

ARTHROSCOPIC KNEE SURGERY REHABILITATION PROTOCOL

OSTEOCHONDRAL ALLOGRAFT FEMORAL CONDYLE

GENERAL GUIDELINES

- The local anesthetic (similar to novacaine) in your knee lasts 6-12 hours
 - Start taking the pain medication as soon as you start to feel any pain
 - Stay ahead of the pain with your pain medication
- Vistaril may be taken every 6 hours as needed for nausea, itching, or insomnia
- Take 1 aspirin (325 mg) daily for two weeks, starting the day after surgery
- Use the cryotherapy cuff continuously for the first 72 hours, then as-needed thereafter
 - Ensure that the cuff never contacts the skin directly
 - Apply to the knee after performing rehabilitation exercises for the first 6 weeks
- Remove the bandage 72 hours after surgery, but leave the white steritrips on the skin
 - Apply fresh gauze pad with an ace bandage for the first week after surgery
- You may shower after surgery, wrapping the dressing in plastic wrap to keep dry
 - You may get incisions/steritrips wet in shower after 72 hours, then pat dry
 - Do NOT submerge the knee underwater.
- You may put the foot down for balance with crutches for the first 6 weeks
- Formal physical therapy is not required, but may be prescribed in select circumstances
- Schedule a follow-up appointment for two weeks after surgery 410-448-6400

PHASE I

Begins immediately postoperatively through 6 week postoperatively

Goals:

- Protect the knee from falls
- Control inflammation
- Maintain full extension, initiate early range of motion

Weight-Bearing Status and Brace:

- Touch-down weight-bearing for 6 weeks with 2 crutches
- 0 – 1 week: Locked brace in full extension for ambulation and sleeping
- 1 – 2 weeks: Brace unlocked for ambulation, lock in extension for sleeping

Therapeutic Exercises (2 times per day):

- *Ankle pumps*
- Knee extension/hamstring stretching with *heel prop*
- Sitting *leg dangle* using unaffected leg for support
- *Patellar mobilizations* (Stretch in 4 directions: medial, lateral, proximal, distal)
- Quad isometrics (hold for 10 seconds, with 5 repetitions), progress to *straight-leg raises* after the first week.
- Stationary bike (no tension; begin with high seat & progress to lower seat for ROM)

PHASE II

6 weeks postoperatively and to 12 weeks postoperatively

Criteria for advancement to Phase II:

- No signs of active inflammation
- Flexion to 90 degrees

Goals:

- Restore normal gait
- Maintain full extension, progress flexion

Weight-Bearing Status:

- Progress to weight-bearing as tolerated with 2 crutches
 - Transition to 1 crutch after a week, and then discontinue crutches as tolerated
 - Continue the brace until able to ambulate well without assistive device

Therapeutic Exercises:

- All exercises from Phase I
- *Prone hangs* to promote knee extension
- *Short arc extensions* in terminal knee extension (0-30 degrees)
- *Wall slides* from 0-45 degrees of knee flexion
- 4-way hip for flexion, extension, *abduction* and adduction
- Treadmill walking with emphasis on normalization of gait pattern
- Step-up/Step-down beginning at 2", gradually progress height as tolerated

PHASE III

12 weeks postoperatively and extends through 24 weeks postoperatively

Criteria for advancement to Phase III:

- Full range of motion and normal gait
- No difficulty with wall slide to 45 degrees
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Goals:

- Improve strength and endurance in preparation for functional activities
- Initiate proprioceptive training while protecting the repair and patellofemoral joint

Therapeutic Exercises:

- All exercises from Phase II
- Progress to single leg wall slides and leg press to 90 degrees of flexion
- Elliptical trainer (transition to jogging when comfortable)
- Treadmill or track jogging, gradually increasing distance and speed
 - Avoid uneven terrain or concrete surfaces such as sidewalks and streets

- Balance/Proprioceptive training (single leg stance, balance board)
- Plyometric training (see following page for guidelines)

Plyometric training (should be performed on dedicated soft, level surface with good traction).

16 weeks postop: Double limb hops (advance to 30 reps)

20 weeks postop: Add alternating single leg hop (advance to 15 reps each foot)

Add double limb forward, side, and back hops (advance to 10 reps each)
(distance should be 6 to 12 inches)

24 weeks postop: Add single leg hop (advance to 10 reps)

Increase distance of double limb forward hop as tolerated, add triple hop

24-36 weeks postop: If appropriate for desired sports or activities,

Add double leg rotational hops (90 degree turn midair, advance to 5 reps)

Add double leg rotational hops (180 degree turn midair, advance to 5 reps)

PHASE IV

Begins 6 months postoperatively

Criteria for advancement to Phase IV:

- Surgeon clearance
- Symmetric thigh musculature and performance within 10% of uninvolved limb

Goals:

- Maximize strength, endurance, and proprioception
- Gradual return to sport

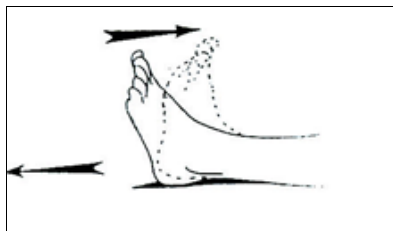
Therapeutic Exercises (perform every other day with brace):

- All exercises from Phase III
- May jog on any surface as tolerated, gradually increasing distance and speed
- Non-linear running (zig-zag run, backwards run, Carioca each side for 50 yards each)
 - Start with 'walk-through' at < 1% of maximum effort
 - Increase 10% effort each session as tolerated
- Agility drills added after non-linear running mastered (shuttle run, box drill, weaves)
 - Start with 'walk-through' at < 1% of maximum effort
 - Increase 10% effort each session as tolerated
- Sport specific training/practice once agility drills mastered
 - Start with 'walk-through' at < 1% of maximum effort
 - Increase 10% effort each session as tolerated

General timeframe for typical return to sports

Jogging:	14 weeks postoperatively
Golf:	5 months postoperatively
Skiing:	7 months postoperatively
Return to practice for all other sports:	7 months postoperatively
Full return to sports:	9 months postoperatively

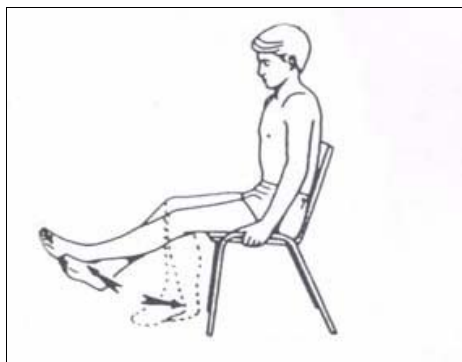
Selected Exercise Diagrams (continued on the next page)



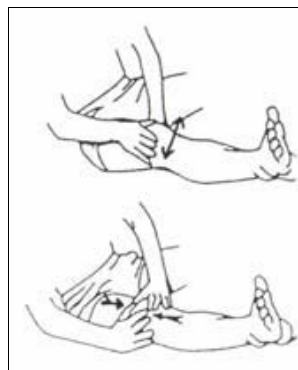
Ankle Pumps



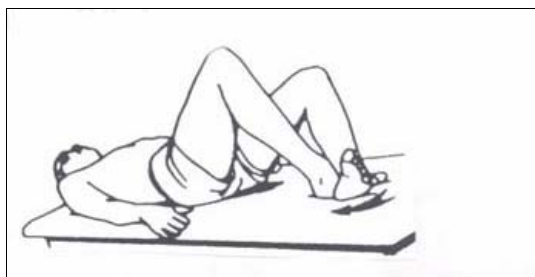
Sitting extension/hamstring stretch with *heel prop*
May also be performed recumbent (lying down)



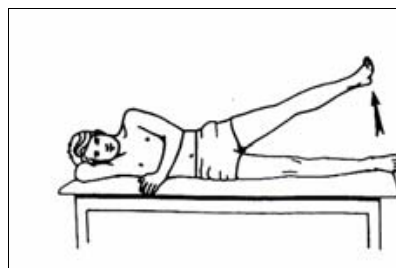
Sitting *leg dangle* to 90 degrees
using unaffected leg for support



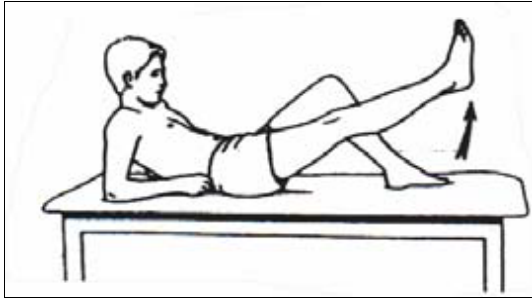
Patella mobilizations
stretch in 4 directions (side to side, up and down)



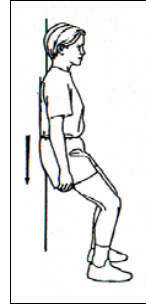
Recumbent *heel slides* with assistance
from unaffected leg



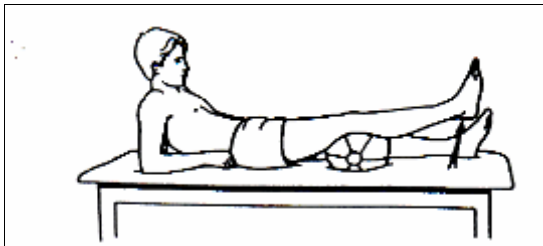
Hip abduction



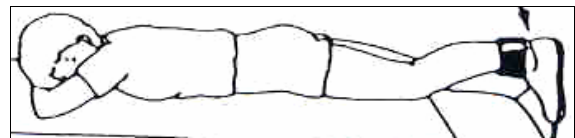
Straight-leg raises



Wall slides (0-45 degrees of knee flexion)



Short arc extensions (0-30 degrees)



Prone hangs to promote full knee extension