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Osteochondral Defect Repair – Femoral Condyle Protocol

	WEIGHT BEARING	BRACE	ROM	EXERCISES	PROGRESSION GOALS
PHASE I - Acute 0-6 weeks	<ul style="list-style-type: none"> • 0-2 Weeks: <ul style="list-style-type: none"> - NWB with crutches - Brace locked straight • 2-4 Weeks: <ul style="list-style-type: none"> - TTWB with crutches - Brace locked straight • 4-6 Weeks: <ul style="list-style-type: none"> - PWB (25%) with crutches - Brace unlocked • 6-8 Weeks: <ul style="list-style-type: none"> - Progress to FWB with symmetrical gait - Wean from brace - Wean off crutches as gait normalizes 	<ul style="list-style-type: none"> • 0-4 Week: <ul style="list-style-type: none"> - Brace locked 0° extension for sleeping and all activities - Remove for CPM, exercise, and hygiene • 4 Weeks: <ul style="list-style-type: none"> - Unlock brace • 6 Weeks: <ul style="list-style-type: none"> - Discontinue brace if no extension lag 	<ul style="list-style-type: none"> • 0-1 Week: <ul style="list-style-type: none"> - Full extension - Start CPM flexion to 30°, advancing 5-10° daily as tolerated • 2-4 Weeks: <ul style="list-style-type: none"> - Maintain full extension and progress to 90° by 2 weeks and 105° by 3-4 weeks • 4+ Weeks: <ul style="list-style-type: none"> - Gradually progress flexion to 120° by 6 weeks <p>STRESS EARLY EXTENSION</p>	<ul style="list-style-type: none"> • Heel slides, Quad/Glute/Hamstring sets, straight leg raises (no resistance), hip abduction, patellar mobs, calf/hamstring stretching, stim, biofeedback • 4+ weeks, may add... <ul style="list-style-type: none"> - Static balance - Closed chain exercises - Isometric leg press - Stationary biking: must be >110° knee flexion (no resistance) • Activities with brace until 6 weeks; then without brace as tolerated • No weight bearing with flexion >90° • Avoid prolonged standing 	<ul style="list-style-type: none"> • Knee extension ≥ 0° • Knee Flexion 120° • Minimal effusion/pain • Voluntary quad control • Symmetrical gait without limp • MD or PT APPROVAL
PHASE II - Strength 6-12 weeks	<ul style="list-style-type: none"> • By 8 weeks progress to FWB and wean from brace 	<ul style="list-style-type: none"> • Discontinued at 6 weeks if no extension lag • Unlock and wean out of/off crutches at 8-9 weeks 	<ul style="list-style-type: none"> • 6+ Weeks: <ul style="list-style-type: none"> - Maintain full extension - Progress to full flexion (120-135° by week 8) 	<ul style="list-style-type: none"> • Continue with Phase I • Strengthening <ul style="list-style-type: none"> - Weight bearing with flexion >90° is PROHIBITED - Leg press, step ups, step downs, squats (45°), wall sits - Squat progression: bodyweight → single leg - Advance hip abduction & glute strength: band walks, lateral lunge, bridges, hip thrusters 	<ul style="list-style-type: none"> • Pain < 3/10 (worst) • Full ROM • Increase strength <ul style="list-style-type: none"> - Hamstring within 20% uninvolved side - Quad within 30% uninvolved side

- Do NOT change bandages unless instructed by physician
- Monitor for pain and swelling. Modify as necessary.
- Encourage home exercises program daily
- Encourage ice 4x a day for 20 minutes while swelling is present.
- For any questions or concerns please contact Dr. Tauberg’s office

OCD Repair - Femoral Condyle Protocol

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				<ul style="list-style-type: none"> - Core exercises: planks, side planks, v-ups, Russian twist, superman - Balance training: foam pad, balance board, BOSU <ul style="list-style-type: none"> • Conditioning - Stationary bike (progress resistance and time) - Treadmill walking week 10-12 	<ul style="list-style-type: none"> • Minimal effusion • Minimal pain • Symmetrical gait without a limp • Balance within 30% uninvolved side
PHASE III – Initiate Jogging and Double Leg Plyometrics 12-20 weeks	<ul style="list-style-type: none"> • Full 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • 12+ Weeks: - Maintain symmetry & pain-free with overpressure 	<ul style="list-style-type: none"> • Strengthening - Leg press (0-90°), step ups, step downs, RDLs, lunges, squats (0-60°), wall sits - Squat progression: bodyweight → single leg - Advance hip abduction & glut strength: band walks, lateral lunge, reverse lunge, bridges, hip thrusters - Core exercises: planks, side planks, v-ups, Russian twist, superman - Balance training: foam pad, balance board, BOSU • Conditioning - Dynamic warmup & integrate sport specific warmup - Stationary bike, elliptical, swimming (14 weeks), & rowing machine - 12+ Weeks: treadmill walk/jog progressions. Begin with 30"-1' W/J intervals, advance jog time by 1 min each week - 12+ Weeks: Double leg jump rope and shuttle jumps - 14+ Weeks: Swimming → progress kicking gradually and pain-free, no flip turns - 16+ Weeks: Advance to track workouts: jog straights and walk curves (jog to run progression) 	<p>Criteria For Jogging & Double Leg Jump Rope</p> <ul style="list-style-type: none"> • Pain ≤ 3/10 (worst) • Within 2° normal knee extension & 120° knee flexion • Quad and hamstring strength ≥ 60% normal • Less than 4cm deficit on single-leg squat (anterior reach) • ≥ 1 minute single leg squats • MD approval
PHASE IV – Strength, Agility, Plyometrics 20-24 weeks	<ul style="list-style-type: none"> • Full 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • 20+ weeks: promote and maintain symmetry 	<ul style="list-style-type: none"> • Strengthening - Gym strengthening: squats, deadlifts, initiate Olympic lifting - Dynamic eccentric loading: double & single leg - Dynamic core: rotational and anti-rotational drills - Integrate interval strength circuits & work/rest timed intervals - Isokinetic training protocols: begin with 300°/sec, progress to 180°/sec • Conditioning - Dynamic warmup & sport specific warmup - Stationary bike, elliptical, swimming, & rowing machine 	<p>Criteria for Plyometrics & Agility:</p> <ul style="list-style-type: none"> • Pain ≤ 2/10 (Worst) • Quad & HS symmetry ≥ 80% normal; ≥ 50% H/Q ratio for females • ≤5 on landing error scoring system (LESS) • At least 3 minutes of single-leg squats (resisted) • Jogging >15 minutes on treadmill

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				<ul style="list-style-type: none"> - Track workouts: advance to linear speed drills and sprinting drills • Plyometrics & Agility - Ladder drills, footwork agility drills, cone drills - Double leg plyos: jump rope, line jumps, cone jumps, depth jumps, box jumps - Single leg landings: alternating, line jumps, hops → SL jumps - High intensity predictable patterned movements, incorporate sport specific drills - Change of direction drills: begin with <90°, progress to 90° and greater • Advanced Agility & Plyometrics (2-3 days/week) - Tuck jumps, squat jumps, bounding, SL hop, SL triple hop, SL cross over hop - Change of direction drills - Introduce unpredictable agility movements - Non-contact sport-specific drills 	<ul style="list-style-type: none"> • MD or PT APPROVAL <p>Criteria for Advanced Agility & SL Plyometrics:</p> <ul style="list-style-type: none"> • Pain < 2/10 (Worst) • Quad & HS symmetry ≥ 80% normal; ≥ 50% H/Q ratio for females • At least 3 minutes of single-leg squats (resisted) • Jogging >15 minutes on track or paved surface • MD or PT APPROVAL
PHASE VI – Return to Play 24+ weeks	<ul style="list-style-type: none"> • Full 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Full 	<ul style="list-style-type: none"> • Strengthening - Gym strengthening: squats, deadlifts, initiate Olympic lifting - Interval strength circuits & work/rest timed intervals - Dynamic strength and core exercises - Complex movement patterns - Isokinetic protocols: 300°, 180°, 60°/sec • Conditioning - Biking, jogging, swimming, rowing, interval sprints • Plyometrics & Agility (2-3 days/week) - Max effort DL and SL jumps → progress with rotation - Lateral & rotational agility drills - Unpredictable cutting agility - Non-contact drills → contact drills with MD approval - Return to practice → contact practice → scrimmage → interval play → full play 	<p>Return to Play Criteria:</p> <ul style="list-style-type: none"> • VAS < 2 (Worst) • >75/100 on ACL-RSI survey • Quad & Hamstring strength ≥ 90% normal; ≥ 60% H/Q ratio for females • 90% normal on single-leg hop tests • 95% normal figure of 8, SL vertical jump, & 5-10-5 pro-agility • MD APPROVAL • Low impact sports: 6 months post-op • Medium impact sports: 8-9 months for small lesions and 9-12 months for large lesions • High impact sports: 12-18 months