

(PROTOCOL #21) REHABILITATION FOLLOWING CHONDROPLASTY OR MICROFRACTURE PROCEDURE

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The following is a set of general guidelines. It is important to remember that each patient is different. The progression of the patient depends on many factors including age and medical health of the patient and physician preferences. Any bracing is discontinued **ONLY UPON**

DIRECTION OF PHYSICIAN.

PHASE 1	FUNCTIONAL PROGRESSION/ACTIVITIES	GOALS/RESTRICTIONS
Post op to 4 weeks Proliferation Phase	<ul style="list-style-type: none"> • WB status varies based on lesion location and site • For medium to large femoral condyle lesions (>2.0cm²): non-weight bearing for 2 wk; begin toe touch WB (approximately 9.1-13.6 kg) at week 3; progress to partial WB (approximately 1/4 body weight) at week 4 • For small femoral condyle lesions (<2.0 cm²): immediate toe-touch WB (per physician)(approximately 9.1-13.6 kg) at weeks 0-2; progress to 50% WB by week 3; 75% WB by week 4 • For Patellofemoral lesions: immediate toe-touch WB of approximately 25% body weight with brace locked in full extension; progress to 50% WB at week 2 and 75% WB week 3 with brace locked in full extension, full WB week 4 <p>Range of Motion (ROM)</p> <ul style="list-style-type: none"> • Initiate CPM day 1 for total of 8-12 h/d) 0°-60°; if Patellofemoral lesion >6.0 cm², 0°-40°) • May continue CPM for total of 6-8 hours per day for up to 6 weeks <p>Strengthening Program</p> <ul style="list-style-type: none"> • No active knee extension for patellofemoral lesions • Quadriceps setting • Multi-angle isometrics (cocontractions Q/H) • Active knee extension 90°-40° for femoral condyle lesions (no resistance), avoid for patellofemoral lesions • Leg press 0°-60° week 3 for small femoral condyle lesions and patellofemoral lesions, progress to 0°-90° week 4 	<ul style="list-style-type: none"> • Protect healing tissue from load and shear forces • Decrease pain and effusion • Restoration of full passive knee extension • Regain quadriceps control • Minimum ROM goals: 0°-90° week 1, 0°-105° week 2; 0°-115° week 3, and 0°-125° • Gradual return to daily activities

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	<ul style="list-style-type: none"> • May begin stationary bike week 3-4, low resistance 	
PHASE 2	FUNCTIONAL PROGRESSION/ACTIVITIES	GOALS/RESTRICTIONS
Transition phase (weeks 4-8)	<p>Weigh Bearing</p> <ul style="list-style-type: none"> • Progress WB as tolerated • For large femoral condyle lesions: ½ body weight with crutches at 6 weeks; 75% WB week 7; progress to full WB at 8 weeks, discontinue crutches <p>ROM</p> <ul style="list-style-type: none"> • Gradual increase in ROM • Maintain full passive knee extension • Progress knee flexion to 135°+ by week 8 <p>Strengthening Exercises</p> <ul style="list-style-type: none"> • Progress WB exercises • Initiate leg press for large femoral condyle lesions week 6 • Mini-squats 0° - 45° week 7 • Progress balance and proprioception drills • Continue stationary bicycle, low resistance (gradually increase time) 	<ul style="list-style-type: none"> • Gradually improve quadriceps strength/endurance • Gradual increase in functional Activities <p>Criteria to progress to phase 3</p> <ul style="list-style-type: none"> • Full range of motion
PHASE 3	FUNCTIONAL PROGRESSION/ACTIVITIES	GOALS/RESTRICTIONS
Remodeling phase (weeks 8-16)	<p>ROM</p> <ul style="list-style-type: none"> • Patient should exhibit 125° - 135°+ flexion <p>Exercise program</p> <ul style="list-style-type: none"> • Leg press (0°-90°) • Bilateral squats (0°-60°) • Progress non-WB extension (0°-90°); for patellofemoral lesions, may begin week 12, perform from 90°-40° or 	<ul style="list-style-type: none"> • Improve muscular strength and endurance • Increase functional activities <p>Criteria to progress to phase 4</p> <ul style="list-style-type: none"> • Full Nonpainful ROM •

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	<p>avoid angle where lesion articulates; progress 0.45 kg every 2 weeks, beginning week 20 if no pain or crepitation, must monitor symptoms</p> <p>Maintenance program</p> <ul style="list-style-type: none"> • Initiate at weeks 12-16 • Progressive walking program • Straight leg raises 	
PHASE 4	FUNCTIONAL PROGRESSION/ACTIVITIES	GOALS/RESTRICTIONS
<p>Maturation phase (weeks 16-26)</p>	<p>Exercises</p> <ul style="list-style-type: none"> • Continue maintenance program progression 3-4 times per week • Progress agility and balance drills 	<p>Return to full unrestricted functional activities</p> <p>Functional activities</p> <ul style="list-style-type: none"> • Patient may return to various sport activities as progression in rehabilitation and cartilage healing allows. Generally, low-impact sports, such as swimming, skating, rollerblading and cycling are permitted at about 2 months for small femoral condyle and patellofemoral lesions and at 3 months for large femoral condyle lesions. Higher impact sports such as jogging, running and aerobics may be performed at 4 months for small lesions or 5 months for larger lesions. High impact sports such as tennis, basketball, football and baseball, are allowed at 6-8 months

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Approved By:

Physician reserves the right to adjust these protocols for each patient.

Signature: _____ Date _____
Robert M. Doane, M.D., P.C.

Signature: _____ Date _____
Balu Pisupati, PT

