Return to play preparation following ACL reconstruction: Implications for the hockey player

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Necessary Milestones:

- Full range of motion.
- Minimal to absent effusion.
- Normal gait.
- Progression of neuromuscular lower extremity control exercises.
- Progression in core training.
- Tolerating aerobic progression.
- Tolerating low level agility drills.
- Proper loading and unloading mechanics.
Return to play programs following ACL reconstruction:

• What does the literature say about returning the hockey player following ACL Reconstruction?

• Not much…

• Tyler, McHugh. Neuromuscular Rehabilitation of a Female Olympic Ice Hockey Player Following Anterior cruciate ligament Reconstruction. JOSPT 2001; 31 (10): 577-587.


Many articles on soccer and basketball:

• Bizzini, Hancock, Impellizzeri. Suggestions From the Field for Return to Sports Participation Following Anterior Cruciate Ligament Reconstruction: Soccer. JOSPT April 2012, Vol. 4, Number 4.
How do we safely and effectively return a hockey player to the game?

- Skating treadmill:
  - Safe.
  - Improve mechanics.
  - Build endurance and power.
  - Build player confidence.
  - Build medical staff confidence.

- Individual skating progression.
- Partner skating progression.
- Non-contact team drill progression.
- Re-introduction to contact.
Dartfish and the skating treadmill

- Team approach:
  - Interaction of skating coach, PT and patient.
- Assess fundamentals of skating.
- Progressive reintroduction of joint to skating.
- Patient excitement.
See it, feel it, do it..........

• Through the analysis of the patient’s skating with the skating coach and Physical Therapist patient is made aware of potential flaws.
  • Baggage prior to injury.
  • Flaws related to current MSK status.

• Leads to:
  • Education of patient on rationale of various training exercises.
Skating video
Dartfish Analysis:

Trunk Tilt:
10 degree difference while on right side.

Concerning for:
Ligament dominance movement fault with valgus stress to right knee.

Trunk dominance movement fault.
Dartfish Analysis

Hand rotation:
Will this lead to more valgus stress at the knee?
Dartfish Analysis

Side view

Lacks full knee extension
Now Let’s Train It!

• Refocus rehab/training based on what we are seeing in our skating analysis.

• Better patient buy-in.
Bibliography

• Bizzini, Hancock, Impellizzeri. Suggestions From the Field for Return to Sports Participation Following Anterior Cruciate Ligament Reconstruction: Soccer. JOSPT April 2012, Vol. 4, Number 4.

• Tyler, McHugh. Neuromuscular Rehabilitation of a Female Olympic Ice Hockey Player Following Anterior cruciate ligament Reconstruction. JOSPT 2001; 31 (10): 577-587.


• Hewett, Ford, Hoogenboom, Myer. Understanding and Preventing ACL Injuries: Current Biomechanical and Epidemiologic Considerations-Update 2010. NASPT Vol. 5, No. 4, December 2010


Thank You