ICE HOCKEY REHAB: FROM OPERATING ROOM TO RETURN TO PLAY

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EPIDEMIOLOGY









ICE HOCKEY DEMANDS



Skating Sprinting Stride length/frequency increase simultaneously Increasing stride rate from run to glide Decreasing or maintained trunk segmental angle each step (forward trunk lean) asing trunk segment angle each step Placement of recovery leg below hip Airtime increases with each step

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KEY CONSIDERATIONS

▶ <u>Biphasic Breakdown</u>

- ▶ <u>Support Phase</u> SL Support: Glide/Thrust (75-85%)
 - DL Support: Terminal Push off (15-25%)
- ▶ Propulsion Phase

Donskov 2020, Marino 1979

► End of SL Support → DL Support

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- LE is near isometric Quads/HS/Glutes
 Ankles are DF



ov 2020, Pearsall 2000

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KEY ROLE OF KNEE JOINT ROM demand is relatively small ► ~41 deg → > 60 deg

Knee does not fully extend during stride – Limited Knee Extension Phenomena

De Boer 1987, Lafontaine 2007, Budarick 2018



- ► Propulsion Phase (First half of SL Support → DL Support):
 - Glutes contract Concentrically Extend, ABD, and ER
 - Adductors contract Eccentrically Deceleration
 - Quad Concentrically promote knee extension

Donskov 2020, Pearsall 2000

ENVIRONMENT CONSIDERATIONS: ICE/ARENA

- Ice hockey is played on a near frictionless surface
 - ► ~75% air friction, ~25% ice friction
- Coefficient of friction: .003-.00
 Rubber on concrete: .8
- ► Factors: temperature, humidity, accumulation of shavings, etc.







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Re	ebuild estore	• Address • Address • Introduc (Step/Sq	work capacity, st Proprioceptive De e/progress load ir uat/Lunge)	rength deficits eficits nto flexed proced	dures
	Necr Full ROM	Strength & Hypertrophy	Power Development	Return to ice	













WHAT DO WE HAVE TO GUIDE OUR CURRENT PROGRESSIONS?

RETURN TO ICE CRITERIA





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		Near full ROM (90% Flexion, Full Ext)	
Return to Play by Dx			
ACLr*	~ 6-7 months for full activity	Irace or less → Non-reactive effusion	
Meniscus (Unstable)	~ 6 months	25 SL squats to 90 deg with excellent frontal	
Meniscus (Stable)	~ 4-6 months	plane stability (60 BPM tempo)	
PCLr* (Double Bundle)	~ 9-10 months	90%+ Quad Symmetry (>100%+ Peak/BW)	
FCLr*	~ 5-7 months		
MCLr*	~ 5-7 months	80% ADD: ABD Ratio (ABD strength >30% BW)	
MLKR	~ 9-10 months		
DATS ~12 months			
* Isolated reconstructions,	All timelines are dependent on criteria	8+ weeks of exposure time	







