OBJECTIVE

1. What / Challenges of performance assessments
2. Performance assessment
   • Testing
   • Interpretation
   • Feedback
3. Value of nutrition on functional recovery
4. Incorporating physiological and perceptual measures to individualize recovery

Performance Assessment Testing

Common methods to assess recovery after team sports
• Sprints
• Force Plates
• Yo-Yo Testing
• Isokinetic

Pros/Cons of Performance Assessments

<table>
<thead>
<tr>
<th>Sprints</th>
<th>Isokinetic</th>
<th>Force Plates</th>
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<tbody>
<tr>
<td>• Minimal teams have this in house</td>
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<td>• Challenging to test a large number of players in a short amount of time</td>
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<td>• Challenging to ask/get professional athletes perform repeated sprints</td>
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<td>• Inexpensive, time efficient setup</td>
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<td>• Movement not sport specific</td>
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<td>• Expensive, logistic issue with large plates</td>
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Value of Performance Assessment

Important in understanding recovery throughout season
• Fast
• Efficient
• Minimal fatigue testing
Insights for planning practice / strength training
Performance protocol customized to team / sport

Baseline Testing

Establish baseline right before season to compare changes to during the season
• Consistent protocol
  • Non-fatigued
  • Same time of day
2-3 days of testing of repeated measures in similar conditions
• SD and CV to understand what is a meaningful change from baseline
Intraday and Interday CV of Counter Movement Jumps Variables

Findings:

- Using a 3 day baseline protocol results showed that most CMJ variables demonstrate high intraday and interday reliability.

Take Home Message:

1. What metrics to collect
2. Why are these metrics important for the sport
3. How will I communicate these metrics to the practitioner/athlete

Performance Assessment Testing

Day Selected Dependent on Time Course of Recovery

- Soccer: 24-78h
- Rugby: 24-72h
- Basketball: 24-48h
- American Football: 44-68h

Day Selected and Comparisons to Baseline Values

National Basketball Team players did CMJ pre and post game:

Findings:

- Significant in FT:CT ratio from baseline/pre game to post-game.
- 48 hours Counter Movement Jump variables to return to baseline values.

PERFORMANCE ASSESSMENT TESTING

Key Testing Takeaways

- Consistency in protocol
- Baseline and throughout the season
- Metrics with low CV’s (<10%)
- Time course of recovery for the sport
- Having buy in from all influencers with the program

So why do we test and what is the main purpose?
**Interpretation and Feedback**

**Key Aspects of Interpretation**
1. Goal determine a meaningful change from baseline values
2. Smallest Worthwhile Change
3. Important to work with Influencer on practical significance of an effect

**KEY DELIVERABLES AND FEEDBACK**
- Immediate feedback with performance assessment
- Flagging athletes when they are not fully recovered
- Problem solve why is player not recovering nutrition and/or recovery modalities

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**Nutrition and Functional Recovery**

**Omega 3 and Explosive Power**

Black et al. 2018 European Journal of Sports Sciences
- 20 Professional Rugby Union players
- 5 weeks of pre-season training
- Players consumed 2 x drinks daily
  - 15g protein, 14.5g CHO, 8.4g of Fat
  - 1546mg of Omega-3 PUFA

**Take Home Message:**
1. Better maintenance of explosive power of CMJ
2. Reduce muscle soreness

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**Casein and Functional Recovery**

Abbott et al. 2019 Int J Sports Physiol Perform
- 10 Professional Soccer players
- Crossover design, single-blind
- After two separate matches
  - 40g Casein or 40g Carbohydrate
- Recovery assessed for 60h post-game
Take Home Message:
40g Casein 30min before sleep
1. Accelerates functional recovery
2. Reduces muscle soreness

KEY RECOVERY COMPONENTS
- Performance Assessment
- Internal/External Load
- Perceptual Well-Being
- Nutrition Guidance & Consulting
- Sleep
- Travel
- Body Composition

TAKE HOME MESSAGE
1. Performance Assessment – What can you do in a time-efficient manner and do really well with the team.
2. Feedback – Quick turnaround with actionable results to help players recover.
3. Multiple Recovery Measures – Robust view important to individualize recovery.
5. Organizational Buy In – Key to success of the program.

Recovery: Considering Multiple Aspects

ATHLETE RECOVERY COMPONENTS
- Performance Assessment
- Internal/External Load
- Perceptual Well-Being
- Nutrition Guidance & Consulting
- Sleep
- Body Composition

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