

UNICOMPARTMENTAL KNEE ARTHROPLASTY (UKA) PROTOCOL

Purpose: Relieves pain from joint degeneration (osteoarthritis) in one knee compartment (medial, lateral, or patellofemoral).

- Progression is time and criterion-based, depending on soft tissue healing, patient demographics, and clinician evaluation.
- For questions, contact Dr. Sujan Gogu's clinic.

Procedure

1

Opens the knee by splitting the joint capsule and possibly the quadriceps tendon

2

Removes damaged bone and cartilage.

3

Replaces with metal components (Cobalt-chromium alloy) and a plastic insert (ultra-high molecular weight polyethylene)

4

Preserves healthy bone, cartilage, and ligaments

Post-Surgery Recommendations

Avoid impact activities

Encourage low-impact exercises: bicycling, golfing, walking, rowing (if ROM allows), swimming, and using an elliptical.

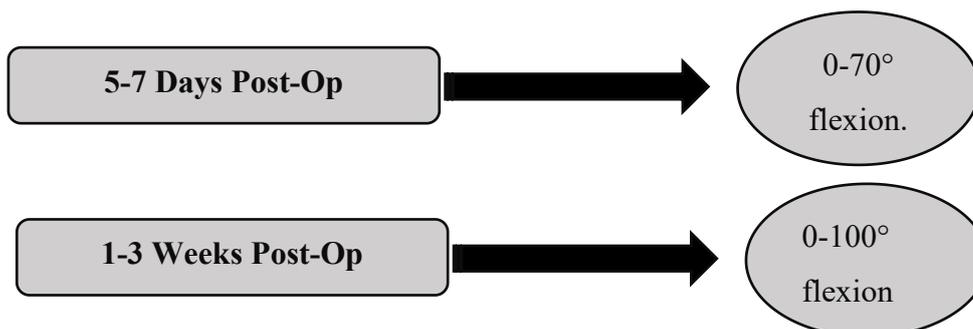
Expectations	
Physical Therapy Start	<ul style="list-style-type: none"> On surgery day: Begins in the hospital 5-7 days post-surgery: Transitions to outpatient therapy.
Activity Recommendations	<ul style="list-style-type: none"> Avoid impact activities Engage in low-impact exercises like bicycling, elliptical, golf, and swimming

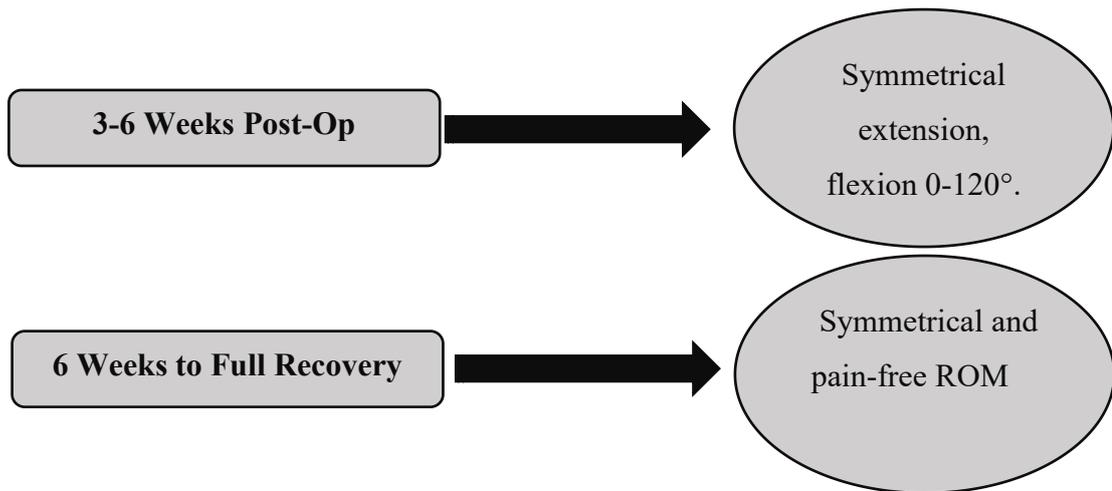
Risk Factors

- 1 Monitor for signs of Deep Vein Thrombosis (DVT)
- 2 Aim for full knee extension by end of Phase 1 and full knee flexion by end of Phase 2

Weight Bearing Progression	
Weeks 1-3	Weight Bearing as Tolerated (WBAT) with assistive device
Discharge Assistive Device	When full knee extension is achieved and gait is normal

Range of Motion (ROM) Progression





Patient Reported Outcomes

KOOS (Knee Injury and Osteoarthritis Outcome Score)

IKDC (International Knee Documentation Committee)

LEFS (Lower Extremity Functional Scale)

FJS-12 (The Forgotten Joint Score)

Functional Assessments

Timed Up and Go (TUG) test.

Criteria to Return to Non-Impact Sports

Normal gait on all surfaces

Ability to walk 1 mile or more without pain or reactive effusion

Demonstrated dynamic neuromuscular control in multi-plane activities without pain or reactive effusion

Red and Yellow Flags

Red Flags (Immediate Attention Required)

Signs of Deep Vein Thrombosis (DVT)	<ul style="list-style-type: none"> • Localized tenderness along deep veins • Entire leg swelling • Calf swelling more than 3 cm compared to the unaffected leg • Pitting edema • Visible superficial veins
Mechanical Block or Clunk	Refer to surgeon for evaluation
Inadequate Knee Extension	If full knee extension is not achieved by 4-6 weeks, refer to surgeon for re-evaluation

Yellow Flags (Adjust Care Plan)

Ongoing Pain or Swelling Post-Therapy	<ul style="list-style-type: none"> • Reduce therapy intensity • Continue managing swelling • Educate patient on activity modification until symptoms resolve
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Phase 1 (Weeks 0-3)

Aspect	Details
Start of Rehab	<ul style="list-style-type: none"> • Begin in hospital on the day of surgery • Transition to outpatient therapy 5-7 days post-op.
Frequency	<ul style="list-style-type: none"> • Typically 1-2 times per week
Focus	<ul style="list-style-type: none"> • Restore range of motion (ROM) • Ensure wound healing • Manage effusion • Improve lower extremity strength and gait mechanics • Ensure safety with IADLs
Precautions	<ul style="list-style-type: none"> • Monitor for signs of DVT

Aspect	Details
	<ul style="list-style-type: none"> • Watch for infection at the incision site • Avoid lunges for 8 weeks
Goals	<ul style="list-style-type: none"> • 5-7 days post-op: ROM 0-70°, independent SLR • 1-3 weeks post-op: ROM 0-100°, SLR without extensor lag
Weight Bearing	<ul style="list-style-type: none"> • WBAT with an assistive device until full knee extension is achieved and gait deviations are resolved
Suggested Interventions	<ul style="list-style-type: none"> • ROM: Heel prop towel stretch, bag hangs, patellar mobilizations (extension); Heel slides, wall slides, active-assist flexion, upright bike (flexion) • Strength: Quad sets, SLR (4-way), SAQ, mini-squats, calf raises, shuttle press, steamboats • Effusion Management: Ice, elevation, compression
NMES Parameters	<ul style="list-style-type: none"> • Start at week 2-3 • Pads on proximal and distal quadriceps • Seated with knee at 60° flexion, secure shank with strap • 10-20 seconds on/50 seconds off, 15 minutes • Frequency: 75 pps, Pulse Width: 400 microseconds
Cardiovascular Endurance	<ul style="list-style-type: none"> • Upper body circuit training or ergometer as desired by the patient
Criteria to Progress to Phase 2	<ul style="list-style-type: none"> • Normal gait without assistive device on level surfaces • Full knee extension • No extensor lag during SLR • Double leg squat to 45° without support

Phase 2 (Weeks 3-6)

Aspect	Details
Focus	<ul style="list-style-type: none"> • Increase knee flexion ROM and strengthen quadriceps, glutes, and core.
Precautions	<ul style="list-style-type: none"> • Post-activity soreness should resolve within 24 hours • Avoid impact activities • No lunges for 8 weeks
Goals	<ul style="list-style-type: none"> • Reciprocal stair negotiation by 6 weeks • Return to work by 6 weeks • Double leg sit-to-stand from a chair without upper extremity support • Single leg balance for 15+ seconds or ability to put on socks standing
Range of Motion	<ul style="list-style-type: none"> • Extension: Symmetrical to contralateral limb • Flexion: 0-120°
Weight Bearing	<ul style="list-style-type: none"> • Full weight bearing, no assistive device
Suggested Interventions	<ul style="list-style-type: none"> • ROM: Continue Phase 1 strategies • Strength: Progress SLR-flexion (semi-reclined, seated, ER, eyes closed), LAQ, side stepping, step ups/downs, sit to stands, wall sits • Balance/Proprioception: Double leg to single leg, eyes open/closed, compliant surfaces • Effusion Management: Continue Phase 1 strategies • NMES: Continue
Cardiovascular Endurance	<ul style="list-style-type: none"> • Treadmill walking • Elliptical • Swimming (incision must be healed, usually 4 weeks post-op)
Criteria to Progress to Phase 3	<ul style="list-style-type: none"> • Ambulate >2 blocks without assistive device • Reciprocal gait on stairs by 6 weeks without upper extremity support

Aspect	Details
	<ul style="list-style-type: none"> • Symmetrical ROM • Double leg sit-to-stand x10 repetitions without upper extremity support • Single leg balance for 15+ seconds

Phase 3 (Weeks 6 – Return to Prior Level of Function)

Aspect	Details
Focus	<ul style="list-style-type: none"> • Safely return to prior level of function and knee-friendly activities.
Appointments	<ul style="list-style-type: none"> • PT frequency may taper to once every 1-2 weeks depending on progress.
Precautions	<ul style="list-style-type: none"> • Post-activity soreness should resolve within 24 hours • Avoid impact activities
Goals	<ul style="list-style-type: none"> • Perform all IADL, work, and non-impact sport activities without pain or reactive effusion • Ambulate 1 mile or more without pain, gait deviation, or reactive effusion
Range of Motion	<ul style="list-style-type: none"> • Symmetrical and pain-free compared to the other limb
Weight Bearing	<ul style="list-style-type: none"> • Full weight bearing without assistive device
Suggested Interventions	<ul style="list-style-type: none"> • ROM: Continue Phase 1 strategies • Strength: Continue previous interventions, add leg press, hamstring curl, knee extension machines, and SL CKC exercises as tolerated • Balance/Proprioception: Progress from double leg to single leg, eyes open/closed, compliant surfaces, perturbations, and functional tasks like chops/lifts/ball toss • Effusion Management: Continue Phase 1 strategies
Cardiovascular	<ul style="list-style-type: none"> • Replicate sport or work-specific energy demands (non-

Aspect	Details
Endurance	impact only)
Criteria to Return to Non-Impact Sport	<ul style="list-style-type: none"> • Normal gait on all surfaces • Ability to walk 1 mile or more without pain or reactive effusion • Dynamic neuromuscular control with multi-plane activities without pain or reactive effusion