



Travis C. Burns, MD

Sports Medicine and Shoulder Reconstruction
Arthroscopic Shoulder, Hip, and Knee Surgery

www.travisburnsmd.com

<https://ortho-sa.com/>

(210) 705-5060



MACI – AUTOLOGOUS CHONDROCYTE IMPLANTATION

General Guidelines

- Obtain full extension within 2 weeks after surgery
- Crutches for 6-8 weeks, NWB
- Long leg brace locked in extension during ambulation for 6 weeks
- Knee range of motion from 0 to 90 degrees with therapy and during home exercises for 6 weeks
- CPM for 6 weeks, start 0-30 degrees
- Regain full range of motion after 6 weeks
- Return to sports at 6-9 months

Post-op Days 1 – 14

Goals: Full passive extension, obtain good quad control

- POD 2: Change dressing, keep wound covered, continue TED Hose
- POD 10-14: Sutures out, D/C TED Hose when effusion resolved
- Brace – Locked in extension for 6 weeks
- Crutches – Non weight bearing (NWB)

Therapy:

CPM – 0-30 degrees (2-hour increments for 8-10 hours/day)

AAROM 0-30 degrees within pain limits

Patellar mobilization (teach patient)

Calf pumping

Passive extension with heel on bolster or prone hangs

Electrical stimulation in full extension with quad sets and SLR

Quad sets, Co-contractions quads / HS in extension

Straight leg raise (SLR) x 4 (in brace) – parallel bars if poor quad control

Gentle Hamstring, ITB stretching

Ice pack with knee in full extension after exercise

Weeks 2 – 4

Goals: ROM 0-40 degrees, no effusion, no extensor lag

Therapy:

Brace – Locked in extension

Crutches – Flat foot weight bearing (FFWB)

Avoid twisting/pivoting on involved leg

Continue appropriate previous exercises

Scar massage when incision healed

CPM – 0-40 degrees
AAROM, AROM 0-40 degrees
SLR x 4 on mat (no brace) – Add light weight above knee if good quad control
Pool therapy – Chest deep walking with aqua-jogger floatation device

Weeks 4 – 6

Goals: ROM 0 to 90, DC Brace at 6 weeks

Therapy:

Brace – 0-30 degrees, continue to open to available range
Crutches – Partial weight bearing (PWB)
Continue appropriate previous exercises
CPM – Add 5 degrees per day up to 90 degrees AAROM, AROM 0-90 degrees
Pool therapy – Kickboard with gentle flutter kick from hip, knee in extension

Weeks 6 – 8

Goal: ROM 0-120, no effusion

Therapy:

Brace – 0-90 degrees, continue to open to available range
Crutches PWB
Continue appropriate previous exercises
CPM – D/C
AAROM, AROM 0-120 degrees
Isometric co-contractions at 0, 30, 60, 90 degrees Stationary bike for ROM
Pool therapy – Chest deep running

Weeks 8 – 10

Goal: Full ROM

Therapy:

Brace – D/C when good quad control
Crutches – Weight bearing as tolerated (WBAT) (D/C when gait is normal) –
Avoid twisting/pivoting on involved leg
Continue appropriate previous exercises
PROM, AAROM, AROM to regain full motion
SLR x 4 with weight below the knee if quad control adequate
Weight shifts in full extension
Stationary bike for progressive resistance and endurance
Pool therapy – Unrestricted

Weeks 10-12

Goal: Normal Gait

Therapy:

Continue appropriate previous exercises
Avoid twisting/pivoting on involved leg

Isometric open chain co-contractions at varying angle
Total Gym – Mini squats (level 3-5) – No flexion > 45 degrees
Passive flexion to 90 degrees (push up with opposite leg)
Leg press with light resistance 0-30 degrees
Hamstring curls – Carpet drags or rolling stool (closed chain)
Heel raises – Double leg, progress to single leg
Proprioceptive training – Double leg BAPS for weight shift
– Progress to single leg BAPS, ball toss and body blade
Elliptical trainer

Months 3 – 6

Goals: Thigh girth equal bilaterally

Therapy:

Continue appropriate previous exercises
Standing SLR x 4 with Theraband bilaterally
Partial wall squats – No knee flexion past 45 degrees
Forward, lateral, and retro step downs in parallel bars
– No knee flexion past 45 degrees (small step)
Leg press with progressive resistance – No knee flexion past 45 degrees
HS curl weight machine
Fitter, Slide board
Treadmill – Forwards and backwards walking
Swimming, Quad stretches

Months 6 -- 9

Goals: Walk 2 miles at 15 min/mile pace

Therapy:

Continue appropriate previous exercises with increased resistance –
Progress to 90 degrees of knee flexion
– Increase resistance as tolerated
Hip weight machine x 4 bilaterally
Step downs with medium to large steps
Sit-up progression
Treadmill – Walking progression program

Months 9 - 12

Goals: Run 2 miles on treadmill at own pace

Therapy:

Continue appropriate previous exercises with progressive
resistance Agility drills / Plyometrics
Progressive weight training
Treadmill – Running progression program
Low impact activities such as skating, roller blading, cross country
skiing, cycling

Months 12 - 18

Goals: Resume all activities, contact sports at 18 months

Therapy:

Continue appropriate previous exercises

Knee extension weight machine

Agility drills – Slow “S”, figure 8, zigzags, progress to sharper cutting motions Plyometrics – Advanced

Running progression to track

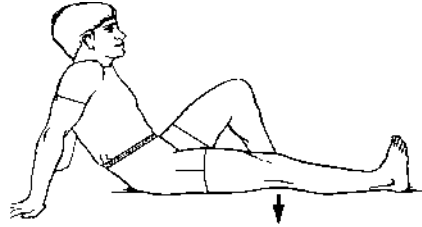
Repetitive impact activities such as aerobic classes

Transition to home / gym program

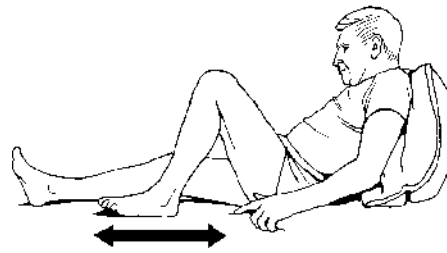
Knee Post Op Phase 1

Perform exercises below frequently: 30 reps 3-5x a day

Quad Isometrics



Heel Slides



Active Assisted Motion



**Ice Position 15
minutes 2-3 x per day**

