



RAMSEY NIJEM

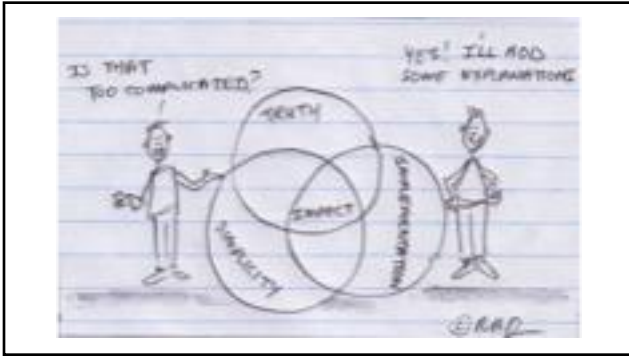
Sacramento Kings

WORKLOAD MONITORING IN TEAM SPORT: SCIENCE IN PRACTICE TO IMPACT PERFORMANCE AND INJURY RISK

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WINNING GAMES AND PREDICTING INJURIES OR NOT

Your athletes don't care how much you know
until they know how much you care





- AGENDA**
- DEFINE WORKLOAD MONITORING
 - REVIEW THE SCIENCE
 - PRACTICAL STRATEGIES
 - MEDIATORS AND MODERATORS
 - RETURN TO PLAY
 - PHYSIOLOGICAL VS. MECHANICAL
 - RISKY BUSINESS

DATA SELECTION

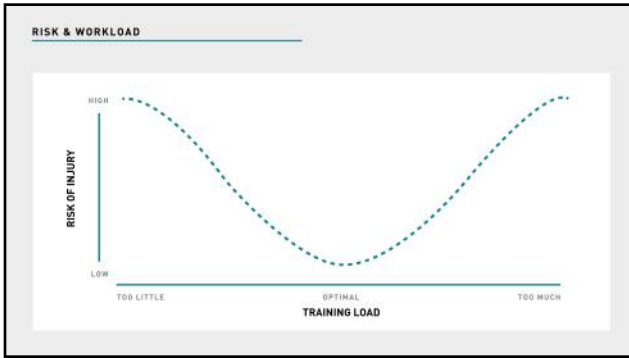
- SUBJECTIVE AND OBJECTIVE
- VALIDITY AND RELIABILITY
- BUDGET AND PRACTICALITY
- FAMILIARITY AND KNOWLEDGE

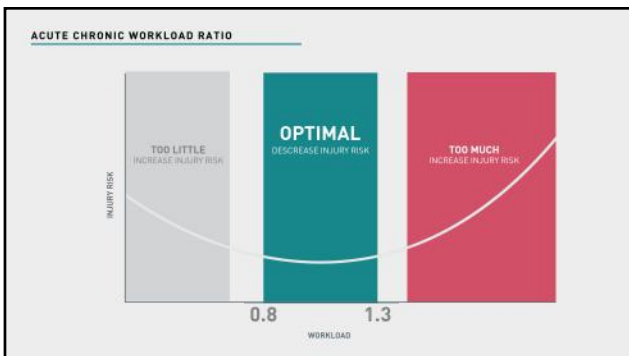
Data that do not drive interventions are simply numbers in excel

The optimization of the training program resides in managing what the athlete does and how they respond to the training activities performed.

This can be quantified by the athlete training load.

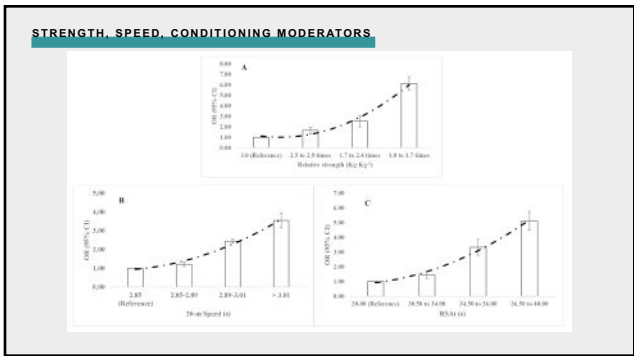
<p>INTERNAL TRAINING LOAD: The physiological and psychological stimulation/stress imposed during training activities.</p> <p>EXAMPLES: Session RPE, heart rate, heart rate variability, blood, etc.</p>	<p>EXTERNAL TRAINING LOAD: The work completed by the athlete, measured independently of their internal characteristics.</p> <p>EXAMPLES: Speed, distance covered, body load, acceleration, metabolic power and sport specific movements such as balls thrown or tackles performed</p>
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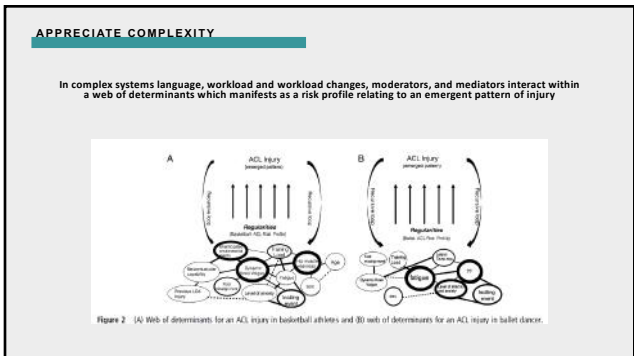




IM A COACH, I NEED PRACTICAL STRATEGIES

Simple enough, right?
Not so fast.





HOW CONFIDENT ARE WE?

- Time Periods? (Week versus Month, Other Time Points)
- Other Moderators? (Sport, Position, Etc.)
- Calculation Debates? (Rolling Averages versus EWMA, Mathematical Coupling)
- Risk Latency? (Tissue Dependent)
- Injury Definitions? (Comparison Across Studies)
- Percent of a Percent? (What was Baseline Risk?)
- Predictive Modeling? (Lack of Prospective Validation, Risk Not Prediction)
- More....

HIGH PERFORMANCE SPORT IS RISKY BUSINESS

- Injury Risk Reduction is not the sole responsibility of the sports medicine / sport performance staffs
- Sport coaches and management influence risk
- Athlete ownership influences risk
- All stakeholders should be held responsible for the injury risk while sports medicine and sport performance staffs should lead the charge in reducing risk

BIG PICTURE – FOREST VERSUS TREE



CONTEXT

Remember:
A single statistic
doesn't tell the
whole story.

CONCLUSIONS AND TAKEAWAYS

- Load monitoring is complex yet critical in the high-performance sporting environment
- Understanding acute, chronic, and ACWLR provides insights into the load-recovery response of the athlete
- Strategies for optimizing workloads:
 - Build chronic loads, prepare for the worst
 - Avoid loading errors, manage risk latency
 - Establish a floor and ceiling, expose to sport demands
- Consider the nuances and appreciate the risky business
- Lots of questions remain unanswered

THANK YOU

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