

REHAB OF THE CROSS-COUNTRY SKIER

- JESSIE HELM PT
- COURAGE KENNY SPORTS AND PT - PART OF ALLINA HEALTH
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OBJECTIVES

- IDENTIFY COMMON INJURIES IN CROSS COUNTRY SKIING AND EXPLAIN THE UNIQUE DEMANDS ON THE BODY WITH CROSS COUNTRY SKIERS
- BE ABLE TO IDENTIFY KEY FACTORS WHEN EVALUATING COMMON INJURIES TO FORMULATE AN APPROPRIATE TREATMENT PLAN
- BE ABLE TO EFFECTIVELY REHABILITATE COMMON INJURIES FOUND IN CROSS COUNTRY SKIERS WITH PROPER PROGRESSION
 - UPPER EXTREMITY
 - LOW BACK
 - LOWER EXTREMITY

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CROSS COUNTRY SKIING: A HIGH-DEMAND SPORT

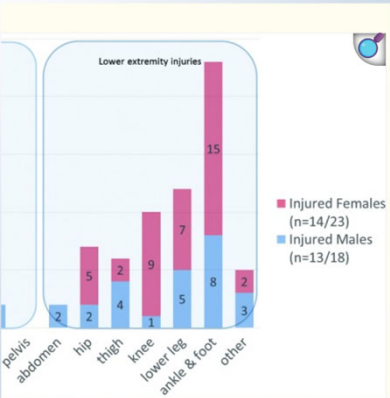
- FULL BODY ENGAGEMENT
 - UTILIZES ALL MAJOR MUSCLE GROUPS
 - HIGH CARDIOVASCULAR OUTPUT (VO2 MAX)
- INJURY PROFILE
 - PREDOMINATELY OVERUSE INJURIES
- TECHNIQUE IS KEY
 - BIOMECHANICS- "CLASSIC" VS "SKATE"
- CLINICIAN GOAL
 - DIFFERENTIATE OVERLOAD FROM PATHOLOGY
 - ADDRESS UNDERLYING BIOMECHANICAL DRIVERS



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INJURY PREVALENCE BY BODY REGION

- 2004
- LOWER BACK (35%)
- KNEE (25%)
- SHOULDER (20%)
- ANKLE/FOOT (15%)
- OTHER (5%)
- 2019
- INCREASED INCIDENTS IN ANKLE/FOOT
- FEMALES > MALES



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UPPER EXTREMITY

- FALLS
 - SKIERS THUMB- UCL TEAR
 - AC JOINT DISLOCATION
 - ROTATOR CUFF TEAR
- OVERUSE-
 - SHOULDER IMPINGEMENT
 - SHOULDER TENDONITIS/BURSITIS
 - LATERAL EPICONDYLITIS – TENNIS ELBOW



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REHAB PROGRESSION

- EVALUATION – DETAILS ARE IMPORTANT – BE THOROUGH
 - STRENGTH OF ROTATOR CUFF, SCAPULAR STABILIZERS
 - RANGE OF MOTION
 - SCAPULAR DYSKINESIS
 - COMPENSATION PATTERNS
- STAGE 1 - REDUCE PAIN, IMPROVE ROM
- STAGE 2- STRENGTH PROGRESSION
 - ECCENTRIC CONTROL AND ENDURANCE OF ROTATOR CUFF- COUNTER ACTS INTERNAL ROTATION OF POLING
 - SCAPULAR STABILIZERS – I, T, W, Y – PERFORM ON AN EXERCISE BALL FOR CORE STABILITY
- STAGE 3- HIGH LEVEL FUNCTIONAL ACTIVITIES
 - KINETIC CHAIN INTEGRATION: WORK WITH THE ATHLETE TO POLE FROM THE CORE WORKING ON HIGHER LEVEL EXERCISES INCLUDING PROGRESSIVE CORE/LATISSIMUS AND SHOULDER STRENGTH

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LUMBAR INJURIES

- OVERUSE INJURIES IN THE LOWER BACK
 - MUSCULAR STRAIN, DISCOGENIC PAIN, FACET ARTHROPATHY, SPONDYLOSIS
- TYPICALLY CAUSED FROM REPETITIVE SPINAL FLEXION AND EXTENSION PARTICULARLY DURING DOUBLE POLING AND V2 SKATE TECHNIQUE



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REHAB PROGRESSION

- EXAMINATION –BE THOROUGH
 - ASSESS ROM
 - TIGHT MUSCLES AND WEAKNESS IN DEEP CORE STABILIZERS LEADS TO OVERUSE OF RECTUS ABDOMINUS AND ERECTOR SPINAE AND HIPS
- STAGE 1 – RESTORE NORMAL ROM, REDUCE PAIN, IMPROVE FLEXIBILITY IN TIGHT MUSCLES AND INITIATE ON GLOBAL CORE ACTIVATION
- STAGE 2 – PROGRESSION OF CORE AND HIP STRENGTH
 - ABDOMINAL BRACING WITH MARCHING
 - DEAD BUG FROM STATIC TO MORE DYNAMIC AS STRENGTH IMPROVES
- STAGE 3 – HIGHER LEVEL EXERCISES TO HELP MAINTAIN AND PREVENT INJURIES
 - SIDE-PLANK WITH LEG LIFTS V-UPS
 - PLANK ON BOSU WITH HIP ABDUCTION/EXTENSION



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LOWER EXTREMITY

- OVERUSE INJURIES IN THE LOWER EXTREMITY
 - HIP- IT BAND SYNDROME , TENDINOPATHY, BURSITIS
 - KNEE- PATELLOFEMORAL PAIN(PFPS)



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LOWER EXTREMITY- PFPS, IT BAND SYNDROME

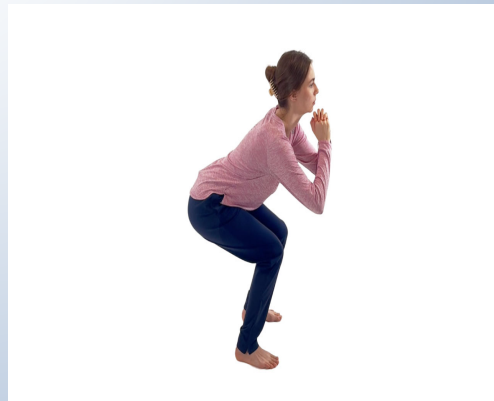
- KNEE – PATELLOFEMORAL PAIN (PFPS)
 - TYPICAL CAUSED BY FLEXION AND EXTENSION OF THE KNEE WITH POOR TRACKING WITH ASSOCIATED HIP WEAKNESS
- IT BAND SYNDROME
 - CAUSED BY REPETITIVE FRICTION OF IT BAND OVER LATERAL FEMORAL CONDYLE DRIVEN BY ADDUCTION AND IR
 - OFTEN SEEN IN THE SKATING TECHNIQUE



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LOWER EXTREMITY REHAB- PF PAIN AND IT BAND SYNDROME

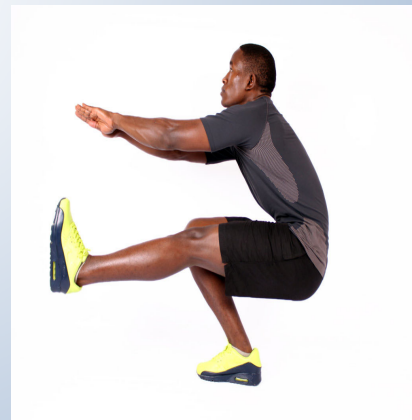
- EXAMINATION
- STRENGTH-CORE, HIP, LE
- RANGE OF MOTION-HIP, KNEE, LUMBAR SPINE
- GAIT
- FUNCTIONAL EVALUATION
- FACTORS IN TRAINING- ROLLER SKIING, RUNNING TO CROSS TRAIN, WEIGHTLIFTING, STYLE OF SKIING



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REHAB PROGRESSION – PF PAIN AND IT BAND SYNDROME

- STAGE 1: REDUCE PAIN, IMPROVE ROM, INITIATE GLUTE/KNEE STRENGTHENING
 - POWERS PROGRAM
- STAGE 2: PROGRESSION OF CORE, HIP, KNEE, AND ANKLE STRENGTH
 - USE OF MIRRORS, CUES TO REDUCE VALUES WITH HEP TO IMPROVE WORK TO IMPROVE GLUTE ACTIVATION
 - RUNNING ANALYSIS IF CROSS TRAINING- WHEN APPROPRIATE
- HIGHER LEVEL EXERCISES TO HELP MAINTAIN AND PREVENT INJURY
 - SINGLE LEG DEAD LIFTS
 - LATERAL LUNGES
 - SINGLE LEG SQUATS
 - BULGARIAN SPLIT SQUATS
 - BOSU SQUATS
 - POWERS PROGRAM



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ANY QUESTIONS?



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