Returning Athletes to Sport After Acetabular Labral Repair

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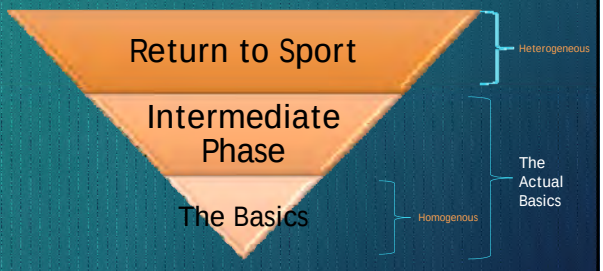
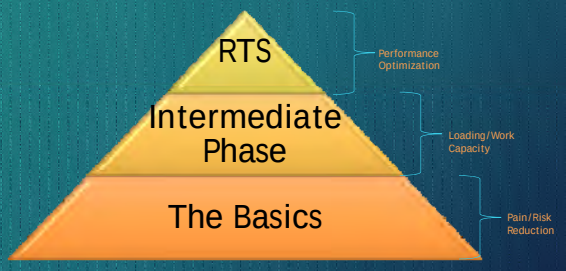
Objectives

- Review the Paradigm for Return to Sport After Arthroscopic Hip Labral Repair
- Review Protocol For Basic, Intermediate, and Return to Sport Mesocycles
- Review Acute on Chronic Training Load as it Relates to Return to Sport

The Process (As It's Seen)



The Process (As It Possibly Should Be)



The Basics

- Establish Expectations Early
  - Peerderman et al 2016
- Hip Internal Rotation
  - Yuan et al 2013
- Hip (Abductor) Strength
  - Diamond et al 2016
  - Casartelli et al 2011

"The fulfilment of FAI patients' expectations about return to sport is strongly related to their positive surgery evaluation"
-Mannion *et al* 2013

The Basics

- Avoid SLR early (think like BTB/hamstring harvest site for ACL)
  - Same for Sit-ups
- Role of OKC knee flx/ext early?
- "The Speech" → Offseason
  - Luow *et al* 2016

★ Athletes Can Work Their Contralateral Leg and Upper Body

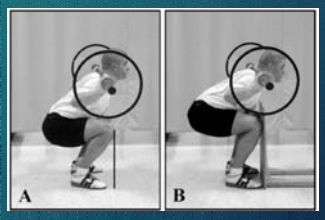
Intermediate Phase (Dosing)

- Set/Rep/Rest Schemes
  - 3x10 — Motor Control/Learning
  - 5x5 — Strength/Power Development
  - 6x3 — Strength/Power Development

Lifting Goal	Load (% 1RM)	# Sets	# Reps	Rest
Strength	≥ 85%	2-6	≤ 6	2-5 minutes
Power (single-efforts)	80-90%	3-5	1-2	2-5 minutes
Power (multiple-efforts)	75-85%	3-5	3-5	2-5 minutes
Hypertrophy	67-85%	3-6	6-12	30-90 seconds
Muscular Endurance	≤ 67%	2-3	12+	< 30 seconds

Intermediate Phase (Symmetrical Loading)

- Squats
  - Goblet
  - Back Squat
  - Pause Squat
    - Role of Isometric



Fry *et al* 2003

★ Squatting Will be A Cognitive Effort Early On!

Intermediate Phase (Instructions)

- Internal vs External Cues
  - Wulf *et al*
- Depth vs Symmetry
  - Bloomquist *et al*
- Role of Fatigue
  - Webster *et al*

Intermediate Phase (Symmetrical Loading)

Pulls
- Sumo
- Conventional
- Lift Offs
- Weight Lifting Positional Drills

Intermediate Phase (Asymmetrical Loading)

Posterior Medial Taps

Light Weight=Balance Proprioception

Heavy weight=Intense Glute Exercise

Intermediate Phase (Asymmetrical Loading)

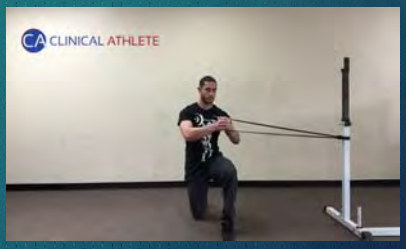
- Half Kneeling Press

Intermediate Phase (Asymetrical Loading)

Paloff Press

Can Be Done Standing or Half Kneeling

Role of Isometrics?



Intermediate Phase (Loaded Carries)

- Farmer's walks
- Suitcase Carries

Sample Microcycle (Weeks 6-12)

- Day 1
- Warm-up
- Squat 5x5 (2' rest)
- PM tap 3x10
- Kneeling kb press 3x10
- Leg Press 3x10

- Day 2
- Warm Up
- Lift offs 5x5 (2' rest)
- RDL 3x10
- Goblet squat 3x10
- Paloff Press 3x10

Intermediate Phase Goals

- Reestablish approximate symmetry with strength
- Full, pain free ROM
- Athlete Confidence

Role of Eccentrics w/ RTS

- Seems to have a protective effect on strains
- Utility in athletes returning to sprinting sports

Petersen *et al* 2015

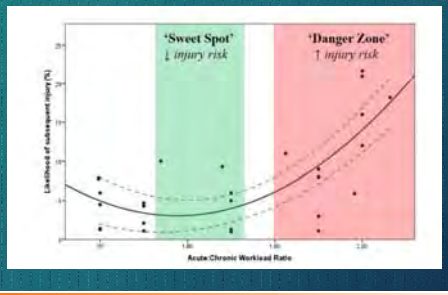
Return to Sport (Proactive ->Reactive

- Work Small → Large
- Proactive → Reactive

Double Leg
Single Leg
→ Proactive

Double Leg
Single Leg
→ Reactive

Acute on Chronic Training Loads



Gabbett and Blanch

Work Capacity

- Athlete practices 1-2hrs/day 5 days/week=5-10 practice hours
- Injured Athlete in PT 1hr/day 2 days a week= 2 practice hours
- **Acute:Chronic Workload= 2.5-5**

Acute on Chronic Training Loads

Blanch & Gabbett 2015

Chronic workload (% of normal average)		Acute workload (% of normal average)						
	110	4.7	4.1	3.6	3.4	3.2	3.3	3.5
	100	4.3	3.7	3.4	3.3	3.3	3.6	4.0
	90	3.9	3.5	3.3	3.3	3.6	4.2	4.9
	80	3.5	3.3	3.3	3.7	4.3	5.3	6.6
	70	3.3	3.3	3.7	4.6	5.8	7.5	9.5
	60	3.3	3.8	4.9	6.6	8.8	11.6	14.9
	50	4.0	5.5	7.9	11.0	14.9	19.6	25.1
	40	6.6	10.1	14.9	20.9	28.2	36.7	46.5
	30	14.9	23.2	33.7	46.5	61.4	78.6	98.0
		60	70	80	90	100	110	120

For example, if an athlete returned to sport and had a normal 100% loading week (acute workload) but if over the past 4 weeks due to the rehabilitation of their injury had only averaged 40% of their normal load (chronic workload), we could expect the likelihood of suffering an injury in the following week to be 28%.

Maximal Recoverable Volume

Conclusions

- What We Say Likely Has As Much Effect As What We Do
- Reestablish Hip IR/Maximize Abduction Strength
- No Athlete Has Ever Been Too Good At the Basics
- Be Mindful of Athletes Acute:Chronic Training Load During RTS

Questions?

- Thanks to
- Quinn Henoch @clinicalathlete
- Teddy Willsey @strengthcoachtherapy
- Michael Ray @MichaelRayDC

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