Cincinnati SportsMedicine and Orthopaedic Center

Anterior Cruciate Ligament Reconstruction: Accelerated Rehabilitation Protocol*

This rehabilitation protocol was developed for patients who have anterior cruciate ligament (ACL) reconstruction and desire to return to strenuous sports activities early postoperatively.

The following are **exclusionary criteria** for this protocol:

- Concomitant meniscal repair
- Concomitant ligament reconstruction
- Concomitant patellofemoral realignment procedure
- ACL revision reconstruction
- MRI evidence of bone brusing or articular cartilage damage seen during procedure

The protocol is divided into 7 phases according to postoperative weeks (for instance, Phase I = Postoperative Weeks 1-2). Each phase has several categories including:

- *General observation* of the patient's condition (weight bearing, pain, hemarthrosis, muscle control)
- *Evaluation* of specific variables with *goals* identified for each
- Treatment and exercise program, according to *frequency* and *duration*
- *Rehabilitation goals* which must be achieved to enter into the next phase

The **overall goals** of the reconstruction and rehabilitation are to:

- Control joint pain, swelling, hemarthrosis (minimal or none)
- Regain normal knee flexion and extension
- Regain a normal gait pattern and neuromuscular stability for ambulation
- Regain normal quadriceps, hamstring lower extremity muscle strength
- Regain normal proprioception, balance, and coordination for desired activities
- Achieve optimal functional outcome based on orthopaedic and patient goals

The supervised rehabilitation program is supplemented with a *home self-management program* which the patient performs on a daily basis. The therapist must evaluate the patient thoroughly to implement the enclosed protocol and should see the patient in the clinic for therapeutic procedures and modality treatments which are required for rehabilitation. The majority of this protocol can be accomplished at home provided patient cooperation and follow through are present. The approximate number of rehabilitation visits required for each phase are provided. Additional supervision may be required if a complication develops.

Important postoperative signs to monitor include:

- Swelling of the knee joint or soft tissues (avoid hemarthrosis)
- Abnormal pain response
- Abnormal gait pattern with or without assistive device
- Insufficient flexion or extension motions, limited patellar mobility
- Weakness (strength/control) of the lower extremity, especially the quads/hamstrings
- Insufficient lower extremity flexibility
- Abnormal AP displacement (joint arthrometer testing > 3 mm) early postoperatively

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The patient is placed into one of four **sports activity** and **occupational activity categories** based on the following scales. It is expected that patients who follow this protocol desire to return to sports activity levels I or II, or very heavy/heavy occupations.

1. Cincinnati Knee Rating System Sports Activity Scale

(check one)

❑ Level I - jumping, hard pivoting, cutting sports (basketball, volleyball, football, gymnastics, soccer)
❑ Level II - running, twisting, turning (tennis, racquetball, handball, ice/field hockey, skiing, wrestling)
❑ Level III - light recreational sports (bicycling, swimming - no running, twisting, jumping)
❑ Level IV - no sports, activities of daily living only

2. Cincinnati Knee Rating System Occupational Rating Scale

Factor 1 sitting	**Factor 2** standing/ walking	**Factor 3** walking on uneven ground	**Factor 4** squatting	**Factor 5** climbing	**Factor 6** lifting/ carrying	**Factor 7** pounds carried
0 ❑ 8-10 hrs/day	*0* ❑ 0 hrs/day	*0* ❑ 0 hrs/day	*0* ❑ 0 times/day	*0* ❑ 0 times/day	*0* ❑ 0 times/day	*0* ❑ 0-5 lbs
1 ❑ 6-7 hrs/day	*2* ❑ 1 hrs/day	*2* ❑ 1 hrs/day	*1* ❑ 1-5 times/day	*2* ❑ 1 flight 2 times/day	*1* ❑ 1-5 times/day	*1* ❑ 6-10 lbs
2 ❑ 4-5 hrs/day	*4* ❑ 2-3 hrs/day	*4* ❑ 2-3 hrs/day	*2* ❑ 6-10 times/day	*4* ❑ 3 flights 2 times/day	*2* ❑ 6-10 times/day	*2* ❑ 11-20 lbs
3 ❑ 2-3 hrs/day	*6* ❑ 4-5 hrs/day	*6* ❑ 4-5 hrs/day	*3* ❑ 11-15 times/day	*6* ❑ 10 flights/ ladders	*3* ❑ 11-15 times/day	*3* ❑ 21-25 lbs
4 ❑ 1 hrs/day	*8* ❑ 6-7 hrs/day	*8* ❑ 6-7 hrs/day	*4* ❑ 16-20 times/day	*8* ❑ ladders with weight 2-3 days/week	*4* ❑ 16-20 times/day	*4* ❑ 26-30 lbs
5 ❑ 0 hrs/day	*10* ❑ 8-10 hrs/day	*10* ❑ 8-10 hrs/day	*5* ❑ > 20 times/day	*8* ❑ ladders daily with weight	*5* ❑ > 20 times/day	*5* ❑ > 20 lbs

_____ *points x 2 =*_____ *total points*

Occupation Rating	Total Points
❑ Disabled	0
❑ Very light	1-20
❑ Light	21-40
❑ Moderate	41-60
❑ Heavy	61-80
❑ Very heavy	> 80

Physical Therapy Visit Timeline*

Phase	Weeks Postoperative	Minimum # Visits	Maximum # Visits
1	1-2	2	4
2	3-4	2	4
3	5-6	1	2
4	7-8	1	2
5	9-12	1	2
6	13-26	2	3
7	27-52	2	4
Total		11	21

*Physician Notification

The physician will be notified if the patient (1) fails to meet the expected goals for each phase of the protocol, (2) has a persistent joint effusion, (3) develops a chronic pain syndrome, (4) develops abnormal AP displacement on arthrometer testing (> 3 mm difference), (5) complains of giving-way, (6) has difficulty with ambulation, or (7) has a limitation of knee motion or patellar mobility.

These problems could result in a modification of this protocol and necessitate further visits to the physical therapist.

Discharge Criteria **(If goals for sports and occupation place patient into different categories, use category with highest functional demand criteria. For symptoms, use Symptom Rating Form found on next page.)**

*Sports Activity Level I or Heavy/Very Heavy Occupational Rating**

No pain, swelling, giving-way with level 10 on Symptom Rating Form
KT-2000 < 3 mm (I-N, 134 N, total A/P)
Biodex strength testing: quadriceps & hamstrings strength ≥ 85% of opposite limb
Function testing: 2 hop tests, limb symmetry ≥ 85%

*Sports Activity Level II or Moderate Occupational Rating**

No pain, swelling, giving-way with level 8 on Symptom Rating Form
KT-2000 < 3 mm (I-N, 134 N, total A/P)
Biodex strength testing: quadriceps & hamstrings strength ≥ 80% of opposite limb
Function testing: 2 hop tests, limb symmetry ≥ 85%

Sports Activity Level III or Light Occupational Rating

No pain, swelling, giving-way with level 6 on Symptom Rating Form
KT-2000 3-5 mm (I-N, 134 N, total A/P)
Biodex strength testing: quadriceps & hamstrings strength ≥ 70% of opposite limb
Function testing: 2 hop tests, limb symmetry ≥ 75%

Sports Activity Level IV (ADL) or Very light Occupational Rating

No pain, swelling, giving-way with level 4 on Symptom Rating Form
KT-2000 3-5 mm (I-N, 134 N, total A/P)
Biodex strength testing: quadriceps & hamstrings strength < 70% of opposite limb
Function testing: 2 hop tests, limb symmetry < 75%

*patients desiring to return to sports or strenuous work activities may require 4-6 more physical therapy visits during postoperative weeks 25-52 for advanced neuromuscular, strength, and activity-specific training to prevent reinjury.

Cincinnati Knee Rating System Symptom Rating Form

Scale	Description
10	Normal knee, able to do strenuous work/sports with jumping, hard pivoting
8	Able to do moderate work/sports with running, turning and twisting; symptoms with strenuous work/sports
6	Able to do light work/sports with no running, twisting or jumping; symptoms with moderate work/sports
4	Able to do activities of daily living alone; symptoms with light work/sports
2	Moderate symptoms (frequent, limiting) with activities of daily living
0	Severe symptoms (constant, not relieved) with activities of daily living

1. PAIN (circle one)

10 — 8 — 6 — 4 — 2 — 0

2. SWELLING (circle one)

10 — 8 — 6 — 4 — 2 — 0

3. PARTIAL GIVING-WAY (circle one) (partial knee collapse, no fall to the ground)

10 — 8 — 6 — 4 — 2 — 0

4. FULL GIVING-WAY (circle one) (knee collapse occurs with actual falling to the ground)

10 — 8 — 6 — 4 — 2 — 0

Return to Activities Warning

Return to strenuous activities after major knee ligament surgery carries the definite risk of a repeat injury or the potential of compounding the original injury. These risks cannot always be scientifically assessed. Patients are warned to return to athletic activities carefully and to avoid any activity in which pain, swelling, or a feeling of instability is present.

References

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Cincinnati SportsMedicine and Orthopaedic Center

Rehabilitation Protocol Summary for

Accelerated ACL Reconstruction

	Postoperative Weeks					Postoperative Months			
	1-2	3-4	5-6	7-8	9-12	4	5	6	7-12
Brace: immobilizer for patient comfort	X	(X)							
Range of motion minimum goals:									
0-110°	X								
0-120°		X							
0-135°			X						
Weight bearing:									
1/2 body weight	X								
Full		X							
Patella mobilization	X	X	X						
Modalities:									
Electrical muscle stimulation (EMS)	X	X							
Pain/edema management (cryotherapy)	X	X	X	X	X	X	X	X	X
Stretching:									
Hamstring, gastroc-soleus, iliotibial band, quadriceps	X	X	X	X	X	X	X	X	X
Strengthening:									
Quad isometrics, straight leg raises, active knee extension	X	X	X	X					
Closed-chain: gait retraining, toe raises, wall sits, mini-squats	X	X	X	X	X				
Knee flexion hamstring curls (90°)	X	X	X	X	X	X	X	X	X
Knee extension quads (90-30°)	X	X	X	X	X	X	X	X	X
Hip abduction-adduction, multi-hip	X	X	X	X	X	X	X	X	X
Leg press (70-10°)	X	X	X	X	X	X	X	X	X
Balance/proprioceptive training:									
Weight-shifting, mini-trampoline, BAPS, KAT, plyometrics	X	X	X	X	X	X	X	X	X
Conditioning:									
UBE	X	X	X						
Bike (stationary)		X	X	X	X	X	X	X	X
Aquatic program		X	X	X	X	X	X	X	X
Swimming (kicking)				X	X	X	X	X	X
Walking				X	X	X	X	X	X
Stair climbing machine			X	X	X	X	X	X	X
Ski machine			X	X	X	X	X	X	X
Elliptical machine				X	X	X	X	X	X
Running: straight					X	X	X	X	X
Cutting: lateral carioca, figure 8's						X	X	X	X
Full sports							X	X	X

Cincinnati SportsMedicine and Orthopaedic Center Rehab Protocol: ACL – Accelerated
Phase 1. Weeks 1-2 (Visits: 2-4)

General Observation	■ 50% weight bearing with 2 crutches when: - Postoperative pain controlled - Hemarthrosis controlled - Voluntary quadriceps contraction achieved	
Evaluation		**Goals**
	■ Pain	Controlled
	■ Hemarthrosis	Mild
	■ Patellar mobility	Good
	■ ROM minimum	0-110°
	■ Quadriceps contraction & patella migration	Good
	■ Soft tissue contracture	None
	■ Joint arthrometer (day 14)	< 3 mm
Frequency		**Duration**
3-4 x/day 10 minutes	**Range of motion** ROM (passive, 0-90°) Patella mobilization Ankle pumps (plantar flexion with resistance band) Hamstring, gastroc-soleus stretches	 5 reps x 30 secs
3 x/day 15 minutes	**Strengthening** Straight leg raises (flexion, extension, abduction, adduction) Active quadriceps isometrics (full extension) Knee flexion (active, 0-90°) Knee extension (active-assisted. 90-30°) Multi-hip machine (flexion, extension, abduction, adduction) Leg press (70-10°) Closed-chain - mini-squats (0-45°, 1/2 weight bearing)	 3 sets x 10 reps 1 set x 10 reps 3 sets x 10 reps 3 sets x 10 reps 3 sets x 10 reps 3 sets x 10 reps 3 sets x 20 reps
3 x/day 5 minutes	**Balance training** Weight shift side/side and forward/back	 5 sets x 10 reps
1-2 x/day 5 minutes	**Aerobic conditioning** UBE	
As required	**Modalities** Electrical muscle stimulation Cryotherapy	 20 minutes 20 minutes
Goals	■ ROM 0-110° ■ Adequate quadriceps contraction ■ Control inflammation, effusion ■ 50% weight bearing	

Cincinnati SportsMedicine and Orthopaedic Center Rehab Protocol: ACL – Accelerated
Phase 2. Weeks 3-4 (Visits: 2-4)

General Observation	■ Full weight bearing with 1 crutch when: - Pain controlled without narcotics - Effusion controlled - ROM 0-100° - Muscle control throughout ROM	
Evaluation		**Goals**
	■ Pain	Mild
	■ Effusion	Minimal
	■ Patellar mobility	Good
	■ ROM minimum	0-120°
	■ Muscle control	3/5
	■ Joint arthrometer (day 28)	< 3 mm
	■ Inflammatory response	None
Frequency		**Duration**
3-4 x/day 10 minutes	**Range of motion**	
	ROM (passive, 0-120°)	
	Patella mobilization	
	Ankle pumps (plantar flexion with resistance band)	
	Hamstring, gastroc-soleus stretches	5 reps x 30 secs
2-3 x/day 20 minutes	**Strengthening**	
	Straight leg raises (flexion, extension, abduction, adduction)	3 sets x 10 reps
	Isometric training: multi-angle (90, 60, 30°)	1 set x 10 reps
	Heel raise/toe raise	3 sets x 10 reps
	Hamstring curls (active, 0-90°)	3 sets x 10 reps
	Knee extension (active, 90-30°)	3 sets x 10 reps
	Closed-chain	
	- Wall sits	5 reps
	- Mini-squats	3 sets x 20 reps
	Multi-hip machine (flexion, extension, abduction, adduction)	3 sets x 10 reps
	Leg press (70-10°)	3 sets x 10 reps
3 x/day 5 minutes	**Balance training**	
	Weight shift side/side and forward/back	5 sets x 10 reps
	Balance board/2 legged	
1-2 x/day 5 minutes	Cup walking	
	Single leg stance (level surface)	5 reps
2 x/day 5 minutes	**Aerobic conditioning**	
	UBE	
	Water walking	
	Stationary bicycling (patellofemoral precautions)	
As required	**Modalities**	
	Electrical muscle stimulation	20 minutes
	Cryotherapy	20 minutes
Goals	■ ROM 0-125° ■ Control inflammation, effusion ■ Muscle control ■ 100% weight bearing ■ Arthrometer within 3 mm	

Cincinnati SportsMedicine and Orthopaedic Center Rehab Protocol: ACL – Accelerated
Phase 3. Weeks 5-6 (Visits: 1-2)

General Observation	■ Independent ambulation when: - Pain controlled - Effusion controlled - ROM 0-120° - Muscle control throughout ROM	
Evaluation		**Goals**
	■ Pain	No RSD
	■ Effusion	Minimal
	■ Patellar mobility	Good
	■ ROM	0-135°
	■ Muscle control	4/5
	■ Inflammatory response	None
	■ Gait	Symmetrical
Frequency		**Duration**
3 x/day 10 minutes	**Range of motion** ROM (passive, 0-135°) Patella mobilization Hamstring, gastroc-soleus stretches	 5 reps x 30 secs
2 x/day 20 minutes	**Strengthening** Straight leg raises (ankle weight, not to exceed 10% of body weight) Straight leg raises, rubber tubing Isometric training: multi-angle (90, 60, 30°) Heel raise/toe raise Hamstring curls (active, 0-90°) Knee extension with resistance (90-30°) Closed-chain - Wall sits - Mini-squats Multi-hip machine (flexion, extension, abduction, adduction) Leg press (70-10°)	 3 sets x 10 reps 3 sets x 10 reps 2 sets x 10 reps 3 sets x 20 reps 3 sets x 10 reps 3 sets x 10 reps 5 reps 3 sets x 20 reps 3 sets x 10 reps 3 sets x 10 reps
3 x/day 5 minutes	**Balance training** Balance board/2 legged Lateral step-ups: 2-4”	
2 x/day 10 minutes	**Aerobic conditioning** (patellofemoral precautions) UBE Stationary bicycling Water walking Stair machine (low resistance, low stroke) Ski machine (short stride, level, low resistance) Elliptical (low resistance)	
As required	**Modalities** Cryotherapy	 20 minutes
Goals	■ ROM 0-135° ■ Full weight bearing, normal gait ■ Control inflammation, effusion ■ Muscle endurance ■ Recognition complications (motion loss, RSD, increased AP displacement) ■ Recognition patellofemoral changes	

Cincinnati SportsMedicine and Orthopaedic Center Rehab Protocol: ACL – Accelerated
Phase 4. Weeks 7-8 (Visits: 1-2)

General Observation	■ No effusion, painless ROM, joint stability ■ ROM 0-135° ■ Performs activities of daily living, can walk 20 minutes without pain ■ Full weight bearing	
Evaluation		**Goals**
	■ Manual muscle test Hamstrings, quadriceps, hip abductors/adductors/flexors/extensors	4/5
	■ Swelling	None
	■ Joint arthrometer (8 weeks)	< 3 mm
	■ Patellar mobility	Good
	■ Crepitus	None/slight
Frequency		**Duration**
2 x/day 10 minutes	**Range of motion** Hamstring, gastroc-soleus stretches	5 reps x 30 secs
2 x/day 20 minutes	**Strengthening** Straight leg raises, rubber tubing	3 sets x 30 reps
	Hamstring curls (active, 0-90°)	3 sets x 10 reps
	Knee extension with resistance (90-30°)	3 sets x 10 reps
	Leg press (70-10°)	3 sets x 10 reps
	Multi-hip machine (flexion, extension, abduction, adduction)	3 sets x 10 reps
	Closed-chain	
	- Wall sits	5 reps
	- Mini-squats	3 sets x 20 reps
3 x/day 5 minutes	**Balance training** Balance board/2 legged	
	Single leg stance	
	Resistance band walking	
	Plyoback ball toss	
1-2 x/day 15-20 minutes	**Aerobic conditioning** (patellofemoral precautions) Stationary bicycling	
	Water walking	
	Swimming (straight leg kicking)	
	Walking	
	Stair machine (low resistance, low stroke)	
	Ski machine (short stride, level, low resistance)	
	Elliptical machine (low resistance)	
As required	**Modalities** Cryotherapy	20 minutes
Goals	■ Increase strength and endurance	

Cincinnati SportsMedicine and Orthopaedic Center Rehab Protocol: ACL – Accelerated
Phase 5. Weeks 9-12 (Visits: 1-2)

General Observation	■ No effusion, painless ROM, joint stability ■ ROM 0-135° ■ Performs activities of daily living, can walk 20 minutes without pain ■ Full weight bearing	
Evaluation		**Goals**
	■ Manual muscle test Hamstrings, quadriceps, hip abductors/adductors/flexors/extensors	4/5
	■ Isometric test (12 wks, mean avg torque/% deficit quads & hams)	30
	■ Swelling	None
	■ Joint arthrometer (12 weeks)	< 3 mm
	■ Patellar mobility	Good
	■ Crepitus	None/slight
Frequency		**Duration**
2 x/day 10 minutes	**Range of motion** Hamstring, gastroc-soleus, quad, ITB stretches	5 reps x 30 secs
2 x/day 20 minutes	**Strengthening** Straight leg raises, rubber tubing	3 sets x 30 reps
	Hamstring curls (active, 0-90°)	3 sets x 10 reps
	Knee extension with resistance (90-30°)	3 sets x 10 reps
	Leg press (70-10°)	3 sets x 10 reps
	Multi-hip machine (flexion, extension, abduction, adduction)	3 sets x 10 reps
	Closed-chain	
	- Wall sits	5 reps
	- Mini-squats	3 sets x 20 reps
	- Lateral step-ups (2-4" block)	3 sets x 10 reps
3 x/day 5 minutes	**Balance training** Balance board/2 legged	
	Single leg stance	
	Resistance band walking	
	Plyoback ball toss	
3 x/week 15 -20 minutes	**Aerobic conditioning** (patellofemoral precautions) Stationary bicycling	
	Water walking	
	Swimming (kicking)	
	Walking	
	Stair machine (low resistance, low stroke)	
	Ski machine (short stride, level, low resistance)	
	Elliptical machine (low resistance)	
3 x/week 10 minutes	**Running program** (straight) Jog	1/4 mile
	Walk	1/8 mile
	Backward walk	20 yards
As required	**Modalities** Cryotherapy	20 minutes
Goals	■ Increase strength and endurance	

Cincinnati SportsMedicine and Orthopaedic Center Rehab Protocol: ACL – Accelerated
Phase 6. Weeks 13-26 (Visits: 2-3)

General Observation	■ No effusion, painless ROM, joint stability ■ Performs activities of daily living, can walk 20 minutes without pain	
Evaluation	■ Isokinetic test (isometric + torque 300°/sec, % difference quads & hams, tested monthly) ■ Swelling ■ Joint arthrometer ■ Patellar mobility ■ Crepitus ■ Single-leg function tests (hop distance, timed hop, % inv/uninv)	**Goals** 20-25 None 3 mm Good None/slight 75
Frequency		**Duration**
2 x/day 10 minutes	**Range of motion** Hamstring, gastroc-soleus, quad, ITB stretches	 5 reps x 30 secs
1 x/day 20-30 minutes	**Strengthening (patellofemoral precautions)** Straight leg raises, rubber tubing (high speed) Hamstring curls (active, 0-90°) Knee extension with resistance (90-30°) Leg press (70-10°) Multi-hip machine (flexion, extension, abduction, adduction)	 3 sets x 30 reps 3 sets x 10 reps 3 sets x 10 reps 3 sets x 10 reps 3 sets x 10 reps
3 x/day 5 minutes	**Balance training** Balance board/2 legged → Single leg Single leg stance → Unstable platform	
3 x/week 20-30 minutes	**Aerobic conditioning** (patellofemoral precautions) Stationary bicycling Water walking Swimming (kicking) Walking Stair machine (low resistance, low stroke) Ski machine (short stride, level, low resistance) Elliptical machine (low resistance)	
3 x/week 15-20 minutes	**Running program** (straight) Jog (progression of speed: ½, ¾, full) Walk Backward run	 1/4 – 1 mile 1/8 mile 20 yards
3 x/week	**Cutting program** – lateral, carioca, figure 8's	20 yards
3 x/week	**Functional training** Plyometric training: box hops, level, double-leg Sport specific drills	 15 secs, 4-6 sets
As required	**Modalities** Cryotherapy	 20 minutes
Goals	■ Increase strength and endurance	

Cincinnati SportsMedicine and Orthopaedic Center Rehab Protocol: ACL – Accelerated

Phase 7. Weeks 27-52 (Visits: 2-3)

General Observation	■ No effusion, painless ROM, joint stability ■ Performs ADL, can walk 20 minutes without pain	
Evaluation		**Goals**
	■ Isokinetic test (torque at 180°/sec & 300°/sec, % difference quads & hams, tested quarterly; isometric if symptomatic PF joint	10-15
	■ Swelling	None
	■ Joint arthrometer	< 3 mm
	■ Patellar mobility	Good
	■ Crepitus	None/slight
	■ Single-leg function test (hop distance, timed hop, % inv/uninv)	85
Frequency		**Duration**
2 x/day 10 minutes	**Range of motion** Hamstring, gastroc-soleus, quad, ITB stretches	5 reps x 30 secs
3-4 x/week 20-30 minutes	**Strengthening (patellofemoral precautions)** Straight leg raises, rubber tubing (high speed)	3 sets x 30 reps
	Hamstring curls (active, 0-90°) Knee extension with resistance (90-30°) Leg press (70-10°) Multi-hip machine (flexion, extension, abduction, adduction)	} 1-2 sets x 8-12 reps
3 x/day 5 minutes	**Balance training** Balance board/2 legged → Single leg Single leg stance - unstable platform w/secondary activity	
3 x/week 20-30 minutes	**Aerobic conditioning** (patellofemoral precautions) Stationary bicycling Water walking Swimming (kicking) Walking Stair machine (low resistance, low stroke) Ski machine (short stride, level, low resistance) Elliptical (low resistance)	
3 x/week 20 minutes	**Running program** (straight) Interval training (20, 40, 60, 100 yards) Walk/rest phase (3:1 rest: work) Backward run	
3 x/week	**Cutting program** – lateral, carioca, figure 8's	20 yards
3 x/week	**Functional training** Plyometric training: box hops, level, double-leg Sport specific drills	20 yards 15 secs, 4-6 sets
As required	**Modalities** Cryotherapy	20 minutes
Goals	■ Increase function ■ Maintain strength, endurance ■ Return to previous activity level	