of Surgery

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PRECAUTIONS	<ul style="list-style-type: none"><li>▪ Avoid painful activities: prolonged sitting, standing, walking, and exercises that cause increased pain</li><li>▪ Do not put a pillow under the operated knee- keep extended while resting and sleeping</li><li>▪ Avoid premature discharge of assistive device- should be used until gait is normalized</li></ul>
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ASSESSMENT	<ul style="list-style-type: none"><li>▪ Mental status</li><li>▪ NPRS</li><li>▪ Wound status</li><li>▪ Swelling</li><li>▪ A/AAROM of knee</li><li>▪ Post-anesthesia sensory motor screening</li><li>▪ Functional status</li></ul>
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TREATMENT RECOMMENDATIONS	<ul style="list-style-type: none"><li>▪ Transfer training</li><li>▪ Gait training with assistive device on level surfaces and stairs</li><li>▪ Patient education on edema control and activity modification</li><li>▪ Initiate and emphasize importance of HEP<ul style="list-style-type: none"><li>○ Quadriceps sets, gluteal sets, ankle pumps,</li><li>○ Seated knee A/AAROM</li><li>○ Straight leg raise if able</li><li>○ Passive knee extension with towel roll under heel</li></ul></li></ul>
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CRITERIA FOR ADVANCEMENT	<ul style="list-style-type: none"><li>▪ Independent ambulation with appropriate assistive device on level surfaces and stairs</li><li>▪ Independent with transfers</li><li>▪ Independent with HEP</li></ul>
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EMPHASIZE	<ul style="list-style-type: none"><li>▪ Control swelling</li><li>▪ Independent transfers</li><li>▪ Gait training with appropriate assistive device</li><li>▪ A/AAROM (emphasize extension)</li><li>▪ Emphasize quadriceps re-education (quadriceps sets)</li></ul>
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### MODIFICATIONS TO ACUTE CARE PHASE

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# MENISCECTOMY GUIDELINES

## Post-Operative Phase I (Weeks 0-3)

PRECAUTIONS	<ul style="list-style-type: none"><li>▪ Do not put a pillow under the operated knee- keep extended when resting and sleeping</li><li>▪ Avoid pain with exercises, standing, walking and other activities<ul style="list-style-type: none"><li>○ Monitor tolerance to load, frequency, intensity and duration</li></ul></li><li>▪ Avoid premature discharge of assistive device- should be used until gait is normalized</li><li>▪ Avoid forceful PROM</li></ul>
ASSESSMENT	<ul style="list-style-type: none"><li>▪ LEFS</li><li>▪ Swelling</li><li>▪ Knee A/PROM</li><li>▪ Patella mobility</li><li>▪ LE ROM and flexibility</li><li>▪ Quality of quad contraction e.g. ability to perform straight leg raise without lag</li><li>▪ Hip and gluteal strength- MMT or handheld dynamometer</li><li>▪ Functional strength e.g. squat, ability to ascend stairs</li><li>▪ SLS</li><li>▪ Gait</li><li>▪ Current activity level/demands on LE</li></ul>
TREATMENT RECOMMENDATIONS	<ul style="list-style-type: none"><li>▪ Bike</li><li>▪ Gait training</li><li>▪ Modalities for pain and edema as needed</li><li>▪ Emphasize patient compliance with HEP and weight bearing precautions/progression</li><li>▪ Knee A/AAROM</li><li>▪ Patella mobilization</li><li>▪ LE flexibility exercises</li><li>▪ Muscle reeducation using modalities as needed</li><li>▪ Hip progressive resisted exercises</li><li>▪ Closed chain strengthening exercises e.g. leg press, squat, forward step up progression</li><li>▪ Proprioception training</li><li>▪ Consider blood flow restriction program with FDA approved device if cleared by surgeon and qualified therapist available</li></ul>
CRITERIA FOR ADVANCEMENT	<ul style="list-style-type: none"><li>▪ Swelling and pain controlled</li><li>▪ Full passive knee extension</li><li>▪ Passive knee flexion <math>\geq 120^\circ</math></li><li>▪ Unilateral weight bearing on involved LE without pain</li><li>▪ Normal gait pattern without assistive device on level surfaces</li><li>▪ Independent with HEP</li><li>▪ Perform a pain free body weight squat without compensation (assisted as needed, i.e. counter, ball, TRX)</li><li>▪ Ascend <math>\geq 6</math>" step</li></ul>
EMPHASIZE	<ul style="list-style-type: none"><li>▪ Normal gait pattern</li><li>▪ Patient compliance with HEP and activity modification</li><li>▪ Control of pain and swelling</li><li>▪ Total lower body functional strengthening</li></ul>

## MENISCECTOMY GUIDELINES

### Post-Operative Phase II (Weeks 4-8)

PRECAUTIONS	<ul style="list-style-type: none"> <li>▪ Avoid pain with therapeutic exercise and functional activities</li> </ul>
ASSESSMENT	<ul style="list-style-type: none"> <li>▪ Swelling</li> <li>▪ Knee A/PROM</li> <li>▪ Patella mobility</li> <li>▪ LE ROM and flexibility</li> <li>▪ LE strength- MMT or handheld dynamometer</li> <li>▪ Functional strength e.g. squats</li> <li>▪ SLS</li> <li>▪ Alignment and control with forward step down</li> <li>▪ Movement strategy for gait, stairs, squat</li> <li>▪ Current activity level/demands on LE</li> </ul>
TREATMENT RECOMMENDATIONS	<ul style="list-style-type: none"> <li>▪ LE flexibility exercises</li> <li>▪ Patella mobilization</li> <li>▪ Progressive LE open kinetic chain exercises</li> <li>▪ Functional progression of LE closed kinetic chain exercises, e.g. double leg squat to single leg squat and initiate forward step-down progression</li> <li>▪ Progress proprioceptive balance training</li> <li>▪ Cardiovascular endurance training e.g. bike, swimming, elliptical when able to perform 6" forward step up</li> <li>▪ Initiate impact activities with progressive loading e.g. anti-gravity or underwater treadmill, bilateral to unilateral</li> <li>▪ Progress HEP</li> </ul>
CRITERIA FOR DISCHARGE (OR ADVANCEMENT TO PHASE III IF RETURNING TO SPORT)	<ul style="list-style-type: none"> <li>▪ Full knee PROM</li> <li>▪ Minimal swelling</li> <li>▪ Ability to ascend and descend 8" stairs pain-free with good control and alignment</li> <li>▪ Independent with full HEP</li> <li>▪ Discharge OR move on to phase III if the goal is to return to sport</li> </ul>
EMPHASIZE	<ul style="list-style-type: none"> <li>▪ Eccentric quadriceps control</li> <li>▪ Functional progression</li> <li>▪ Normalize flexibility to meet demands of ADL's</li> <li>▪ Establish advanced HEP/ gym home program</li> </ul>

### MODIFICATIONS TO POST-OPERATIVE PHASE II

# MENISCECTOMY GUIDELINES

## Post-Operative Phase III: Return to Sport

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### PRECAUTIONS

- Avoid pain with therapeutic exercise and functional activities
  - Avoid too much too soon- monitor exercise and activity dosing
  - Don't ignore functional progressions
  - Be certain to incorporate rest and recovery
  - Protect tibiofemoral and patellofemoral joint from excessive load
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### ASSESSMENT

- Quantitative assessments for limb symmetry, e.g.:
    - LE strength- hand held dynamometry or isokinetic testing if available
    - Flexibility
    - Hop Test
    - Star Excursion or Y-Balance Test©
    - T-Test of Agility
  - Functional assessment e.g. HSS Quality of Movement Assessment (QMA)
    - 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
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### TREATMENT RECOMMENDATIONS

- Initiate return to running program when able to descend 8" step without pain or deviation
  - Advance proprioceptive balance training
  - Advance LE strengthening
  - Plyometrics progression
  - Sport-specific agility training
  - Increase endurance and activity tolerance
  - Sport-specific multidirectional core retraining
  - Progress total body multidirectional motor control exercises to meet sport-specific demands
  - Collaboration with trainer, coach or performance specialist
  - Patient education regarding self-monitoring of exercise volume and load progression
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### 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
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### EMPHASIZE

- 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