#### Taylor R. Dunphy, MD Newport Orthopedic Institute

Orthopaedic Surgery and Sports Medicine

PATIENT NAME

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**DIAGNOSIS ( LEFT / RIGHT ) CARTILAGE REPAIR (MICROFRACTURE / OATS / ALLOGRAFT OATS)**

 **(MEDIAL FEMORAL CONDYLE / LATERAL FEMORAL CONDYLE / TROCHLEA / PATELLA)**

**DATE OF SURGERY­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**PHYSICAL THERAPY PRESCRIPTION**

**PHASE 1 EARLY 0-6 WEEKS**

\*\****Knee brace***thru 6 weeks

\*\****Non-weightbearing*** *with crutches* x6 weeks (TTWB ok for patella/trochlea)

\*\****CPM***~ 3-4 hours daily x 6 weeks, start 0-60 degrees post-op, progress to 110 degrees by 6 weeks, and full ROM by 12 weeks post-op.

ROM Exercises: Week 0 - 6: 0-110 degrees

 (goal 90 degrees flexion by week 2, 110 degrees by week 6)

Isometric quad sets and SLR: --start immediately post-op

 --wear knee brace during SLR

 --may apply e-stim for poor quad function

Pre Progression – Emphasize VMO Strengthening

* Multiple angle isometrics
* Eccentric closed chain isotonics
* Concentric closed chain isotonics
* Eccentric open chain isokinetics (performed in 90-30 deg arc)
* Concentric open chain isokinetics, submaximal
* Eccentric open chain isotoinics
* Concentric open chain isotonics, submaximal
* Concentric open chain isotonics, maximal

* + Gentle multi-directional patella mobilization immediately after surgery
	+ Massage/deep friction to hamstring insertions, suprapatellar quadriceps, medial/lateral gutters, and infrapatellar regions 2-3 weeks post-op
	+ Hamstring/adductor/abductor/quadriceps/Achilles stretching
	+ Whirlpool therapy if available at 4 weeks post-op to enhance motion
	+ Stationary bicycle with no resistance once 90 degrees knee flexion obtained (~4 weeks)
	+ Anti-inflammatory modalities as needed (US/massage/e-stim)
	+ Cryotherapy and compression stockings/TEDS for swelling and pain control

**PHASE 2 TRANSITIONAL PHASE**

*\*\*****Weight-bearing status***: use bathroom scale to progress as follows:

 week 7: PWB 1/3 body weight

 week 8: PWB 2/3 body weight

 week 9: FWB with crutches

 week 10+: crutch, cane, or no device as tolerated

ROM Exercises: continue full AROM and gentle PROM exercises

 CPM may be discontinued

* Low weight (max 10-20lbs.) open-chain leg extension and curl
* Stationary bicycle with gradual increased tension per level of comfort
* Continue quad sets, SLR in brace, leg curl and heel slides
* Strengthen quads, hamstrings, and hip abductors/extensors using ankle weights and/or elastic band resistance through full ROM as tolerated
* Gentle closed-chain terminal knee extension 0-40 degrees (TKE) permitted starting at 9-10 weeks as tolerated per weight bearing restriction
	+ Continue multi-directional patella mobilization
	+ Hamstring/adductor/abductor/quadriceps/Achilles stretching
	+ Whirlpool therapy if available to enhance motion and quadriceps/hamstring muscle control
	+ E-stim for VMO/quadriceps muscle re-education/biofeedback as needed
	+ Gentle massage/deep friction to hamstring insertions, suprapatellar quadriceps, medial/lateral gutters, and infrapatellar regions
	+ Activity level should be modified if increased pain, catching, or swelling occurs

**PHASE 3: REMODELING PHASE 13 WEEKS+**

***\*\*Weight-bearing status***: full weight-bearing as tolerated with crutch or cane as needed/pain allows

**ROM Exercises**: continue full AROM and gentle PROM exercises

 CPM may be discontinued

**Therex**

* Resisted open-chain exercise with </= 20lbs to be progressed as tolerated after 6mos
* Closed-chain exercise to promote knee stability and proprioception through full ROM as tolerated
* Cycling on level surfaces permitted with gradual increase in tension per level of comfort
* Treadmill walking encouraged
* Rollerblading permitted at 6-7 months
	+ Continue multi-directional patella mobilization
	+ Hamstring/adductor/abductor/quadriceps/Achilles stretching
	+ Whirlpool therapy if available to enhance motion and quadriceps /hamstring muscle control
	+ E-stim for VMO/ quadriceps muscle re-education/biofeedback as needed
	+ Gentle massage/deep friction to hamstring insertions, suprapatellar quadriceps, medial/lateral gutters, and infrapatellar regions
	+ Activity level should be modified if increased pain, catching, or swelling occurs

\*\*no pivoting sports should be started without MD clearance

\*\*no squats, no leg presses allowed

**Physician’s Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Taylor R. Dunphy, MD, Orthopaedic Surgeon, Newport Orthopedic Institute**