

REHAB PROTOCOLS

www.arsportsmedicine.com

MCL GRADE II SPRAIN 2+ INSTABILITY (UNSTABLE)

ROM: Drop lock brace wk 0-2: 30-90 wk 3-4: 10-110ROM: Double upright brace Full ROM, wk 4-5: 0-120 wk 4-6: 0-120 wk 5-6: Full ROM, Switch to double upright brace with 10 degree extension stop alignment.ROM: Double upright brace Full ROMMB: wk 0-1: NWB wk 1-2: 25% wk 2-3: 50%-75%WB: wk 3-4: 100% with crutches wk4-D/C crutches if good quad control / normal gait patternWB: Full with no limitationsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed USModalities: Cryotherapy Pulsed USRX: Recommendations: PROM / AROM / AROM to tolerance per ROM to facilitate scar remodeling and allow MCL healingRX: Recommendations: Bike with resistanceRX: Recommendations: Bike with resistanceBike light resistanceBiofeedback SLR, CKC knee extension Hamstring isotonics go deg placement for Hip Adduction MCI Quadriceps isotonics per ROM quadriceps isotonics per ROM placement for Hip Adduction placement for	Phase I: 0-3 weeks	Phase II: 3-6 weeks	Phase III: 6 weeks+
wk 0-2: 30-90 wk 3-4: 10-110wk 3-4: 10-10 wk 4-3: 10-110Full ROMProgression may be modified based on end feel and knee alignment.Switch to double upright brace wk 1-0: Carutches if good quad control / normal gait patternWB: wk 0-1: NWB wk 1-2: 25% wk 2-3: 50%-75%WB: wk 3-4: 100% with orutches wk 2-3: 50%-75%WB: wk 3-4: 100% with orutches wk 2-3: 50%-75%WB: wk 3-4: 100% with orutches guad control / normal gait patternModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed USModalities: Cryotherapy Pulsed USPROM / AROM / AROM to to lerance per ROM guidelines.RX: Recommendations; ERCM / AROM / AROM / Bike with resistanceRX: Recommendations; Elliptical Runner / StairmasterBike light resistance Flexibility exercisesBiofeedback SLR, CKC knee extension Hamstring isotonics guadriceps isotonics Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises - leg press, step- ups, FW and lateral lunges, squatsFlexibility raining total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises - leg press, step- ups, FW and lateral lunges, squatsFunctional strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises - leg press, step- ups, FW and lateral lunges, squatsFunctional strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises - leg press, step- ups, FW and lateral lunges, sideshuffles, eurogideSport-specific exercises if 75% strengthBalance / Proprioception Perturbation training Core stability training Hip 4 wws SLR (proximal pad placement fo	ROM: Drop lock brace	ROM: Drop lock brace	ROM: Double upright brace
wk 2-3: 20-110wk 4-5: 0-120wk 3-4: 10-110wk 5-6: Full ROM,Progression may be modified based on end feel and knee alignment.Switch to double upright brace with 10 degree extension stopWB: wk 0-1: NVB wk 1-2: 25% wk 2-3: 50%-75%WB: wk 3-4: 100% with crutches wk4: D/C crutches if good quad control / normal gait patternModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsRX: Recommendations: PROM / AROM / AROM tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healing Bike light resistanceRX: Recommendations; Biofeedback SLR, CKC knee extension Hamstring isotonics Quadriceps isotonics per ROM go deg H1p 4 way SLR (proximal pad placement for Hip Adduction) rotal leg strengthening H1p 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises / stop- ups, FW and lateral lunges, squats Total leg strengthening Core stability training Datacement for Hip Adduction) Perturbation training Care stability training Upper body exercisesSwks Return to running fi 75% strength fi % strength fi 75% strengthFesting Fast med Fast med placement for hip Adduction perturbation training Care stability training fi 75% strengthPloometrics / Agility and Sport-specific exercises if f 75% strengthBalance / Proprioception Perturbation training Upper body exercises	wk 0-2: 30-90	wk 3-4 10-110	Full ROM
wk 3-4: 10-110wk 5-6: Full ROM, Switch to double upright brace with 10 degree extension stopProgression may be modified based on end feel and knee alignment.Switch to double upright brace with 10 degree extension stopWB: wk 0-1: NWB wk 2-3: 50%-75%WB: wk 3-4: 100% with crutches wk4: D/C crutches if good quad control / normal gait patternWB: rul with no limitationsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsWB: wk 3-4: 100% with crutches wk4: D/C crutches if good quad control / normal gait patternModalities: Cryotherapy Pulsed USModalities: Cryotherapy Pulsed USPROM / AROM / AROM to tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healingRX: Recommendations: PROM / AROM AROM Bike with resistanceRX: Recommendations: Bike with resistanceBike light resistance Flexibility exercisesRX: Recommendations: PROM / AROM farom Bike with resistanceRX: Recommendations: Biofeedback SLR, CKC knee extension Hamstring isotonics guadriceps isotonics guadriceps isotonics per ROM Quadriceps isotonics p	wk 2-3: 20-110	wk 4-5: 0-120	
Progression may be modified based on end feel and knee alignment.Switch to double upright brace with 10 degree extension stopWB: wk 0-1: NVVB wk 1-2: 25% wk 2-3: 50%-75%WB: wk 3-4: 100% with crutches quad control / normal gait patternWB: wk 3-4: 100% quad control / normal gait patternModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed USRX: Recommendations: PROM / AAROM / AROM / AROM of facilitate scar remodeling and allow MCL healing Eliptical runner / Stairmaster remodeling and allow MCL healing Oross friction massage Flexibility exercisesRX: Recommendations: Biofeedback SLR, CKC knee extension per ROM quadriceps isotonics Quadriceps isotonics per ROM quadriceps isotonics per ROM quadrice	wk 3-4: 10-110	wk 5-6: Full ROM,	
based on end feel and knee alignment.with 10 degree extension stopMest wk 0-1: NWB wk 1-2: 25% WK 2-3: 50%-75%WB: wk 3-4: 100% with crutches wk4. D/C crutches if good quad control / normal gait patternWB: kK 2-3: 50%-75%Modalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsWB: Full with no limitationsRx: Recommendations: PROM / AROM to tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healing Bike light resistanceRX: Recommendations: PROM / AROM 74ROM to Bike with resistance Elliptical Runner / Stairmaster Cross friction massage Flexibility exercisesRX: Recommendations: PROM / AROM 75% strengthRX: Recommendations: PROM / AROM 75% strengthBike light resistance flexibility exercisesBiofeedback SLR, CKC knee extension per ROM McI Quads/Hams 10, 30, 50, 70, 90 degBiofeedback SLR, CKC knee extension per ROM Guadriceps isotonics per ROM guarce / Proprioception Placement for Hip Adduction placement for Hip Adduction galance / Proprioception Perturbation training Lateral movements – sideshuffles, euroglideReturn to Work/Sport No pain or effusion Fur towal Sport-specific exercises if 75% strength 4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthWis H10 degree extension Poly StrengthRX: Recommendations: Recommendations: Proprioception Preturbation training Lateral mo	Progression may be modified	Switch to double upright brace	
alignment.WB: wk 0-1: NWB wk 1-2: 25% Wk 2-3: 50%-75%WB: wk 3-4: 100% with crutches quad control / normal gait patternModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed USRX: Recommendations: PROM / AROM / AROM to tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healing Cross friction massage Flexibility exercisesRX: Recommendations: PROM / AROM / AROM / AROM / AROM / AROM Bike with resistanceRX: Recommendations: Bike with resistanceRX: Recomm	based on end feel and knee	with 10 degree extension stop	
WB: wk 0-1: NWB wk 1-2: 25% wk 2-3: 50%-75%WB: wk 3-4: 100% with crutches wk4: D/C crutches if good wk4: D/C crutches if good year control / normal gait patternWB: Full with no limitationsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed USRX: Recommendations: PROM / AAROM / AROM to tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healing Bike light resistanceRX: Recommendations: PROM / AAROM / AROM Bike with resistanceRX: Recommendations: PROM / AAROM / AROM Bike with resistanceRX: Recommendations: PROM / AAROM / AROM Bike with resistanceRX: Recommendations: Bike with resistanceBike light resistance flexibility exercisesFlexibility exerciseRX: Recommendations: PROM / AAROM / AROM Bike with resistanceRX: Recommendations: Biofeedback SLR, CKC knee extension Hamstring isotonics lood degRX: Recommendations: PROM / AAROM / AROM Bideedback SLR, CKC knee extension Hamstring isotonics per ROM Quadriceps isotonics per ROM Quadriceps isotonics per ROM Quadriceps isotonics per ROM placement for Hip Adduction placement for Hip Adduction sideshuffles, eurogide </td <td>alignment.</td> <td></td> <td></td>	alignment.		
wk 2-3: 50%-75% wk4: D/C crutches if good Modalities: Cryotherapy Pulsed US IFC for pain/effusion IFC for pain/effusion NMES quadriceps MXES quadriceps RX: Recommendations: PROM / AROM / AROM to tolerance per ROM guidelines. PROM / AROM / AROM to Encourage ROM to facilitate scar Elliptical Runner / Stairmaster remodeling and allow MCL healing Cross friction massage Bike light resistance Biofeedback SLR, CKC knee Cross friction massage Biofeedback SLR, CKC knee Flexibility exercises Biofeedback SLR, CKC knee Nat Quads/Hams 10, 30, 50, 70, 90 deg Paicement for Hip Adduction) Yell ge strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) KCC exercises - leg press, step-ups, FW lunges, squats, heel raises Total leg strengthening Groe stability training Balance / Proprioception Perturbation training S wks Return to running if 75% strength Groe stability training 3 wks Return to running if 75% strength Quadriceps is otonics 3 wks Return to running if 75% strength Perturbation training S wks Return to running if 75% strength Paide strengthening <td< td=""><td>WB: wk 0-1: NWB wk 1-2: 25%</td><td>WB: wk 3-4: 100% with crutches</td><td>WB: Full with no limitations</td></td<>	WB: wk 0-1: NWB wk 1-2: 25%	WB: wk 3-4: 100% with crutches	WB: Full with no limitations
Image: Problem of the sector	wk 2-3: 50%-75%	wk4: D/C crutches if good	
Modalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed US IFC for pain/effusion NMES quadricepsModalities: Cryotherapy Pulsed USRX: Recommendations: PROM / AROM / AROM to tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healing Bike light resistanceRX: Recommendations: PROM / AROM / AROM Bike with resistance Elliptical Runner / StairmasterRX: Recommendations: Bike with resistance Elliptical Runner / StairmasterCross friction massage Flexibility exercisesCross friction massage Flexibility exerciseRX: Recommendations: DROM / AROM Bike with resistanceRX: Recommendations: Bike with resistanceBiofeedback QS, SLR, CKC knee extension per ROM Quadriceps isotonics per ROM Total leg strengthening placement for Hip Adduction) Paterustaion trainingBiofeedback SLR, CKC knee extension Hamstring isotonics Isokinetic quadriceps/hamstrings Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises a leg press, step- ups, FW unges, squats, heel raisesTotal leg strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingPlyometrics / Agility and Sport-specific exercises If 75% strengthOv conditioning Core stability training Upper body exercisesSwks Return to running if 75% strengthNo pain or effusion Functional Tests = 90% MD approval		guad control / normal gait pattern	
Pulsed USPulsed USIFC for pain/effusionIFC for pain/effusionNMES guadricepsIFC for pain/effusionRX: Recommendations:PROM / AROM / AROM totolerance per ROM guidelines.PROM / AROM / AROM bitolerance per ROM guidelines.PROM / AROM / AROM bibike with resistanceBike with resistancecross friction massageFlexibility exerciseBike light resistanceCross friction massageFlexibility exercisesBiofeedback QS, SLR, CKC knee extension per ROM 90 degM<1 Quads/Hams 10, 30, 50, 70, 90 degGuadriceps isotonics pacement for Hip AdductionHamstring isotonics per ROM total leg strengtheningHip 4 way SLR (proximal pad placement for Hip Adduction)RHP 4 way SLR (proximal pad placement for Hip Adduction)Flexibility training CCK exercises - leg press, step- ups, FW lunges, squats, heel raisesBalance / ProprioceptionStrengthening Perturbation training Core stability training traisesBalance / Proprioception Perturbation training Core stability training Upper body exercises3 wks Return to running if 75% strength 4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthUpper body exercisesSynt-specific exercises if 75% strength	Modalities: Cryotherapy	Modalities: Cryotherapy	Modalities: Cryotherapy
IFC for pain/effusion NMES quadricepsIFC for pain/effusion NMES quadricepsRX:Recommendations: PROM / AROM / AROM / tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healingRX:Recommendations: PROM / AROM / AROM AROM / AROM Bike with resistanceBike light resistanceElliptical Runner / Stairmaster Elliptical Runner / StairmasterBike with resistanceBike with resistanceCross friction massage Flexibility exercisesBiofeedback SLR, CKC knee extension per ROM 90 deg Hamstrings isotonics per ROM Otal leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction)Flexibility exercisesFlexibility exercisesBalance / Proprioception Perturbation trainingCrose stability training sideshuffles, euroglideFlexing theel raisesFlexing theel raisesCV conditioning Core stability training Upper body exercisesSwk Return to running if 75% strengthFlexing theing strengthening theel raisesPloymetrics / Agility and Sport-specific exercisesCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthSwks Return to running if 75% strengthFetur to Work/Sport No pain or effusion Functional Tests – 90% MD approval	Pulsed US	Pulsed US	5 15
NMES quadricepsNMES quadricepsRX:Recommendations: PROM / AROM / AROM / AROM PROM / AAROM / AROM Bike with resistanceRX:Recommendations: PROM / AROM Bike with resistanceEncourage ROM to facilitate scar remodeling and allow MCL healing Bike light resistancePROM / AAROM / AROM Bike with resistanceBike with resistance Elliptical Runner / Stairmaster Running program if 75% strengthBike light resistanceCross friction massage Flexibility exercisesFlexibility exercisesBide data Karsen Bideedback SLR, CKC knee (knee extension per ROM 90 degBiofeedback SLR, CKC knee (auadriceps / hamstring Isokinetic quadriceps / hamstring Isokinetic quadriceps / hamstrings Isokinetic quadriceps / hamstring Isokinetic proprioception Perturbation training Core stability training Isokinetic proprioception Perturbation trainingFunctional strengthening Isokinetic A glility and Sport-specific exercises If 75% strengthCV conditioning Core stability training Upper body exercisesSwks Return to running if 75% str	IFC for pain/effusion	IFC for pain/effusion	
RX: Recommendations: PROM / AROM / AROM to tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healing RX: Recommendations: PROM / AROM RX: Recommendations: PROM / AROM Bike gith resistance Elliptical Runner / Stairmaster Bike with resistance Bike with resistance Elliptical Runner / Stairmaster Cross friction massage Flexibility exercises Cross friction massage Flexibility exercises Flexibility exercises Flexibility exercises Biofeedback QS, SLR, CKC knee extension per ROM Quadriceps isotonics per ROM Quadriceps isotonics per ROM duadriceps isotonics per ROM duadriceps isotonics per ROM duadriceps isotonics per ROM guadriceps isotonics per ROM placement for Hip Adduction proturbation training Flexibility training functional strengthening functional strengthening funcrestability training Balance / Proprioception Perturbat	NMES quadriceps	NMES quadriceps	
PROM / AAROM / AROM to tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healingPROM / AAROM / AROM Bike with resistanceBike with resistance Elliptical Runner / StairmasterBike light resistance Cross friction massage Flexibility exercisesCross friction massage Flexibility exerciseBike with resistanceBike with resistance Elliptical Runner / StairmasterBiofeedback QS, SLR, CKC knee extension per ROM 90 degBiofeedback SLR, CKC knee extension 90 degBiofeedback SLR, CKC knee extension placement for Hip Adduction CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesBiofeedback QF, SLR, CKC knee extension per ROM duadriceps isotonics per ROM core stability trainingPROM / AAROM / AROM Bike with resistanceBike with resistance Elliptical Runner / Stairmaster Running program if 75% strength core stability exerciseHip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesBialance / Proprioception Perturbation training Core stability training Balance / Proprioception Perturbation trainingCros stability training Balance / Proprioception Perturbation training Lateral movements – sideshuffles, euroglideBike with resistance Elliptical Runner / StairmasterCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthBike with resistance Core stability training Balance / Proprioception Perturbation training Lateral movements – sideshuffles, euroglideBike with resistance Balance / Proprioception Perturbation training Lateral movements – sideshuffles, eu	RX: Recommendations:	RX: Recommendations:	RX: Recommendations:
tolerance per ROM guidelines. Encourage ROM to facilitate scar remodeling and allow MCL healingBike with resistanceElliptical Runner / StairmasterBike light resistanceElliptical Runner / StairmasterRunning program if 75% strengthBike light resistanceCross friction massage Flexibility exercisesFlexibility exerciseCross friction massage Flexibility exercisesBiofeedback SLR, CKC knee extension per ROM M <i 10,="" 30,="" 50,="" 70,<br="" hams="" quads=""></i> 90 degBiofeedback SLR, CKC knee extension per ROM M <i 10,="" 30,="" 50,="" 70,<br="" hams="" quads=""></i> 90 degBiofeedback SLR, (proximal pad placement for Hip Adduction) Hear strings isotonics per ROM Total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesCKC exercises - leg press, step- ups, FW lunges, squats, heel raisesFlore stability training 	PROM / AAROM / AROM to	PROM / AAROM / AROM	Bike with resistance
Encourage ROM to facilitate scar remodeling and allow MCL healingElliptical Runner / StairmasterRunning program if 75% strengthBike light resistanceCross friction massage Flexibility exercisesFlexibility exercisesRunning program if 75% strengthBiofeedback QS, SLR, CKC knee extension per ROM 090 degBiofeedback SLR, CKC knee extension per ROM 90 degBiofeedback QS, SLR, CKC knee extension per ROM 190 degBiofeedback QS, SLR, CKC knee extension per ROM 190 degBiofeedback QS, SLR, CKC knee extension per ROM placement for Hip Adduction) CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesBiofeedback QS, SLR, CKC knee extension per ROM Quadriceps isotonics per ROM placement for Hip Adduction) CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesFunctional strengthening Functional strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingPlyometrics / Agility and Sport-specific exercises if FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROM Isokinetic Strength- 90% Functional Tests – 90% MD approval	tolerance per ROM guidelines.	Bike with resistance	Elliptical Runner / Stairmaster
InstructionInstructionInstructionInstructionInstructionBioleedback QS, SLR, CKCBiofeedback QS, SLR, CKCBiofeedback QS, SLR, CKCIsotonicsIsotonic quadriceps/hamstringsBiofeedback QS, SLR, CKCMeanstring isotonicsIsotonicsIsotonic quadriceps/hamstringsM <i 10,="" 30,="" 50,="" 70,<br="" hams="" quads=""></i> 90 degBiofeedback QLR, CKC (proximal pad placement for Hip Adduction)Functional strengtheningCKC exercisesHip 4 way SLR (proximal pad placement for Hip Adduction)Heel raisesFunctional strengtheningHip 4 way SLR (proximal pad placement for Hip Adduction)Total leg strengtheningFunctional strengtheningKC exercises - leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengtheningPlyometrics / Agility andBalance / Proprioception Perturbation trainingTotal leg strengthening Functional strengtheningPlyometrics / Agility andCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strengthNo pain or effusionQuadriceps body exercisesForturbation fraining Lateral movements - sideshuffles, euroglide3 wks Return to running if 75% strengthNo pain or effusionCV conditioning Core stability training Upper body exercisesSout-specific exercises if 75% strengthNo pain or effusionFull ROM Upper voalSout-specific exercises if 75% strengthSout-specific exercises if PomoticeNo pain or effusionGuadriceps body exercisesSout-specific exercises if 75% strength <t< td=""><td>Encourage ROM to facilitate scar</td><td>Elliptical Runner / Stairmaster</td><td>Running program if 75% strength</td></t<>	Encourage ROM to facilitate scar	Elliptical Runner / Stairmaster	Running program if 75% strength
Bindebung and and model notatingCross friction massage Flexibility exercisesFlexibility exercisesBike light resistanceCross friction massage Flexibility exercisesFlexibility exercisesBiofeedback QS, SLR, CKC knee extension per ROM 90 degBiofeedback QS, SLR, CKC (Quadriceps isotonics 90 degBiofeedback QLR, CKC knee extension Hamstring isotonics lsokinetic quadriceps/hamstrings lsokinetic quadriceps/hamstringsIsotonic quadriceps/hamstrings lsokinetic quadriceps/hamstrings Total leg strengthening placement for Hip Adduction Placement for Hip Adduction CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesFlexibility exercisesBalance / Proprioception Perturbation trainingTotal leg strengthening Functional strengthening Functional strengthening Functional strengthening Functional strengthening Core stability training Derturbation trainingFlexibility exercisesCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthFesting 3-4 wks Linea / Biodex Test FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthSoin or effusion Full ROM Isokinetic Strength- 90% Functional Tests – 90% MD approval	remodeling and allow MCL healing		
Bike light resistanceFlexibility exerciseInstant acturgeCross friction massage Flexibility exercisesBiofeedback SLR, CKC knee extension Hamstring isotonicsBiofeedback SLR, CKC knee extension Hamstring isotonicsIsotonic quadriceps/hamstrings Isokinetic quadriceps/hamstrings Hip strengthening Dacement for Hip Adduction CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesBiofeedback SLR, CKC knee extension Hamstring isotonics Uddriceps isotonics Uddriceps isotonics per ROM CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesBiofeedback SLR, CKC knee extension Itip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesFunctional strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingFunctional strengthening Core stability training Balance / Proprioception Perturbation trainingPlyometrics / Agility and Sport-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthNo pain or effusion Full ROM Sport-specific exercises if 75% strength		Cross friction massage	Flexibility exercises
Line high resolutionHamshij sheredCross friction massage Flexibility exercisesBiofeedback SLR, CKC knee extension per ROM M<1 Quads/Hams 10, 30, 50, 70, 90 degBiofeedback SLR, CKC knee extension Hamstring isotonicsIsotonic quadriceps/hamstrings Isokinetic quadriceps/hamstrings Isokinetic quadriceps/hamstrings Isokinetic quadriceps/hamstringsM<1 Quads/Hams 10, 30, 50, 70, 90 degQuadriceps isotonics lookinetic quadriceps/hamstrings Isokinetic quadriceps/hamstrings Isokinetic quadriceps/hamstringsIsotonic quadriceps/hamstrings Isokinetic quadriceps/hamstrings Isokinetic quadriceps/hamstrings Isokinetic quadriceps/hamstringsM<1 Quads/Hams 10, 30, 50, 70, 90 degQuadriceps isotonics per ROM quadriceps isotonics per ROM Quadriceps isotonics per ROM Total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesFunctional strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingFull eg strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingPlyometrics / Agility and Sport-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strengthNo pain or effusion Full ROM Isokinetic Strength- 90% Functional Tests – 90% MD approval	Bike light resistance	Flexibility exercise	
Cross friction massage Flexibility exercisesBiofeedback SLR, CKC knee extension Hamstring isotonicsBiofeedback SLR, CKC knee extension Hamstring isotonicsBiofeedback SLR, CKC knee extension Hamstring isotonicsIsokinetic quadriceps/hamstrings Hip strengthening CKC exercises press sotonics per ROM Quadriceps isotonics per ROM Total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesBiofeedback SLR, CKC knee extension Hamstring isotonics CKC exercises – leg press, step- ups, FW lunges, squats, heel raisesBiofeedback SLR, CKC knee extension Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesBiofeedback SLR, CKC knee extension Hamstring isotonics Core stability training Balance / Proprioception Perturbation trainingFunctional strengthening Perturbation training 3 wks Return to running if 75% strengthFunctional strengthening Sort-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strengthNo pain or effusion Functional Tests – 90% MD approval			Isotonic quadricens/hamstrings
Flexibility exercisesEndeduction fraction fractionBiofeedback QS, SLR, CKC knee extension per ROMHamstring isotonicsM <i 10,="" 30,="" 50,="" 70,<br="" hams="" quads=""></i> 90 degGuadriceps isotonicsHamstrings isotonics per ROM Quadriceps isotonics per ROM Total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) Total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesHip 4 way SLR (proximal pad placement for Hip Adduction) Core stability trainingFunctional strengthening Functional strengthening Functional strengthening Functional strengthening Functional strengthening Functional strengtheningFunctional strengthening Perturbation training Balance / Proprioception Perturbation trainingFunctional strengthening Sport-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strengthSouthetic Strength- 90% Functional Tests – 90% MD approval	Cross friction massage	Biofeedback SLR CKC knee	Isokinetic quadricens/hamstrings
Hamstring isotonics knee extension per ROM 90 degHamstring isotonics Quadriceps isotonics per ROM 90 degHip 4 way SLR (proximal pad placement for Hip Adduction) Heel raisesFunctional strengthening Balance / Proprioception Perturbation trainingHip 4 way SLR (proximal pad placement for Hip Adduction) CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesCKC exercises – leg press, step- ups, FW lunges, squats, heel raisesFunctional strengthening Perturbation trainingBalance / Proprioception Perturbation trainingTotal leg strengthening Functional strengthening Functional strengthening Derturbation trainingFunctional strengthening Sourt-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthTesting Atws Plyometrics / Agility and Sport-specific exercises if 75% strength	Elexibility exercises	extension	Hin strengthening
Biofeedback QS, SLR, CKC knee extension per ROM 90 degQuadriceps isotonics per ROM 90 degCkc exercises - leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengthening placement for Hip Adduction) CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengthening Balance / Proprioception Perturbation trainingFunctional strengthening placement for Hip Adduction)Functional strengthening Balance / Proprioception Perturbation trainingFunctional strengthening placement for Hip Adduction)Functional strengthening Perturbation trainingPlyometrics / Agility and Sport-specific exercisesCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strength3 wks Return to running Sport-specific exercises if 75% strengthReturn to Work/Sport No pain or effusion Functional Tests – 90% MD approval		Hamstring isotonics	CKC exercises
Bibleedback QS, SER, CKCCKCCKCFunctional strengtheningM <i 10,="" 30,="" 50,="" 70,="" 90="" deg<="" hams="" quads="" td="">Hip 4 way SLR (proximal pad placement for Hip Adduction)Hip 4 way SLR (proximal pad placement for Hip Adduction)Functional strengthening CKC exercises - leg press, step- ups, FW lunges, squats, heel raisesFunctional strengthening Salance / ProprioceptionFunctional strengthening Salance / ProprioceptionBalance / Proprioception Perturbation trainingTotal leg strengthening Functional strengthening Core stability trainingPlyometrics / Agility and Sport-specific exercisesBalance / Proprioception Perturbation trainingSwks Return to running if 75% strengthTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Functional Tests – 90% MD approval</i>	Riofoodback OS SIR CKC		Total leg strengthening
M <i 10,="" 30,="" 50,="" 70,<br="" hams="" quads=""></i> 90 degHip 4 way SLR (proximal pad placement for Hip Adduction)Functional strengtheningHip 4 way SLR (proximal pad placement for Hip Adduction)Hip 4 way SLR (proximal pad placement for Hip Adduction)Functional strengtheningCKC exercises- leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengthening Functional strengthening Functional strengthening Functional strengtheningPlyometrics / Agility and Sport-specific exercisesBalance / Proprioception Perturbation trainingSwks Return to running if 75% strengthTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthSws rengthWyser body exercises4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthSource of the sector of the sect	bioleeuback Q3, SEN, CKC	Isokinetic quadricens/hamstrings	rotarieg strengthening
Will uddads/names 10, 50, 50, 70, 90 degImp 4 way Och (for Mind pade placement for Hip Adduction)Imp 4 way Och (for Mind pade placement for Hip Adduction)Balance / Proprioception Perturbation trainingHip 4 way SLR (proximal pade placement for Hip Adduction)Heel raises squatsCKC exercises – leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingPerturbation training Core stability training Balance / Proprioception Perturbation trainingPlyometrics / Agility and Sport-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROM Isokinetic Strength-90% Functional Tests – 90% MD approval	M <l 10,="" 30,="" 50,="" 70<="" hame="" quade="" td=""><td>Hin 4 way SI R (proximal had</td><td>Functional strengthening</td></l>	Hin 4 way SI R (proximal had	Functional strengthening
Hamstrings isotonics per ROM Quadriceps isotonics per ROM Total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction)Heel raisesDatabase (7 Hophocoption) Perturbation trainingCKC exercises - leg press, step- ups, FW lunges, squats, heel raisesHoel raisesCore stability training Balance / Proprioception Perturbation trainingPototal leg strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingPlyometrics / Agility and Sport-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strength3 wks Return to running if 75% strengthSoute of the photocoption Perturbation trainingCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthNo pain or effusion Full ROM Isokinetic Strength-90% Functional Tests – 90% MD approval		nlacement for Hin Adduction)	Balance / Propriocention
Transtituings isotonics per ROM Total leg strengthening Hip 4 way SLR (proximal pad placement for Hip Adduction)CKC exercises – leg press, step- ups, FW lunges, squats, heel raisesCKC exercises – leg press, step- ups, FW lunges, squats, heel raisesCore stability training Balance / Proprioception Perturbation trainingPlyometrics / Agility and Sport-specific exercises if 75% strengthCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateReturn to Work/Sport No pain or effusion Full ROM MD approvalNo pain or effusion Full ROM MD approval	Hamstrings isotopics por POM	Heel raises	Perturbation training
Outablice per ROWCircle exercises a reg press, step- ups, FW and lateral lunges, squatsCore stability trainingHip 4 way SLR (proximal pad placement for Hip Adduction)Total leg strengthening Functional strengthening Core stability trainingPlyometrics / Agility and Sport-specific exercisesCKC exercises - leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengthening Functional strengthening Core stability trainingPlyometrics / Agility and Sport-specific exercisesBalance / Proprioception Perturbation trainingPerturbation training Lateral movements – sideshuffles, euroglideTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROM Isokinetic Strength-90% Functional Tests – 90% MD approval	Quadriagna instantas per ROM	CKC evercises led press step	Core stability training
Total leg strengtheningSquatsPlyometrics / Agility andHip 4 way SLR (proximal pad placement for Hip Adduction)SquatsPlyometrics / Agility andCKC exercises- leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengthening Functional strengthening Core stability trainingPlyometrics / Agility and Sport-specific exercises if 75% strengthBalance / Proprioception Perturbation trainingPerturbation trainingTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROMV par body exercises4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthIsokinetic Strength- 90% Functional Tests – 90% MD approval	Total log strongthoning	ups FW and lateral lunges	Core stability training
Inip 4 way SER (proximal pad placement for Hip Adduction) CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesTotal leg strengthening Functional strengthening Core stability training Balance / Proprioception Perturbation trainingTotal leg strengthening Sport-specific exercises if 75% strengthBalance / Proprioception Perturbation trainingPerturbation training Lateral movements – sideshuffles, euroglideTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROM Isokinetic Strength- 90% Functional Tests – 90% MD approval	Hip 4 way SLD (provinal had	equate	Plyometrics / Agility and
Diacement for hip Adduction)Total leg strengtheningSport-specific exercisesCKC exercises- leg press, step- ups, FW lunges, squats, heel raisesFunctional strengthening Core stability training Balance / Proprioception Perturbation trainingGore stability training Balance / Proprioception Perturbation trainingTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROM Isokinetic Strength- 90% Functional Tests – 90% MD approval	TIP 4 way SLR (proximal pau	Total leg strengthening	Sport specific evercises
CKC exercises- leg press, step- ups, FW lunges, squats, heel raisesFunctional strengthering core stability training Balance / Proprioception Perturbation trainingTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateBalance / Proprioception Perturbation training CV conditioning Core stability training Upper body exercisesSwks Return to running if 75% strengthTesting 3-4 wks Linea / Biodex Test FXN Test when appropriateWith the strength Balance / Proprioception Perturbation trainingSwks Return to running if 75% strengthSwks Return to running if 75% strengthUpper body exercisesSport-specific exercises if 75% strengthFunctional Tests – 90% MD approval		Functional strengthening	if 75% strength
ups, FW lunges, squars, neercore stability trainingraisesBalance / ProprioceptionBalance / ProprioceptionPerturbation trainingBalance / ProprioceptionLateral movements –Sideshuffles, euroglidesideshuffles, euroglideCV conditioning3 wks Return to runningCore stability trainingif 75% strengthUpper body exercises4 wks Plyometrics / Agility andSport-specific exercises ifFunctional Tests – 90%MD approval	UNC exercises- leg press, step-	Core stability training	
PaisesDatafile / ProprioceptionPestingBalance / ProprioceptionPerturbation training3-4 wks Linea / Biodex TestBalance / ProprioceptionLateral movements –sideshuffles, euroglidePerturbation trainingsideshuffles, euroglideReturn to Work/SportCV conditioning3 wks Return to runningNo pain or effusionCore stability trainingif 75% strengthNo pain or effusionUpper body exercises4 wks Plyometrics / Agility andIsokinetic Strength- 90%Sport-specific exercises if 75% strengthFunctional Tests – 90%MD approval	ups, FW lunges, squats, neer	Balance / Propriocention	Tosting
Balance / Proprioception Perturbation trainingLateral movements – sideshuffles, euroglideS-4 wks Linea / Blodex rest FXN Test when appropriateCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROMUpper body exercises4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthIsokinetic Strength- 90% Functional Tests – 90% MD approval	raises	Balance / Frophoception	2 4 wks Linon / Biodox Tost
DatabaseCateral movements – sideshuffles, euroglidePAR Test when appropriatePerturbation trainingsideshuffles, euroglideReturn to Work/SportCV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthNo pain or effusion Full ROMUpper body exercises4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthIsokinetic Strength- 90% Functional Tests – 90% MD approval	Balance / Propriocention	Lateral movements	5-4 WKS LINEd / DIOUEX TEST
CV conditioning Core stability training3 wks Return to running if 75% strengthReturn to Work/Sport No pain or effusion Full ROMUpper body exercises4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthIsokinetic Strength- 90% Functional Tests – 90% MD approval	Perturbation training	sidoshufflos ouroglido	FXN Test when appropriate
CV conditioning Core stability training Upper body exercises3 wks Return to running if 75% strengthNo pain or effusion Full ROM4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthIsokinetic Strength- 90% Functional Tests – 90% MD approval		Sidestidities, edi oglide	Return to Work/Sport
Core stability training3 wks Return to runningNo pair of endsionUpper body exercisesif 75% strengthFull ROM4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthIsokinetic Strength- 90%MD approval	CV conditioning	3 wks Poturn to running	No pain or offusion
Upper body exercises4 wks Plyometrics / Agility and Sport-specific exercises if 75% strengthIsokinetic Strength- 90% Functional Tests – 90% MD approval	Core stability training	if 75% strength	
4 wks Fryometrics / Aginty and Sokmetric Strength - 90% Sport-specific exercises if 75% strength Functional Tests - 90%	Linner hody exercises	A wks. Plyometrics / Agility and	Isokinetic Strength 00%
75% strength MD approval		Sport specific oversizes if	Functional Tests 00%
		75% strength	MD approval
Reace for athletic activition			Brace for athletic activities