

FUNCTIONAL PROGRESSIVE WARM-UP PROGRAM FOR ACL INJURY PREVENTION AND PERFORMANCE ENHANCEMENT

INTERVENTION GUIDE



Rhoida Motto & Kim Theakston
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INTERVENTION GUIDELINE. GOALS

Neuromuscular Imbalance	Faulty movement	Intervention/Goals
Ligament dominance	Knee valgus (knee inward movement) during landing	Proper Jump and land techniques, improve dynamic knee control
Quadriceps dominance	Decreased knee flexion angle	Improvement of hamstring activation and increase knee flexion angle during landing
Leg dominance	Leg asymmetrical in landing	Improvement of side to side leg symmetry, strength and stability
Trunk dominance	Uncontrolled trunk motion	Strengthening: core, trunk stability and balance

EVIDENCED BASED DOSAGE RECOMMENDATIONS

	Pre-season	In-season
Duration	6 week	Throughout the season
Frequency	2-3 a week	2 a week
Training time	20-30 minutes	20 -30 minutes

Dosage: 1 repetition max. (1RM) OR 8-10 reps. Resting between sets. 2-3 x per week, for 6 to 12 weeks.

GUIDANCE

Technique: (verbal feedback on form and quality of the movement during all exercises) Focusing on quality not quantity, pain free full range of motion and using proper breathing techniques.

EXERCISES ADVANCING CRITERIA

Progress an athlete to a next level if is able to perform each exercise in a good and controlled posture/form in 3 consecutive training session.

Balance exercises: Progress an athlete to the next level when is able to maintain proper form and hold at least 30 seconds without balance loss and demonstrate safe knee position

Athletic Ready functional Position



Hips flexed, Knees bent, shoulders back, eyes looking straight ahead, body weight on the balls of the feet (knees never over toes), and feet shoulder-width apart.

THERAPEUTIC EXERCISE PROGRAM



LIGAMENT DOMINANCE INTERVENTION

Phase 1. Wall Jump exercise

Instructions: The athletes perform vertical jump and land with minimal knee flexion. Full arms extension should be emphasized at the top of the jump

Dosage: Repetition maximum with correct form

Guidance: Reinforcing on proper landing techniques/form, soft landing “land like a feather”, avoid excessive knee inward movement



Phase 2. Tuck Jump Exercise

Instructions: Continues high jumps, bring knees towards the chest, hitting knees with your hands, then landing soft.

Dosage: Repetition maximum with correct form

Guidance: Avoiding excessive side to side movements, off balance landing and reinforce quiet soft landings



Phase 3. Single leg hop- hold exercise

Instructions: Perform single leg hop and hold 2-3 secs each trial

Dosage: Repetition maximum with correct form

Guidance: reinforce on proper knee bending at least 45-90



Phase 1. Lateral Knee-Band walks exercise

Instructions: Performing side stepping or walking with Thera-band around the knees while maintaining proper athletic position

Equipment: Thera-band, Mirrors

Dosage: 8-10 reps each side with proper form

Guidance: core activation, low and controlled movement without inward knee motion.



Phase 2. Lateral Ankle- Band walks exercise

Instructions: Performing side stepping or walking with Thera-band around both ankles while maintaining proper athletic position

Dosage: 8-10 reps each side with proper form

Guidance: core activation, low and controlled movement without inward knee motion.



Phase 3. Lateral feet-Band with ball throw

Instructions: Performing ball toss/catch while side stepping with Thera-band around feet

Equipment: small ball, Thera-band or Tube

Dosage: 1RM with proper form

Guidance: core activation, low and controlled movement without inward knee motion.



QUADRICEPS DOMINANCE INTERVENTION

Phase 1. Squat Jump Exercise

Instructions: Jump straight up, then squat down as low as you can, keeping back and head straight, knees fully bent and facing the same direction as the feet

Dosage: 1RM with proper form

Guidance: quiet soft landing on the forefoot, trunk, hip and knee flexion, landing on both feet



Phase 2. Long Jump Exercise

Instruction: Perform a long jump and hold 3-5 seconds at landing

Dosage: 1RM with proper form

Guidance: quiet soft landing on the forefoot, trunk, hip and knee flexion, landing on both feet



Phase 3. 4-square single leg hop

Instructions: Hop in one leg landing on the numbers in the box. Arms extended in front of the body for balance

Equipment: Tape, mirrors

Dosage: Repetitive maximum with proper form. Pain free range movements. 1-2 mins each side

Guidance: Proper knee leg alignment, knees and feet facing the same direction.



LEG DOMINANCE INTERVENTION

Phase 1. Double leg stance on BOSU

Instructions: Perform double legs stance in the center of the BOSU ball, while focusing on a targeted area/spot at eye level.

Equipment: BOSU, Mirrors

Dosage: Hold in position x10-30 seconds x 5 reps

Guidance: symmetry, equal weight distribution and proper form



Phase 2. Single Leg stance on BOSU

Instructions: Perform one leg stance in the center of the BOSU ball and lift the other leg off the ground, while focusing on a targeted area/spot at eye level.

Dosage: Hold in position x10-30 seconds x 5 reps

Guidance: core activation and proper form



Phase 3. Plyometrics jumps on BOSU with ball catch/toss

Instructions: Perform side single leg jump on BOSU ball, then hold and catch and toss the ball.

Dosage: Repetition maximum (8-10 reps) with proper form



TRUNK DOMINANCE INTERVENTION

Phase 1. Double leg Kneeling trunk stability on BOSU

Instructions: Perform double leg kneeling on BOSU, maintaining equal weight distribution, core engagement, and focusing on a targeted area

Equipment: BOSU, Mirrors

Dosage: Hold in position x10-30 seconds x 5 reps

Guidance: core activation, proper form, maintain balance and keeping hips squared with shoulders



Phase 2. Single leg kneeling trunk stability on BOSU

Instructions: Perform single leg kneeling on BOSU, maintaining equal weight distribution, core activation, and focusing on a targeted area

Dosage: Hold in position x10-30 seconds x 5 reps

Guidance: core activation, proper form and maintain balance



Phase 3. Multi-directional ball throw on BOSU

Instructions: Performing ball toss/catch while kneeling on BOSU ball

Equipment: BOSU, small ball

Dosage: 1RM with proper form

Guidance: core activation, proper form and maintain balance



PREPARED BY

RHOIDA MOTTO AND KIM THEAKSTON

CONTACT INFORMATION

RHODAM@GMAIL.COM

KIM.THEAKSTON@GMAIL.COM

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