DR. KAISEN YAO, MD

ORTHOPEDIC SPORTS MEDICINE SURGEON

Post-Operative Physical Therapy Protocol

Arthroscopic-Assisted Knee Subchondroplasty

Northwell Health • Department of Orthopedic Surgery & Sports Medicine • Dr. Kaisen Yao, MD

Patient Name	Date of Surgery	Prescribing Surgeon
		Dr. Kaisen Yao, MD

General Guidelines & Precautions

- Weeks 0-3: weight bearing as tolerated (WBAT) with the hinged knee brace locked in full extension (0°) for all standing and walking. Use crutches or a walker as needed.
- Limit knee range of motion to 0-90° for the first 3 weeks. Unlock or remove the brace for supported exercises and hygiene only; relock it before standing.
- If a meniscus repair, cartilage restoration, or other procedure requires additional protection, follow the more restrictive surgeon-directed plan.

PHASE I

Protected Weight Bearing

TIMEFRAME

WEEKS 0-3

Goals:
Control pain and effusion, achieve full extension and flexion up to 90°, restore quadriceps activation, and walk safely with the brace locked straight.

Interventions:
Ice, compression, elevation, ankle pumps, gentle patellar mobility, quad sets, heel slides limited to 90°, and supported extension stretching. Straight-leg raises with the brace locked in extension if there is no lag; non-weight-bearing hip strengthening as tolerated.

Precautions:
No loaded knee bending, squats, lunges, pivoting, running, or jumping. Do not force flexion past 90°. Keep the brace locked straight during transfers and weight bearing.

Criteria to Progress:
Three weeks completed, healing incisions, controlled pain and swelling, knee motion 0-90°, and straight-leg raise without lag. Confirm brace progression with Dr. Yao or the treating therapist.

PHASE II

Motion & Early Strengthening

TIMEFRAME

WEEKS 3-6

Goals & Gait:
Continue WBAT. Unlock and wean from the brace after 3 weeks when quadriceps control is adequate and there is no buckling. Wean crutches when gait is non-antalgic. Gradually progress flexion beyond 90° toward full comfortable motion while maintaining full extension.

Interventions:
Stationary bike as motion allows, mini-squats, step-ups, light leg press within tolerance, bridges, hamstring curls, calf raises, hip strengthening, and balance drills. Increase walking distance gradually.

Criteria to Progress:
Near-full or full comfortable motion, minimal effusion, normalized gait, and good control during basic single-leg tasks without increased symptoms the next day. No running, jumping, or twisting yet.

PHASE III

Advanced Strength & Function

TIMEFRAME

WEEKS 6-8

Interventions:
Progress resistance and endurance, step-downs, deeper squats and split squats as tolerated, single-leg balance, resisted walking, and elliptical or other low-impact conditioning. Emphasize symmetrical mechanics with stairs and sit-to-stand.

Criteria to Progress:
Full pain-free motion, no reactive swelling, controlled stairs and single-leg loading, and sufficient strength and balance for impact preparation.

PHASE IV

Return to Activity

TIMEFRAME

WEEKS 8+

Interventions & Clearance:
Progress jogging, agility, plyometrics, and sport-specific drills only after Dr. Yao clears impact loading and there is no joint or treated-bone pain. Advance gradually; persistent focal pain or recurrent effusion warrants reassessment.

Discharge Criteria:
Full pain-free motion, minimal to no swelling, near-symmetrical lower-extremity strength, and safe mechanics during work and sport-specific tasks.

Timelines after week 3 are guides, not automatic clearance. Individualize progression with Dr. Yao based on the treated bone lesion, symptoms, and associated procedures.