

Dr Craig Chike Akoh, M.D.
Autologous Chondrocyte Implantation OF FEMORAL CONDYLE
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-6 weeks</i>	Non-WB	0-2 weeks: Locked in full extension at all times Off for CPM and exercise only Discontinue at 2 wks assuming quads can control SLR w/o extension lag	0-6 weeks: Use CPM for 6 hours/day, beginning at 0-40 °; advance 5-10 ° daily as tolerated	0-2 weeks: Quad sets, SLR, calf pumps, passive leg hangs to 90 ° at home 2-6 weeks: PROM/AAROM to tolerance, patella and tibiofibular joint mobs, quad, hamstring, and glute sets, SLR, side-lying hip and core
<i>PHASE II</i> <i>6-8 weeks</i>	Advance 25% weekly until full	None	Full	Advance Phase I exercises
<i>PHASE III</i> <i>8-12 weeks</i>	Full	None	Full	Gait training, begin closed chain activities: wall sits, shuttle, mini-squats, toe raises Begin unilateral stance activities, balance training
<i>PHASE IV</i> <i>12 weeks – 6 months</i>	Full	None	Full	Advance Phase III exercises; maximize core/glutes, pelvic stability work, eccentric hamstrings May advance to elliptical, bike, pool as tolerated
<i>PHASE V</i> <i>6-12 months</i>	Full	None	Full	Advance functional activity Return to sport-specific activity and impact when cleared by MD after 8 mos

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
ACI OF PATELLA / TROCHLEA WITHOUT AMZ
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-6 weeks	Full w/ brace	0-1 week: Locked in full extension at all times Off for CPM and exercise only 1-4 weeks: Unlocked and worn daytime only Discontinue when quads can control SLR w/o extension lag	0-6 weeks: Use CPM for 6 hours/day, beginning 0-30 ° for 0-2 weeks 2-4 weeks: 0-60 ° 4-6 weeks: 0-90 °	0-2 weeks: Quad sets, SLR, calf pumps, passive leg hangs to 45 ° at home 2-6 weeks: PROM/AAROM to tolerance, patella and tibiofibular joint mobs, quad, hamstring, and glute sets, SLR, side-lying hip and core
<i>PHASE II</i> 6-8 weeks	Full	None	Full	Advance Phase I exercises
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Gait training, begin closed chain activities: wall sits, mini-squats, toe raises, stationary bike Begin unilateral stance activities, balance training
<i>PHASE IV</i>	Full	None	Full	Advance Phase III exercises; maximize core/glutes, pelvic stability work, eccentric hamstrings

12 weeks – 6 months				May advance to elliptical, bike, pool as tolerated
PHASE V 6-12 months	Full	None	Full	Advance functional activity Return to sport-specific activity and impact when cleared by MD after 8 mos

Dr. Craig Chike Akoh, M.D.
Nonoperative PCL protocol **NEEDS EDITING**

	Weight Bearing	Brace	ROM	Exercises
<i>Phase 1 0-10 days</i>	NWB with crutches	0-2 weeks : Post-operative brace At two weeks patient will transition into PCL Rebound brace to be worn at all times (including sleep and therapy)	0-2 weeks: Prone PROM 0-90 At two weeks ROM progressed as tolerated in brace in prone position only	Patellar mobs Quad activation exercises SLR once no quad lag is demonstrated Hip/core/UE strengthening Gastroc stretching No hamstring stretching No weight bearing with flexion >90°
<i>Phase 2 6-12 Weeks</i>	Progress to WBAT Work on gait training as crutch weaning occurs	PCL Rebound brace at all times including sleep and therapy sessions	Full ROM prone and supine after 6 weeks Precaution: Do not be overly aggressive with flexion (puts stress on graft) Precautions - No open chain hamstring strengthening or isolated	Continued quad activation and SLR exercises No weight bearing with flexion >90° till week 8 Double leg strengthening exercises (no greater than 70 knee flexion Single leg static strength exercises Hamstring bridges on ball

			<p>hamstring exercises</p> <p>No hamstring stretching</p> <p>Cautious on bike</p> <p>Follow ROM guidelines</p> <p>no forced hyperflexion</p>	<p>Squat progression</p> <p>May begin pool walking/therapy (light kicking)</p> <p>Stationary bike no resistance (when ROM is 115 or more)</p> <p>*emphasis: muscular endurance (3 sets 20 reps)</p> <p>*Precautions: Avoid hyperextension and isolated hamstring activation</p>
<p><i>Phase 3</i> <i>13-18</i> <i>Weeks</i></p>	<p>Full in PCL Rebound brace</p> <p>Continue to address gait mechanics</p>	<p>PCL Rebound brace at all times including sleeping and therapy</p>	<p>Full</p> <p>Precautions</p> <ul style="list-style-type: none"> - no forced hyperflexion - no isolated hamstring stretching 	<p>Continue exercise progressions from phase 2.</p> <p>Double leg press (0-70) progress to single leg press</p> <p>Balance squats</p> <p>Continue squat progression</p> <p>Single leg bridges starting at wk 16</p> <p>Proprioceptive/balance exercises</p> <p>Progress stationary bike resistance and duration</p> <p>Progressive WB strength, including progressive hamstring strengthening</p>

				(no isolated hamstring strengthening until 16 weeks)
<i>Phase 4 19-24 Weeks</i>	Full	PCL Rebound brace at all times including sleeping and therapy	Full	<p>Continue to progress OKC and CKC strength and endurance</p> <p>Continue to build strength and single leg endurance with increasing emphasis on power</p> <p>May begin sport specific type drills towards end of phase close to 24wks.</p>

<p><i>Phase 5</i> <i>25-36</i> <i>Weeks</i></p>	<p>Full</p>	<p>May begin to wean from PCL Rebound brace once cleared to do so by MD</p>	<p>Full</p>	<p>Initiate absorption activities</p> <p>Continue with strengthening</p> <p>Straight line jogging progression WK 1: 4 min walk; 1 min jog for 15-20 mins</p> <p>WK 2: 3 min walk; 2 min jog, for 20 mins</p> <p>WK 3: 2 min walk; 3 min jog for 20 mins</p> <p>WK 4: 1 min walk; 4 min jog for 20 min</p> <p>Once running progression is complete continue single plane agility with progression to multi-planar sport specific drills</p>
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Return to sport after being cleared by MD after obtaining a functional RTS Sport Test.

Dr Craig Chike Akoh, M.D
ACL PATELLAR TENDON RECONSTRUCTION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-4 weeks	As tolerated with crutches*	0-1 week: Locked in full extension for ambulation and sleeping 1-4 weeks: Unlocked for ambulation, remove for sleeping**	As tolerated	Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag Side lying hip/core
<i>PHASE II</i> 4-12 weeks	Full, progressing to normal gait pattern	Discontinue at day 28 if patient has no extension lag	Main full extension and progressive flexion	Progress to weight bearing gastroc/soleus stretch Begin toe raises, closed chain extension, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks
<i>PHASE III</i> 12-16 weeks	Full, without use of crutches and with a normalized gait pattern	None	Gain full and pain-free	Advance closed chain strengthening Progress proprioception activities Begin stairmaster, elliptical and running straight ahead at 12 weeks, hip/core, pool
<i>PHASE IV</i> 16-24 weeks	Full	None	Full and pain-free	16 wks: Begin jumping 20 wks: Advance running to sprinting, backward running, cutting/pivoting/changing direction; initiate plyometric program and sport-specific drills 22 wks: Advance as tolerated FSA completed at 22 wks

<i>PHASE V</i> <i>> 6 months</i>	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA
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Dr. Craig Chike Akoh, MD
ACL PATELLAR TENDON RECONSTRUCTION WITH ALL INSIDE MENISCAL REPAIR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-4 weeks</i>	0-2 wks Partial WB with crutches 2-4 wks full in brace unlocked 0-90	0-2 week: Locked in full extension for ambulation and sleeping 3-4 weeks: Unlocked 0-90 ° Off at night	0-2 wks: 0-90° when non-weight bearing 2-8wk: as tolerated	Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag Side-lying hip/core No weight bearing with flexion >90°
<i>PHASE II</i> <i>5-12 weeks</i>	4-8 weeks: Full WB	Discontinue brace at 6 weeks (only if patient has good quad control)	Full	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 6 weeks; then w/o brace as tolerated No weight bearing with flexion >90° 8-12wk: Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 °, proprioception exercises, balance/core/hip/glutes

				Begin stationary bike
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Dr, Craig Chike Akoh, M.D.
REVISION ACL RECONSTRUCTION
WITH CONTRALATERAL PATELLAR TENDON AUTOGRAFT
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-4 weeks</i>	Full in Brace	0-2 week: Locked in full extension for ambulation on harvest side knee; recipient knee immobilizer only 0-2 wks at night* 2-4 weeks: Unlocked for ambulation and worn on harvest knee only -remove for sleeping**	As tolerated	Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag Side-lying hip/core
<i>PHASE II</i> <i>4-12 weeks</i>	Full	Discontinue at day 28	Full	Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks; advance hip/core
<i>PHASE III</i> <i>12-16 weeks</i>	Full	None	Full	Advance closed chain strengthening Progress proprioception activities Begin stairmaster, elliptical and running straight ahead at 12 weeks

<i>PHASE IV 16-24 weeks</i>	Full	None	Full	16 wks: Begin jumping 20 wks: Advance to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport-specific drills 22 wks: Advance as tolerated FSA completed at 22 wks
<i>PHASE V > 6 months</i>	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

- Recipient knee does not require brace during day at all, unless concomitant meniscus repair done. Immobilizer on recipient knee is worn only at night to retain full extension and may be off during the day.
- Donor knee does not require brace at night-time at all; hinged brace daytime locked in extension 0-2 wks and then unlocked 2-4 wks.
- Modified with concomitantly performed meniscus repair/transplantation or articular cartilage procedure

- Immobilizer may be removed for sleeping after first post-operative visit if no flexion contracture remains

Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approx. 22 wks post-op for competitive athletes returning to play after rehab

Dr. Craig Chike Akoh, M.D.
ACL PATELLAR TENDON RECONSTRUCTION WITH INSIDE OUT MENISCAL REPAIR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-4 weeks	0-2 wks Partial WB with crutches 3-4 wks 50% WB w/ crutches	0-2 week: Locked in full extension for ambulation and sleeping 3-4 weeks: Unlocked 0-90 ° Off at night	0-2 wks: 0-90° when non- weight bearing 2-8wk: as tolerated	Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag Side-lying hip/core No weight bearing with flexion >90°
<i>PHASE II</i> 5-12 weeks	4-8 weeks: Progress to full WB	Discontinue brace at 6 weeks (only if patient has good quad control)	Full	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 6 weeks; then w/o brace as tolerated No weight bearing with flexion >90° 8-12wk: Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 °, proprioception exercises, balance/core/hip/glutes Begin stationary bike

<i>PHASE III 13-16 weeks</i>	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 16 wks
<i>PHASE IV 17-24 weeks</i>	Full	None	Full	Advance to sport-specific drills and running/jumping once cleared by MD
<i>PHASE V > 6 months</i>	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

- Modified with concomitantly performed meniscus repair/transplantation or articular cartilage procedure
- Brace may be removed for sleeping after first post-operative visit (day 7-10)
- Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approx 22 wks post-op for competitive athletes returning to play after rehab

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

<i>PHASE III 13-16 weeks</i>	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 16 wks
<i>PHASE IV 17-24 weeks</i>	Full	None	Full	Advance to sport-specific drills and running/jumping once cleared by MD
<i>PHASE V > 6 months</i>	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

- Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approx 22 wks post-op for competitive athletes returning to play after rehab



Dr. Craig Chike Akoh, M.D.

**ACL Reconstruction with BTB Auto and Concomitant Microfracture of Femoral Condyle
Rehabilitation Guideline**

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-6 weeks	Non-WB	0-2 week: Locked in full extension at all times Off for CPM and exercise only 2-4 week: unlocked for ambulation and off for sleeping	0-6 weeks: Use CPM for 6 hours/day, beginning at 0-40 °; advance 5-10 ° daily as tolerated	0-2 weeks: Quad sets, SLR, calf pumps, passive leg hangs to 90 ° at home 2-6 weeks: PROM/AAROM to tolerance, patella and tibiofibular joint mobs, quad, hamstring, and glut sets, SLR, side-lying hip and core
<i>PHASE II</i> 6-8 weeks	Advance 25% weekly until full	D/C PO brace if no extension lag and good quad control is demonstrated	Full	Advance Phase I exercises
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Gait training, begin closed chain activities: wall sits, shuttle, mini-squats, toe raises Begin unilateral stance activities, balance training

<i>PHASE IV</i> 12 weeks – 6 months	Full	None	Full	Advance Phase III exercises; maximize core/glutes, pelvic stability work eccentric hamstrings May advance to elliptical, bike, pool as tolerated
<i>PHASE V</i> 6-12 months	Full	None	Full	Advance functional activity Return to sport-specific activity an impact when cleared by MD after 8 mos

For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
ACL WITH HAMSTRING RECONSTRUCTION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-4 weeks	As tolerated with crutches*	0-1 week: Locked in full extension for ambulation and sleeping 1-4 weeks: Unlocked for ambulation	As tolerated	Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag
<i>PHASE II</i> 4-12 weeks	Full, progressing to normal gait pattern	Discontinue at day 28 if patient has no extension lag	Main full extension and progressive flexion	Progress Phase I Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks, hip/glute/core, pool
<i>PHASE III</i> 12-16 weeks	Full, without use of crutches and with a normalized gait pattern	None	Gain full and pain-free	Advance closed chain strengthening, progress proprioception activities

				Begin stair-master, elliptical and running straight ahead
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<i>PHASE IV 16-24 weeks</i>	Full	None	Full and pain-free	16 wks: Begin jumping 20 wks: Advance running to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport-specific drills 22 wks: Advance as tolerated FSA completed at 22 wks
<i>PHASE V > 6 months</i>	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

- Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approx. 22 weeks post-op for competitive athletes returning to play after rehab

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, MD
ACL WITH HAMSTRING RECONSTRUCTION WITH ALL-INSIDE MENISCAL REPAIR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-4 weeks	FWB as tolerated	<p>0-2 week: Locked in full extension for ambulation and sleeping</p> <p>2-6 weeks: Unlocked 0-90 °</p>	<p>0-2 weeks: 0-90 NWB</p> <p>As tolerated at 3 weeks</p>	<p>Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch</p> <p>SLR w/ brace in full extension until quad strength prevents extension lag</p> <p>No weight bearing with flexion >90°</p>
<i>PHASE II</i> 4-12 weeks	Full, progressing to normal gait pattern	Discontinue at 6 weeks if patient has no extension lag	Main full extension and progressive flexion	<p>Progress Phase I</p> <p>Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks, hip/glute/core, pool</p>

<i>PHAS E III 12-16 weeks</i>	Full, without use of crutches and with a normalized gait pattern	None	Gain full and pain-free	Advance closed chain strengthening, progress proprioception activities Begin stair-master, elliptical and running straight ahead
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<i>PHASE IV 16-24 weeks</i>	Full	None	Full and pain-free	16 wks: Begin jumping 20 wks: Advance running to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport-specific drills 22 wks: Advance as tolerated FSA completed at 22 wks
<i>PHASE V > 6 months</i>	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

- Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approx. 22 weeks post-op for competitive athletes returning to play after rehab

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, MD
ACL WITH HAMSTRING RECONSTRUCTION WITH INSIDE-OUT MENISCAL REPAIR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-4 weeks	0-2 wk: PWB 2-4 wk: 50% WB with crutches	0-2 week: Locked in full extension for ambulation and sleeping 2-6 weeks: Unlocked 0-90 ° Off at night	0-2wks: 0-90 NWB Progress as tolerated.	Heel slides, quad sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag No weight bearing with flexion >90°
<i>PHASE II</i> 4-12 weeks	4-8 weeks: Progress to full WB	Discontinue at day 28 if patient has no extension lag	Main full extension and progressive flexion	Progress Phase I Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks, hip/glute/core, Pool Therapy At 8 weeks may progress WB with flexion > 90

<i>PHASE III 12-16 weeks</i>	Full	None	Gain full and pain-free	Advance closed chain strengthening, progress proprioception activities Begin stair-master, elliptical and running straight ahead
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<i>PHASE IV 16-24 weeks</i>	Full	None	Full and pain-free	16 wks: Begin jumping 20 wks: Advance running to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport-specific drills 22 wks: Advance as tolerated FSA completed at 22 wks
<i>PHASE V > 6 months</i>	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

- Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approx. 22 weeks post-op for competitive athletes returning to play after rehab

Dr Craig Chike Akoh, M.D.
POSTEROLATERAL CORNER RECONSTRUCTION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>Phase 1 0-2 Weeks</i>	NWB	Locked in full extension, worn at all times	Gentle PROM Goal of 90 degrees of flexion and full symmetric extension	SLR, Quad sets, patellar mobs, gentle lumbopelvic and hip stabilization exercises
<i>Phase 2 2-6 Weeks</i>	NWB	Locked in full extension, worn at all times	Continue ROM as tolerated Goal: 120 degrees of flexion and symmetric extension	Continue with quad activation exercises
<i>Phase 3 6-12 Weeks</i>	Begin WB progression Goal: FWB by 8 weeks	May D/C brace when adequate quadriceps control is demonstrated	Full ROM	Stationary bike when 105 degrees of flexion is obtained Continue with quad activation exercises
<i>Phase 4 12-16 weeks</i>	FWB	None	Full	Leg press 25% BW, max knee flexion 70 Squat up to 50% BW max knee flexion 70, slow progression to full BW CKC exercises May begin light swimming/pool work

<i>Phase 5 4-6 Months</i>	FWB	None	Full	<p>Prolonged walking program Resistance stationary biking Advanced CKC exercises adding unstable surfaces Return to run program and plyometric work when</p> <ul style="list-style-type: none">■ Able to perform 20 involved single leg squats to greater than 60 with good quadriceps control
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<i>Phase 6 6 Months – Return to sports</i>	FWB	None	Full	MD Clearance for return to sport activities as well as cutting and pivoting exercises. RTS functional test prior to clearance. Maintenance HEP
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For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, MD
ACL & POSTEROLATERAL CORNER RECONSTRUCTION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-6 weeks	Heel touch WB in brace *	0-2 weeks: Locked in full extension for ambulation and sleeping 2-6 weeks: Unlocked for ambulation 0-90, remove for sleeping**	0-2 weeks: 0-45 2-6 weeks: Advance slowly 0-90	Quad sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag Side-lying hip/core Hamstrings avoidance until 6 wks post-op
<i>PHASE II</i> 6-12 weeks	Advance 25% weekly until full by 8 wks	Discontinue at 6 wks if no extension lag	Full	Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks; advance hip/core
<i>PHASE III</i> 12-16 weeks	Full	None	Full	Advance closed chain strengthening Progress proprioception activities Begin stairmaster, elliptical and running straight ahead at 12 weeks
<i>PHASE IV</i> 16-24 weeks	Full	None	Full	16 wks: Begin jumping 20 wks: Advance to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport-specific drills
<i>PHASE V</i> > 6 months	Full	None	Full and pain-free	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

- Modified with concomitantly performed meniscus repair/transplantation or articular cartilage procedure
- Brace may be removed for sleeping after first post-operative visit (day 7-10)
- Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approx 22 wks post-op for competitive athletes returning to play after rehab

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, MD

**ACL AND MCL RECONSTRUCTION
REHABILITATION PROTOCOL**

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>Phase 1</i> 0-2 weeks	Toe Touch WB	Locked in extension	ROM Goal: 0-60	Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag Side-lying hip/core
<i>PHASE</i> 2 2-6 weeks	Full in Brace	Locked in extension 2-4 weeks Unlocked 0-60 4-6 weeks	ROM as tolerated Goal: 0- 90	Heel slides, quad/hamstring sets, patellar mobs, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag Side-lying hip/core
<i>PHASE</i> 3 6-12 weeks	Full	D/C brace	Full	Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks; advance hip/core
<i>PHASE</i> 4 3-6 months	Full	None	Full	May initiate functional walk/jog 16 wks: Begin jumping 20 wks: Advance to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport- specific drills 22 wks: Advance as tolerated FSA completed at 22 wks

<i>PHASE 5 Return to Sport</i>	Full	Functional Brace	Full	Return to sport activities
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Dr. Craig Chike Akoh, M.D.

PCL/Multi-Ligament Reconstruction Rehabilitation Guideline (with Meniscal Precautions)

	Weight Bearing	Brace	ROM	Exercises
<i>Phase 1 0-6 Weeks</i>	NWB with crutches	0-2 weeks : Post-operative brace At two weeks patient will transition into PCL Rebound brace to be worn at all times (including sleep and therapy)	0-2 weeks: Prone PROM 0-90 At two weeks ROM progressed as tolerated in brace in prone position only	Patellar mobs Quad activation exercises SLR once no quad lag is demonstrated Hip/core/UE strengthening Gastroc stretching No hamstring stretching No weight bearing with flexion >90°
<i>Phase 2 6-12 Weeks</i>	Progress to WBAT Work on gait training as crutch weaning occurs	PCL Rebound brace at all times including sleep and therapy sessions	Full ROM prone and supine after 6 weeks Precaution: Do not be overly aggressive with flexion (puts stress on graft) Precautions - No open chain hamstring	Continued quad activation and SLR exercises No weight bearing with flexion >90° till week 8 Double leg strengthening exercises (no greater than 70 knee flexion Single leg static strength exercises Hamstring bridges on ball

			<p>strengthening or isolated hamstring exercises</p> <p>No hamstring stretching</p> <p>Cautious on bike</p> <p>Follow ROM guidelines</p> <p>no forced hyperflexion</p>	<p>Squat progression</p> <p>May begin pool walking/therapy (light kicking)</p> <p>Stationary bike no resistance (when ROM is 115 or more)</p> <p>*emphasis: muscular endurance (3 sets 20 reps)</p> <p>*Precautions: Avoid hyperextension and isolated hamstring activation</p>
<p><i>Phase 3</i> <i>13-18</i> <i>Weeks</i></p>	<p>Full in PCL Rebound brace</p> <p>Continue to address gait mechanics</p>	<p>PCL Rebound brace at all times including sleeping and therapy</p>	<p>Full</p> <p>Precautions</p> <ul style="list-style-type: none"> - no forced hyperflexion - no isolated hamstring stretching 	<p>Continue exercise progressions from phase 2.</p> <p>Double leg press (0-70) progress to single leg press</p> <p>Balance squats</p> <p>Continue squat progression</p> <p>Single leg bridges starting at wk 16</p> <p>Proprioceptive/balance exercises</p> <p>Progress stationary bike resistance and duration</p> <p>Progressive WB strength, including progressive hamstring strengthening</p>

				(no isolated hamstring strengthening until 16 weeks)
<i>Phase 4 19-24 Weeks</i>	Full	PCL Rebound brace at all times including sleeping and therapy	Full	<p>Continue to progress OKC and CKC strength and endurance</p> <p>Continue to build strength and single leg endurance with increasing emphasis on power</p> <p>May begin sport specific type drills towards end of phase close to 24wks.</p>

<p><i>Phase 5</i> <i>25-36</i> <i>Weeks</i></p>	<p>Full</p>	<p>May begin to wean from PCL Rebound brace once cleared to do so by MD</p>	<p>Full</p>	<p>Initiate absorption activities</p> <p>Continue with strengthening</p> <p>Straight line jogging progression WK 1: 4 min walk; 1 min jog for 15-20 mins</p> <p>WK 2: 3 min walk; 2 min jog, for 20 mins</p> <p>WK 3: 2 min walk; 3 min jog for 20 mins</p> <p>WK 4: 1 min walk; 4 min jog for 20 min</p> <p>Once running progression is complete continue single plane agility with progression to multi-planar sport specific drills</p>
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Return to sport after being cleared by MD after obtaining a functional RTS Sport Test.

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr Craig Chike Akoh, M.D.
KNEE ARTHROSCOPIC MENISCECTOMY
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated
<i>PHASE II</i> 2-4 weeks	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> 4-12 weeks	Full	None	Full	Advance sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact my office.

Dr. Craig Chike Akoh, M.D.
MENISCAL REPAIR, ALL-INSIDE
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Full in Brace locked in extension***	Locked in full extension for sleeping and all activity* Off for exercises and hygiene	0-90° when non-weight bearing	Heel slides, quad sets, patellar mobs, SLR, SAQ** No weight bearing with flexion >90°
<i>PHASE II</i> 2-6 weeks	2-4 weeks: Full in Brace unlocked 0-90 ° 4-6 weeks: Full w/o brace	2-6 weeks: Unlocked 0-90 ° Off at night Discontinue brace at 6 weeks	As tolerated	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 6 weeks; then w/o brace as tolerated No weight bearing with flexion >90°
<i>PHASE III</i> 6-12 weeks	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 °, proprioception exercises, balance/core/hip/glutes Begin stationary bike when able
<i>PHASE IV</i> 12-20 weeks	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 12 wks Advance to sport-specific drills and running/jumping after 16 wks once cleared by MD

- Avoid any tibial rotation for 8 weeks to protect meniscus
- Weight bearing status may vary depending on nature of meniscus repair. Please refer to specific PT Rx provided to patient for confirmation of WB status

For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
MENISCAL REPAIR, INSIDE-OUT
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Partial weight bearing with crutches***	Locked in full extension for sleeping and all activity* Off for exercises and hygiene	0-90° when non-weight bearing	Heel slides, quad sets, patellar mobs, SLR, SAQ** No weight bearing with flexion >90°
<i>PHASE II</i> 2-8 weeks	2-4 weeks: 50% WB with crutches 4-8 weeks: Progress to full WB	2-6 weeks: Unlocked 0-90 ° Off at night Discontinue brace at 6 weeks	As tolerated	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 6 weeks; then w/o brace as tolerated No weight bearing with flexion >90°
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 °, proprioception exercises, balance/core/hip/glutes Begin stationary bike
<i>PHASE IV</i> 12-20 weeks	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 16 wks
<i>PHASE V</i>	Full	None	Full	Advance to sport-specific drills and running/jumping once cleared by MD

> 20 weeks				
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For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
MENISCAL REPAIR, RADIAL TEAR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	NWB	Locked in full extension for sleeping and all activity* Off for exercises and hygiene	0-90° when non-weight bearing	Heel slides, quad sets, patellar mobs, SLR, SAQ** No weight bearing with flexion >90°
<i>PHASE II</i> 2-8 weeks	2-6 weeks: NWB 6-8 weeks: progress to WBAT	2-6 weeks: Unlocked 0-90 ° Off at night after 4 weeks Discontinue brace at 8 weeks	As tolerated	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 8 weeks; then w/o brace as tolerated No weight bearing with flexion >90°
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 °, proprioception exercises, balance/core/hip/glutes Begin stationary bike
<i>PHASE IV</i> 12-20 weeks	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 16 wks
<i>PHASE V</i>	Full	None	Full	Advance to sport-specific drills and running/jumping once cleared by MD

> 20 weeks				
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For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
MENISCAL ROOT REPAIR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	NWB for 6 weeks	Locked in full extension for sleeping and all activity* Off for exercises and hygiene	0-60° PROM	Heel slides, quad sets, patellar mobs, SLR, SAQ** No weight bearing with flexion >90°
<i>PHASE II</i> 2-8 weeks	At 6 weeks begin WB progression FWB by 8 weeks	2-6 weeks: Unlocked 0-90 ° Off at night Discontinue brace at 6 weeks	ROM as tolerated	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 6 weeks; then w/o brace as tolerated No weight bearing with flexion >90°
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 °, proprioception exercises, balance/core/hip/glutes Begin stationary bike
<i>PHASE IV</i> 12-20 weeks	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 16 wks
<i>PHASE V</i>	Full	None	Full	Advance to sport-specific drills and running/jumping once cleared by MD

> 20 weeks				
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For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
MENISCAL ALLOGRAFT TRANSPLANTATION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel touch weight bearing with crutches	Locked in full extension for sleeping and all activity Off for exercises and hygiene	0-90° when non-weight bearing	Heel slides, quad sets, patellar mobs, SLR, SAQ No weight bearing with flexion >90°
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel touch WB with crutches 6-8 weeks: Progress to full WB	2-8 weeks: Locked 0-90 ° Off at night Discontinue brace at 8 weeks	As tolerated	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 6 weeks; then w/o brace as tolerated No weight bearing with flexion >90°
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 °, proprioception exercises, balance/core/hip/glutes Begin stationary bike
<i>PHASE IV</i> 12-20 weeks	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 16 wks
<i>PHASE V</i> > 20 weeks	Full	None	Full	Advance to sport-specific drills and running/jumping once cleared by MD

- Brace may be removed for sleeping after first post-operative visit (day 7-10)
- Avoid any tibial rotation for 8 weeks to protect meniscus

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
OSTEOCHONDRAL ALLOGRAFT OF FEMORAL CONDYLE WITH DFO (DISTAL FEMORAL OSTEOTOMY)
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-2 weeks</i>	NWB	On at all times Locked in extension	0-6 weeks: Use CPM for 6 hours/day, beginning at 0- 40°	Calf pumps, quad sets SLR in brace, modalities
<i>PHASE II</i> <i>2-6 weeks</i>	NWB	Off at night Open 0-90 and worn daytime only	advance 5-10° daily as tolerated	Progress non-weight bearing flexibility; modalities Begin floor-based core and glutes exercises Advance quad sets, pat mobs, and SLR
<i>PHASE III</i> <i>6 weeks - 8 weeks</i>	Advance 25% weekly and progress to full with normalized gait pattern	D/C brace with demonstration of quadriceps control	Full	Gait training and begin CKC exercises Begin stationary bike at 6 weeks Advance SLR, floor-based exercise
<i>PHASE IV</i> <i>8-12 weeks</i>	Full	None	Full	Progress flexibility/strengthening, progression of functional balance, core, glutes program
<i>PHASE V</i> <i>3-6 months</i>	Full	None	Full	May begin elliptical, bike, and pool at 12wk Continue to advance strengthening and proprioceptive exercises

<i>PHASE VI</i> 6-12 months	Full	None	Full	Advance Phase V activity Progress to functional training Advance functional activity Return to sport-specific activity and impact when cleared by MD after 8 mos
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For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
COMBINED OSTEOCHONDRAL ALLOGRAFT AND MENISCAL ALLOGRAFT TRANSPLANTATION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel touch only	Locked in full extension at all times* Off for hygiene and home exercise only	Gentle passive 0-90° CPM 0-90°	Heel slides, quad sets, patellar mobs, SLR, calf pumps at home
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel touch only 6-8 weeks: Advance 25% weekly until full	2-8 weeks: Locked 0-90 ° Discontinue brace at 8 weeks	Advance as tolerated w/ caution during flexion >90 ° to protect post horn of meniscus	2-6 weeks: Add side-lying hip and core, advance quad set and stretching 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Advance hamstring work, lunges/leg press 0-90 ° only, proprioception/balance exercises Begin stationary bike
<i>PHASE IV</i> 12-24 weeks	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance
<i>PHASE V</i> 6-9 months	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD

- Brace may be removed for sleeping after first post-operative visit (day 7-14)
- Avoid any tibial rotation for 8 weeks to protect meniscus

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer

Dr. Craig Chike Akoh, M.D.
COMBINED OSTEOCHONDRAL ALLOGRAFT MENISCAL ALLOGRAFT TRANSPLANTATION
DISTAL FEMORAL OSTEOTOMY
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel-touch only	Locked in full extension at all times Off for hygiene and home exercise only	Gentle passive 0-90° CPM 0-90°	Heel slides, quad sets, patellar mobs, SLR, calf pumps at home
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel-touch only 6-8 weeks: Advance 25% weekly until full	2-6 weeks: Locked 0-90 ° Discontinue brace at 6 weeks	Advance as tolerated w/ caution during flexion >90 ° to protect post horn of meniscus	2-6 weeks: Add side-lying hip and core, advance quad set and stretching 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Advance hamstring work, lunges/leg press 0-90 ° only, proprioception/balance exercises Begin stationary bike
<i>PHASE IV</i> 12-24 weeks	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance
<i>PHASE V</i> 6-9 months	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD

- Brace may be removed for sleeping after first post-operative visit (day 7-14)

- Avoid any tibial rotation for 8 weeks to protect meniscus

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
COMBINED OSTEOCHONDRAL ALLOGRAFT AND MENISCAL ALLOGRAFT TRANSPLANTATION w/
ACI PATELLA/TROCHLEA
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel touch only	Locked in full extension at all times* Off for hygiene and home exercise only	Gentle passive 0-45° CPM 0-30°	Quad sets, patellar mobs, SLR, calf pumps at home CPM at home
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel touch only 6-8 weeks: Advance 25% weekly until full	2-4 weeks: Unlocked 0-45 ° 4-8 weeks: Unlocked 0-90 ° Discontinue brace at 8 weeks	Advance as tolerated w/ caution during flexion >90 ° to protect post horn of meniscus	2-6 weeks: Add side-lying hip and core, advance quad set and stretching 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Advance hamstring work, lunges/leg press 0-90 ° only, proprioception/balance exercises Begin stationary bike
<i>PHASE IV</i> 12-24 weeks	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance

<i>PHASE V</i> 6-9 <i>months</i>	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD
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- Brace may be removed for sleeping after first post-operative visit (day 7-14)
- Avoid any tibial rotation for 8 weeks to protect meniscus

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below

Dr. Craig Chike Akoh, M.D.
MICROFRACTURE OF PATELLA / TROCHLEA
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-6 weeks</i>	Full w/ brace locked at zero	0-1 week: Locked in full extension at all times Off for CPM and exercise only 1-4 weeks: Unlocked and worn daytime only Discontinue when quads can control SLR w/o extension lag	0-6 weeks: Use CPM for 6 hours/day 0-2 weeks: 0-30 ° 2-4 weeks: 0-60 ° 4-6 weeks: 0-90 ° PROM/AAROM as tolerated.	0-2 weeks: Quad sets, SLR, calf pumps, passive leg hangs to 45 ° at home 2-6 weeks: PROM/AAROM to tolerance, patella and tibiofibular joint mobs, quad, hamstring, and glute sets, SLR, side-lying hip and core
<i>PHASE II</i> <i>6-8 weeks</i>	Full	None	Full	Advance Phase I exercises
<i>PHASE III</i> <i>8-12 weeks</i>	Full	None	Full	Gait training, begin closed chain activities: wall sits, mini- squats, toe raises, stationary bike Begin unilateral stance activities, balance training
<i>PHASE IV</i> <i>12 weeks – 6 months</i>	Full	None	Full	Advance Phase III exercises; maximize core/glutes, pelvic stability work, eccentric hamstrings May advance to elliptical, bike, pool as tolerated

<i>PHASE V</i> 6-12 <i>months</i>	Full	None	Full	Advance functional activity Return to sport-specific activity and impact when cleared by MD after 8 mos
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For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr Craig Chike Akoh, M.D.
Drilling/Fixation of Osteochondritis Dissecans Patellar/Trochlea
Rehabilitation Protocol

	Weight Bearing	ROM	Exercises/Strength
<i>0-6 Weeks</i>	FWB as tolerated with brace locked in extension	Full as tolerated	Avoid WB ROM exercises Isometric quad and hamstring strengthening Stretching of quads, hams, and calves
<i>6 weeks – 12 weeks</i>	FWB as tolerated, wean from brace	Full symmetrical ROM to contralateral side	Progress strength training in normal fashion guided by pain and symptoms Avoid WB activities in deep knee flexion NO HIGH IMPACT ACTIVITIES
<i>12wks -Return to Sport</i> <i>This phase should take time and not be rushed through and guided by radiographs and the M.D. suggestions</i>	Full		Begin running program Begin Impact strengthening Begin functional return to sport activities Be aware of pain and symptoms, slow rehab if they are occurring

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
MICROFRACTURE / BIOCARTILAGE OF FEMORAL CONDYLE
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-6 weeks	Non-WB	0-2 week: Locked in full extension at all times Off for CPM and exercise only Discontinue after 2 wks	0-6 weeks: Use CPM for 6 hours/day, beginning at 0-40 °; advance 5-10 ° daily as tolerated	0-2 weeks: Quad sets, SLR, calf pumps, passive leg hangs to 90 ° at home 2-6 weeks: PROM/AAROM to tolerance, patella and tibiofibular joint mobs, quad, hamstring, and glut sets, SLR, side-lying hip and core
<i>PHASE II</i> 6-8 weeks	Advance 25% weekly until full	None	Full	Advance Phase I exercises
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Gait training, begin closed chain activities: wall sits, shuttle, mini-squats, toe raises Begin unilateral stance activities, balance training
<i>PHASE IV</i> 12 weeks – 6 months	Full	None	Full	Advance Phase III exercises; maximize core/glutes, pelvic stability work eccentric hamstrings May advance to elliptical, bike, pool as tolerated

<i>PHASE</i> V 6-12 months	Full	None	Full	Advance functional activity Return to sport-specific activity an impact when cleared by MD after 8 mos
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For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.

**OSTEOCHONDRAL ALLOGRAFT TO FEMORAL CONDYLE
REHABILITATION PROTOCOL**

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-6 weeks	Heel touch	0-2 week: Locked in full extension at all times Off for CPM and exercise only Discontinue after 2 wks	0-6 weeks: Use CPM for 6 hours/day, beginning at 0- 40 ° advance 5-10° daily as tolerated	0-2 weeks: Quad sets, SLR, calf pumps, passive leg hangs to 90 ° at home 2-6 weeks: PROM/AAROM to tolerance, patella and tibiofibular joint mobs, quad, hamstring, and glut sets, SLR, side-lying hip and core
<i>PHASE II</i> 6-8 weeks	Advance 25% weekly until full	None	Full	Advance Phase I exercises
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Gait training, begin closed chain activities: wall sits, shuttle, mini-squats, toe raises Begin unilateral stance activities, balance training
<i>PHASE IV</i> 12 weeks – 6 months	Full	None	Full	Advance Phase III exercises; maximize core/glutes, pelvic stability work, eccentric hamstrings May advance to elliptical, bike, pool as tolerated

<i>PHASE</i> V 6-12 <i>months</i>	Full	None	Full	Advance functional activity Return to sport-specific activity and impact when cleared by MD after 8 mos
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For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
Non-operative Patellar Dislocation
Rehabilitation Protocol

	ROM/WEIGHT BEARING	BRACE	EXERCISES/STRENGTH
<i>0-2 weeks</i>	<p>PROM 0-45°</p> <p>Crutch use until patient has good quad control and is able to ambulate with normal gait pattern</p>	PTO may remove at night	<ul style="list-style-type: none"> ■ Supine straight leg raise (SLR) with minimal to no pain ■ Ankle pumps if edema is present ■ Isometric hamstrings
<i>2-6 weeks</i>	<p>Should have full pain free ROM</p> <p>Full WB</p>	PTO may remove at night	<ul style="list-style-type: none"> • supine SLR and add • adduction and abduction SLRs • Toe raises with equal weight bearing • Closed kinetic chain exercises • Low-level endurance and pool exercises • Hamstring and calf stretching • Progress to running program and light sport specific drills if: Quad strength > 75% contralateral side Active ROM 0 to > 125 degrees

6-12 weeks	Full ROM Full WB	Discontinue brace	<ul style="list-style-type: none"> • Four-way hip exercises • Pool therapy – walking with progression to running • Sport and skill-specific training • Proprioceptive training • Patient education
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- Return to sport once cleared by M.D.

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
MPFL ALLOGRAFT RECONSTRUCTION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated with brace	On at all times during day and while sleeping** Off for hygiene	0-90°	Heel slides, quad and hamstring sets, patellar mobs, gastroc stretch, SLR in brace, modalities
<i>PHASE II</i> 2-6 weeks	As tolerated with brace	Discontinue at 6 weeks if able to obtain full extension w/o lag*	Maintain full extension and progress flexion	Progress weight bearing flexibility, begin toe raises and closed chain quad work Begin floor-based core and glutes work, balance exercises, hamstring curls and stationary bike
<i>PHASE III</i> 6 weeks - 4 months	Full	None	Full	Advance closed chain quads, progress balance, core/pelvic and stability work Begin elliptical, in-line jogging at 12 weeks under PT supervision
<i>PHASE IV</i> 4-6 months	Full	None	Full	Progress flexibility/strengthening, progression of function: forward/backward running, cutting, grapevine, initiate plyometric program and sport-specific drills @ 16 wks Return to play as tolerated after 16 weeks post-op when cleared by MD

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr Craig Chike Akoh, M.D.
MPFL ALLOGRAFT RECONSTRUCTION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated with brace	On at all times during day and while sleeping** Off for hygiene	0-90°	Heel slides, quad and hamstring sets, patellar mobs, gastroc stretch, SLR in brace, modalities
<i>PHASE II</i> 2-6 weeks	As tolerated with brace	Discontinue at 6 weeks if able to obtain full extension w/o lag*	Maintain full extension and progress flexion	Progress weight bearing flexibility, begin toe raises and closed chain quad work Begin floor-based core and glutes work, balance exercises, hamstring curls and stationary bike
<i>PHASE III</i> 6 weeks - 4 months	Full	None	Full	Advance closed chain quads, progress balance, core/pelvic and stability work Begin elliptical, in-line jogging at 12 weeks under PT supervision
<i>PHASE IV</i> 4-6 months	Full	None	Full	Progress flexibility/strengthening, progression of function: forward/backward running, cutting, grapevine, initiate plyometric program and sport-specific drills @ 16 wks Return to play as tolerated after 16 weeks post-op when cleared by MD

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
AMZ (ANTEROMEDIALIZATION / TIBIAL TUBERCLE OSTEOTOMY)
WITH ACI PATELLA/TROCHLEA
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel-touch only	Locked in full extension at all times* Off for hygiene and home exercise only	Gentle passive 0-45° CPM 0-30°	Quad sets, patellar mobs, SLR, calf pumps at home CPM at home
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel-touch only 6-8 weeks: Advance 25% weekly until full	2-4 weeks: Unlocked 0-45 ° 4-6 weeks: Unlocked 0-90 ° Discontinue brace at 6 weeks	2-4 weeks: CPM 0-60 ° 4-6 weeks: CPM 0-90 ° Advance ROM as tolerated when non-WB	2-6 weeks: Add side-lying hip and core, advance quad set and stretching 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Advance hamstring work, proprioception/balance exercises; hip/core/glutes Begin stationary bike at 10 wk
<i>PHASE IV</i> 12-24 weeks	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance

<i>PHASE</i> V 6-12 <i>months</i>	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD
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- Brace may be removed for sleeping after first post-operative visit (day 7-14)

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, MD
AMZ (ANTEROMEDIALIZATION / TIBIAL TUBERCLE OSTEOTOMY) WITH DE NOVO
PATELLA/TROCHLEA
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel-touch only	Locked in full extension at all times* Off for hygiene and home exercise only	Gentle passive 0-45° CPM 0-30°	Quad sets, patellar mobs, SLR, calf pumps at home CPM at home
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel-touch only 6-8 weeks: Advance 25% weekly until full	2-4 weeks: Unlocked 0-45 ° 4-6 weeks: Unlocked 0-90 ° Discontinue brace at 6 weeks	2-4 weeks: CPM 0-60 ° 4-6 weeks: CPM 0-90 ° Advance ROM as tolerated when non-WB	2-6 weeks: Add side-lying hip and core, advance quad set and stretching 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Advance hamstring work, proprioception/balance exercises; hip/core/glutes Begin stationary bike at 10 wk
<i>PHASE IV</i> 12-24 weeks	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance

<i>PHASE V</i> 6-12 months	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD
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- Brace may be removed for sleeping after first post-operative visit (day 7-14)

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, MD
AMZ (ANTEROMEDIALIZATION / TIBIAL TUBERCLE OSTEOTOMY)
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel touch only	On at all times during day and while sleeping Off for hygiene and exercises	0-90° at home	Calf pumps, quad sets, SLR in brace, modalities
<i>PHASE II</i> 2-6 weeks	Heel touch only	Off at night Open 0-90 °	Maintain full extension and progress flexion	Progress non-weight bearing flexibility Begin floor-based core, hip and glutes work Advance quad sets, pat mobs, and SLR
<i>PHASE III</i> 6 weeks - 8 weeks	Advance 25% weekly and progress to full with normalized gait pattern	None	Full	Advance closed chain quads, progress balance, core/pelvic and stability work Begin stationary bike at 6 weeks Advance SLR, floor-based exercises, hip/core
<i>PHASE IV</i> 8-16 weeks	Full	None	Full	Progress flexibility and strengthening, progression of functional balance, core, glutes program Advance bike after 12 wks Outdoor cycling, elliptical, swimming after 12 wks
<i>PHASE V</i> 16-24 wks	Full	None	Full	Maximize single leg dynamic and static balance Glutes/ pelvic stability/core + closed-chain quad program and HEP independent

				Begin training sport-specific drills as tolerated after 16 weeks once cleared by MD
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For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
TIBIAL TUBERCLE OSTEOTOMY WITH MPFL RECONSTRUCTION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel-touch only	Locked in full extension at all times* Off for hygiene and home exercise only	Gentle passive 0-45° CPM 0-30°	Quad sets, patellar mobs, SLR, calf pumps at home CPM at home
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel-touch only 6-8 weeks: Advance 25% weekly until full	2-4 weeks: Unlocked 0-45 ° 4-6 weeks: Unlocked 0-90 ° Discontinue brace at 6 weeks	2-4 weeks: CPM 0-60 ° 4-6 weeks: CPM 0-90 ° Advance ROM as tolerated when non-WB	2-6 weeks: Add side-lying hip and core, advance quad set and stretching 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Advance hamstring work, proprioception/balance exercises; hip/core/glutes Begin stationary bike at 10 wk
<i>PHASE IV</i> 12-24 weeks	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance

<i>PHASE</i> V 6-12 <i>months</i>	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD
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For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, MD
HTO (HIGH TIBIAL OSTEOTOMY)
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel touch only*	On at all times during day and while sleeping Off for hygiene	0-90° at home	Calf pumps, quad sets SLR in brace, modalities
<i>PHASE II</i> 2-6 weeks	Heel touch only	Off at night Open 0-90 and worn daytime only until 6 wks	Maintain full extension and progress flexion to full	Progress non-weight bearing flexibility, modalities Begin floor-based core and glutes exercises Advance quad sets, patellar mobs, and SLR
<i>PHASE III</i> 6 weeks - 8 weeks	Advance 25% weekly and progress to full with normalized gait pattern	None	Full	Advance closed chain quads, progress balance, core/pelvic and stability work Begin stationary bike at 6 weeks Advance SLR, floor-based exercise; hip/core
<i>PHASE IV</i> 8-16 weeks	Full	None	Full	Progress flexibility/strengthening, progression of functional balance, core, glutes program Advance bike, add elliptical at 12 wks as tolerated Swimming okay at 12 wks
<i>PHASE V</i> 16-24 wks	Full	None	Full	Advance Phase IV activity Progress to functional training, including impact activity after 20 wks when cleared by MD

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
COMBINED OSTEOCHONDRAL ALLOGRAFT MENISCAL ALLOGRAFT TRANSPLANTATION
HIGH TIBIAL OSTEOTOMY
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-2 weeks</i>	Heel-touch only	Locked in full extension at all times* Off for hygiene and home exercise only	Gentle passive 0-90° CPM 0-90°	Heel slides, quad sets, patellar mobs, SLR, calf pumps at home
<i>PHASE II</i> <i>2-8 weeks</i>	2-6 weeks: Heel-touch only 6-8 weeks: Advance 25% weekly until full	2-6 weeks: Locked 0-90 ° Discontinue brace at 6 weeks	Advance as tolerated w/ caution during flexion >90 ° to protect post horn of meniscus	2-6 weeks: Add side-lying hip and core, advance quad set and stretching** 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> <i>8-12 weeks</i>	Full	None	Full	Progress closed chain activities Advance hamstring work, lunges/leg press 0-90 ° only, proprioception/balance exercises Begin stationary bike
<i>PHASE IV</i> <i>12-24 weeks</i>	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance
<i>PHASE V</i> <i>6-9 months</i>	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD

- Brace may be removed for sleeping after first post-operative visit (day 7-14)

- Avoid any tibial rotation for 8 weeks to protect meniscus

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
COMBINED OSTEOCHONDRAL ALLOGRAFT WITH HIGH TIBIAL OSTEOTOMY
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Heel-touch only	Locked in full extension at all times* Off for hygiene and home exercise only	Gentle passive 0-90° CPM 6 hrs/day; begin 0-40° and advance 5-10° daily as tolerated	Heel slides, quad sets, patellar mobs, SLR, calf pumps at home
<i>PHASE II</i> 2-8 weeks	2-6 weeks: Heel-touch only 6-8 weeks: Advance 25% weekly until full	2-6 weeks: Locked 0-90 ° Discontinue brace at 6 weeks	Advance as tolerated CPM continues 6 hrs/ day 0-90°	2-6 weeks: Add side-lying hip and core, advance quad set and stretching 6-8 weeks: Addition of heel raises, total gym (closed chain), gait normalization, eccentric quads, eccentric hamstrings Advance core, glutes and pelvic stability
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Advance hamstring work, lunges/leg press 0-90 ° only, proprioception/balance exercises Begin stationary bike
<i>PHASE IV</i> 12-24 weeks	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, swiss ball, half-bosu exercises Advance core/glutes and balance

<i>PHASE</i> V 6-9 <i>months</i>	Full	None	Full	Advance all activity w/o impact such as running, jumping, pivoting, sports until cleared by MD
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- Brace may be removed for sleeping after first post-operative visit (day 7-14)

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
DFO and HTO (DISTAL FEMORAL OSTEOTOMY and HIGH TIBIAL OSTEOTOMY)
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-2 weeks</i>	Heel touch only*	On at all times during day and while sleeping** Off for hygiene	0-90° at home	Calf pumps, quad sets SLR in brace, modalities
<i>PHASE II</i> <i>2-6 weeks</i>	Heel touch only	Off at night Open 0-90 and worn daytime only	Maintain full extension and progress flexion to full	Progress non-weight bearing flexibility; modalities Begin floor-based core and glutes exercises Advance quad sets, pat mobs, and SLR
<i>PHASE III</i> <i>6 weeks - 8 weeks</i>	Advance 25% weekly and progress to full with normalized gait pattern	None	Full	Advance closed chain quads, progress balance, core/pelvic and stability work Begin stationary bike at 6 weeks Advance SLR, floor-based exercise
<i>PHASE IV</i> <i>8-16 weeks</i>	Full	None	Full	Progress flexibility/strengthening, progression of functional balance, core, glutes program Advance bike, add elliptical at 12 wks as tolerated Swimming okay at 12 wks
<i>PHASE V</i> <i>16-24 wks</i>	Full	None	Full	Advance Phase IV activity Progress to functional training, including impact activity after 20 wks when cleared by MD

- WB status to be confirmed on patient's specific PT Rx
- Brace may be removed for sleeping after first post-operative visit (day 7-10)

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike, Akoh, M.D.
KNEE ARTHROSCOPIC FAT PAD DEBRIDEMENT
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated
<i>PHASE II</i> 2-4 weeks	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> 4-12 weeks	Full	None	Full	Add sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
KNEE ARTHROSCOPIC DEBRIDEMENT
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated
<i>PHASE II</i> 2-4 weeks	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> 4-8 weeks	Full	None	Full	Advance sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact

Dr. Craig Chike Akoh, M.D.
KNEE ARTHROSCOPIC PLICA EXCISION
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-2 weeks</i>	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated
<i>PHASE II</i> <i>2-4 weeks</i>	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> <i>4-12 weeks</i>	Full	None	Full	Advance sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D
KNEE ARTHROSCOPIC LATERAL RELEASE
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated
<i>PHASE II</i> 2-4 weeks	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> 4-12 weeks	Full	None	Full	Add sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr Craig Chike Akoh, M.D.
KNEE ARTHROSCOPIC SUPRAPATELLAR POUCH RELEASE
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-2 weeks</i>	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated
<i>PHASE II</i> <i>2-4 weeks</i>	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> <i>4-12 weeks</i>	Full	None	Full	Add sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
KNEE ARTHROSCOPIC LOOSE BODY REMOVAL
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated
<i>PHASE II</i> 2-4 weeks	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> 4-12 weeks	Full	None	Full	Add sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact

Dr. Craig Chike Akoh, M.D.
KNEE ITB (ILIOTIBIAL BAND) RELEASE
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, SLR, planks, bridges, abs, step-ups and stationary bike as tolerated. Modalities, foam roll
<i>PHASE II</i> 2-4 weeks	Full	None	Full	Progress Phase I exercises Add sport-specific exercises as tolerated Cycling, elliptical, running as tolerated
<i>PHASE III</i> 4-12 weeks	Full	None	Full	Advance sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program. HEP to include maximal glutes/hip/core and foam roll

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
KNEE ARTHROSCOPIC CAPSULAR RELEASE/ LYSIS OF ADHESIONS
MANIPULATION UNDER ANESTHESIA (MUA)
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks 4-5 days/wk	As tolerated	None	As tolerated	Heel slides, quad/hamstring sets, Patellar mobilization; SLR, planks, bridges, abs, step-ups and stationary bike as tolerated. Supine and prone PROM/ capsular stretching with and without Tib-Fem distraction
<i>PHASE II</i> 2-4 weeks 3 days/wk	Full	None	Full	Progress Phase I exercises Advance rectus femoris/ Anterior hip capsule stretching Cycling, elliptical, running as tolerated
<i>PHASE III</i> 4-12 weeks 2-3 days/wk	Full	None	Full	Add sport-specific exercises as tolerated Maintenance core, glutes, hip and balance program

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
PATELLAR TENDON EXCISION (JUMPER'S KNEE)
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-2 weeks</i>	Full in Brace locked in extension	Locked in full extension for sleeping and all activity* Off for exercises and hygiene	Full as tolerated	Heel slides, quad sets, patellar mobs, SLR, SAQ
<i>PHASE II</i> <i>2-6 weeks</i>	2-4 weeks: As per patient's PT Rx** 4-6 weeks: Full w/o brace	None	Full	Addition of heel raises, total gym (closed chain), terminal knee extensions Activities w/ brace until 2 weeks; then w/o brace as tolerated
<i>PHASE III</i> <i>6-12 weeks</i>	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 proprioception exercises, balance/core/hip/glutes Begin stationary bike when able
<i>PHASE IV</i> <i>12-20 weeks</i>	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 12 wks Advance to sport-specific drills and running/jumping after 16 wks once cleared by MD

- Brace, if one was prescribed, may be removed for sleeping after first post-operative visit (day 7-10)
- Brace settings may vary depending on nature of exact procedure. Please refer to specific PT Rx provided.

For any questions or concerns regarding the protocol or rehabilitation process please contact my
Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
PATELLAR FRACTURE ORIF
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> <i>0-2 weeks</i>	WBAT with crutches	Locked in full Extension, worn at all times	AROM, AAROM, PROM, 0-30°	Isometric quad, ham, add, abd Ankle thera-band exercises
<i>PHASE II</i> <i>2-6 weeks</i>	WBAT with crutches	Locked in full extension at all times may remove at night for sleeping	PROM/AAROM Full extension Add 15° flexion each week for goal of 90° at 6 weeks	Isometric quad, ham, add, abd Ankle thera-band exercises Initiate SLR Okay to work on upper extremity strength
<i>PHASE III</i> <i>6-10 weeks</i>	Gradual return to FWB and normal gait pattern	Unlock brace at 6 weeks D/C brace at 10 weeks	Progress to full by week 10	Isometric quad, ham, add, abd Ankle thera-band exercises SLR Okay to work on upper extremity strength
<i>10-12 weeks</i>	FWB	D/C brace at 10 weeks	Full	Isometric quad, ham, add, abd Ankle thera-band exercises SLR

				Start stationary bike
<i>3-6 months</i>	FWB	None	Full	Progress exercises Return to sport activities/exercises

For any questions or concerns regarding the protocol or rehabilitation process please contact my Office

Dr. Craig Chike Akoh, M.D.
PATELLAR TENDON REPAIR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
<i>PHASE I</i> 0-2 weeks	Non weight bearing	Locked in full extension for day and night 6 weeks Off for exercises and hygiene	0-2 weeks: 0-30° when non-weight bearing	Heel slides, quad sets, patellar mobs, SLR, calf pumps
<i>PHASE II</i> 2-8 weeks	2-4 weeks: Transition to full weight bearing brace locked in extension	2-6 weeks: Locked in full extension day and night 6-7 weeks: 0-45° 7-8 weeks: 0-60° Discontinue brace at 8 weeks	2-4 weeks: 0-60° 4-6 weeks: 0-90° 6-8 weeks: progress slowly as tolerated - refer to PT Rx for restrictions	Advance Phase 1 exercises Add side-lying hip/core/glutes Begin WB calf raises No weight bearing with flexion >90°
<i>PHASE III</i> 8-12 weeks	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90 proprioception exercises, balance/core/hip/glutes Begin stationary bike when able

<p><i>PHASE IV</i> <i>12-20</i> <i>weeks</i></p>	<p>Full</p>	<p>None</p>	<p>Full</p>	<p>Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 12 wks Advance to sport-specific drills and running/jumping after 20 wks once cleared by MD</p>
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For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.

Dr. Craig Chike Akoh, M.D.
QUAD TENDON REPAIR
REHABILITATION PROTOCOL

	WEIGHT BEARING	BRACE	ROM	EXERCISES
PHASE I 0-2 weeks	As tolerated with crutches and brace***	Locked in full extension for sleeping and all activity* Off for exercises and hygiene	0-2 weeks: 0-45° when non-weight bearing	Heel slides, quad sets, patellar mobs, SLR, calf pumps
PHASE II 2-8 weeks	2-8 weeks: Full WB while in brace	2-4 weeks: Locked in full extension day and night 4-6 weeks: Off at night; locked in full extension daytime 6-7 weeks: 0-45° 7-8 weeks: 0-60° Discontinue brace at 8 weeks	2-3 weeks: 0-60° 3-4 weeks: 0-90° 4-8 weeks: progress slowly as tolerated - refer to PT Rx for restrictions	Advance Phase 1 exercises Add side-lying hip/core/glutes Begin WB calf raises No weight bearing with flexion >90°
PHASE III 8-12 weeks	Full	None	Full	Progress closed chain activities Begin hamstring work, lunges/leg press 0-90°, proprioception exercises, balance/core/hip/glutes Begin stationary bike when able

PHASE IV 12-20 weeks	Full	None	Full	Progress Phase III exercises and functional activities: single leg balance, core, glutes, eccentric hamstrings, elliptical, and bike Swimming okay at 12 wks Advance to sport-specific drills and running/jumping after 20 wks once cleared by MD
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- Brace may be removed for sleeping after first post-operative visit (day 7-10)
- Brace settings may vary depending on nature of exact procedure. Please refer to specific PT Rx provided.
- WB status may vary depending on nature of exact procedure. Please refer to specific PT Rx provided.

For any questions or concerns regarding the protocol or rehabilitation process please contact my Athletic Trainer below.