



HIGH PERFORMANCE SPORT INSTITUTE

RECOVERY IN COMPETITIVE SWIMMING: INTEGRATING SCIENCE WITH ATHLETE-CENTRED PRACTICE

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SPORT PHYSIOLOGY

1

SYSTEMIC FUNCTION ANALYSIS

We fine-tune performance using data from

- **cardiovascular**
- **muscular**
- **metabolic** responses to exercise.

2

OPTIMISING TRAINING ADAPTATIONS

We optimise training and adaptations by:

- understanding how the body adapts to **heat**, **altitude**, and other stressors.
- implementing individualised **recovery** strategies



RECOVERY

WHAT DOES RECOVERY
MEAN TO YOU?

join at menti.com



RECOVERY

- Recovery is an umbrella term
- Multi-faceted
- Biopsychosocial balance
- Can be characterized by different modalities of recovery such as:

PHYSIOLOGICAL

PSYCHOLOGICAL



(Recovery and Performance in Sport: Consensus Statement-
Kellman & Michael, 2018)



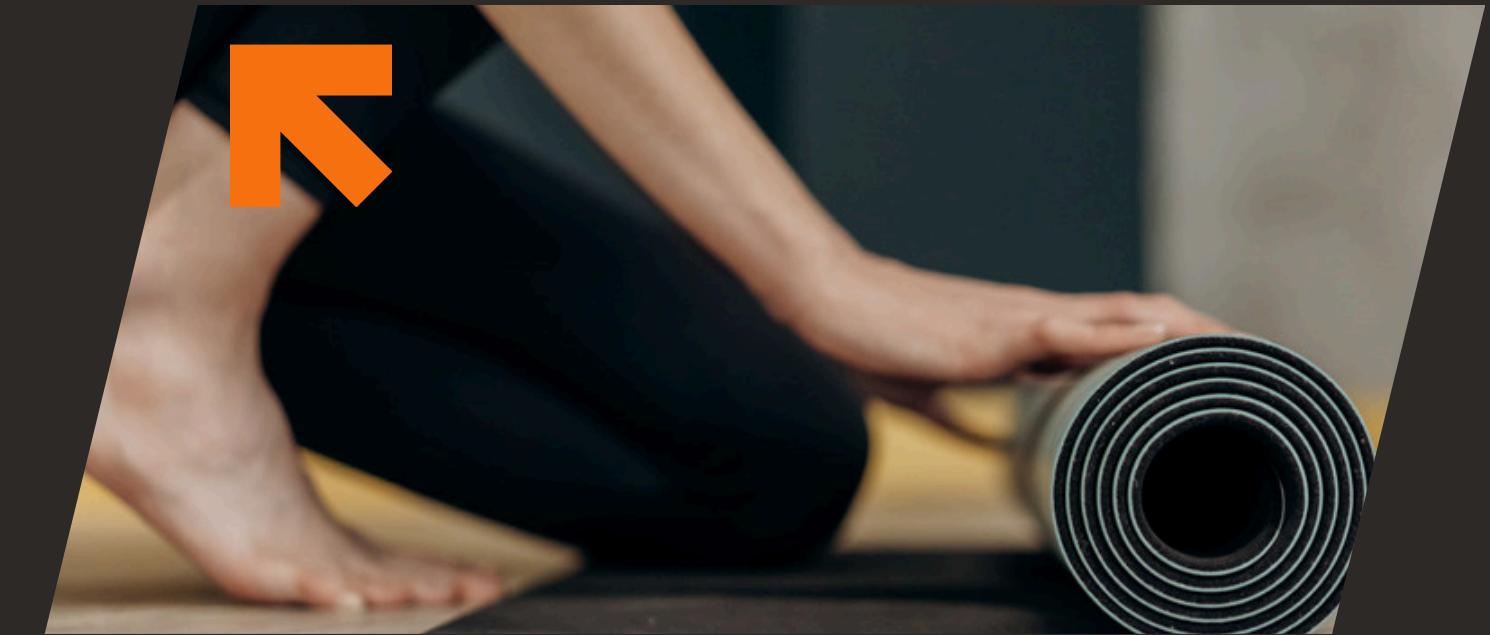
RECOVERY STRATEGIES

WHAT RECOVERY STRATEGIES
DO YOU USUALLY USE?

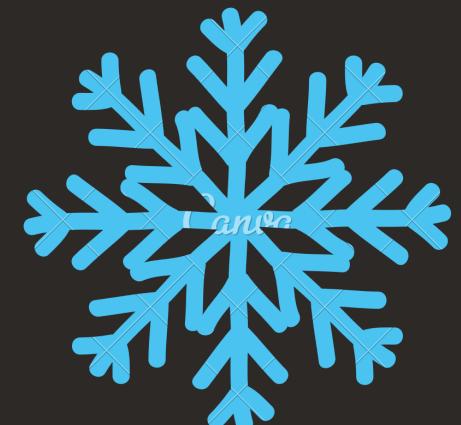
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RECOVERY STRATEGIES



FOCUS: WATER IMMERSION



COLD WATER IMMERSION



10-15 (°C), 10-15mins

Benefits: Reduced DOMS, Reduced markers of muscle damage

When to use: After high-intensity training, During multi-day competitions

When to avoid: After resistance training, Potentially NOT more than ONCE a week
(mixed findings of long-term usage)



(Leeder et al., 2012; Dupuy et al., 2018)

HOT WATER IMMERSION



~40 (°C), 10-15mins

Benefits: Stimulate limb blood flow, Potentially improve recovery for muscular strength & power

When to use: After resistance training

When to avoid: During intense training blocks/ high intensity endurance sessions



(Leeder et al., 2012; Dupuy et al., 2018)

CONTRAST BATH



Benefits: Reduce DOMS, Perception of pain & fatigue

Contrast baths might beat doing nothing, but research shows they're not better than ice baths for post-ex recovery.

For ease and effectiveness, go for either or, not both!

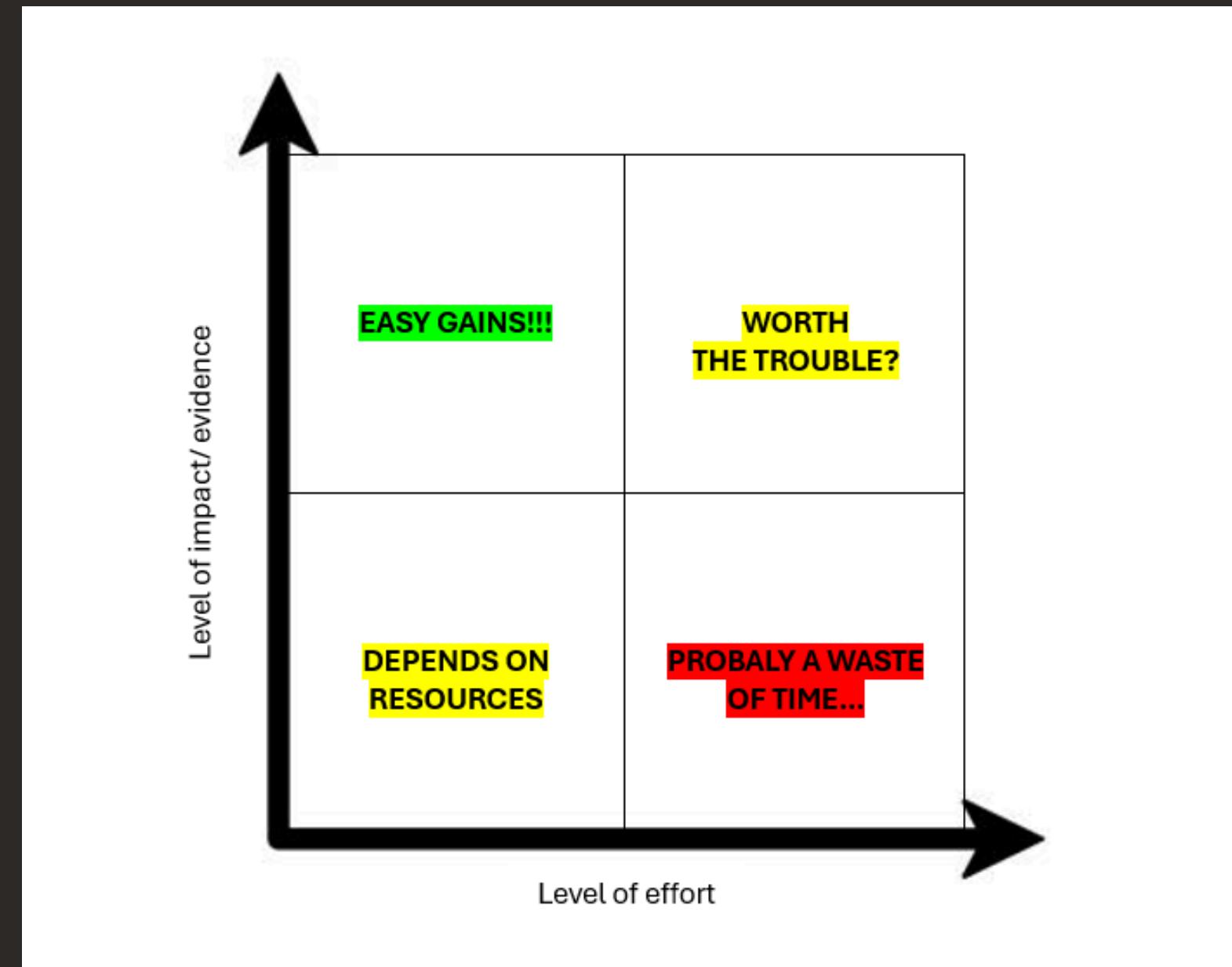
(Leeder et al., 2012; Dupuy et al., 2018)



IMPACT VS EFFORT?

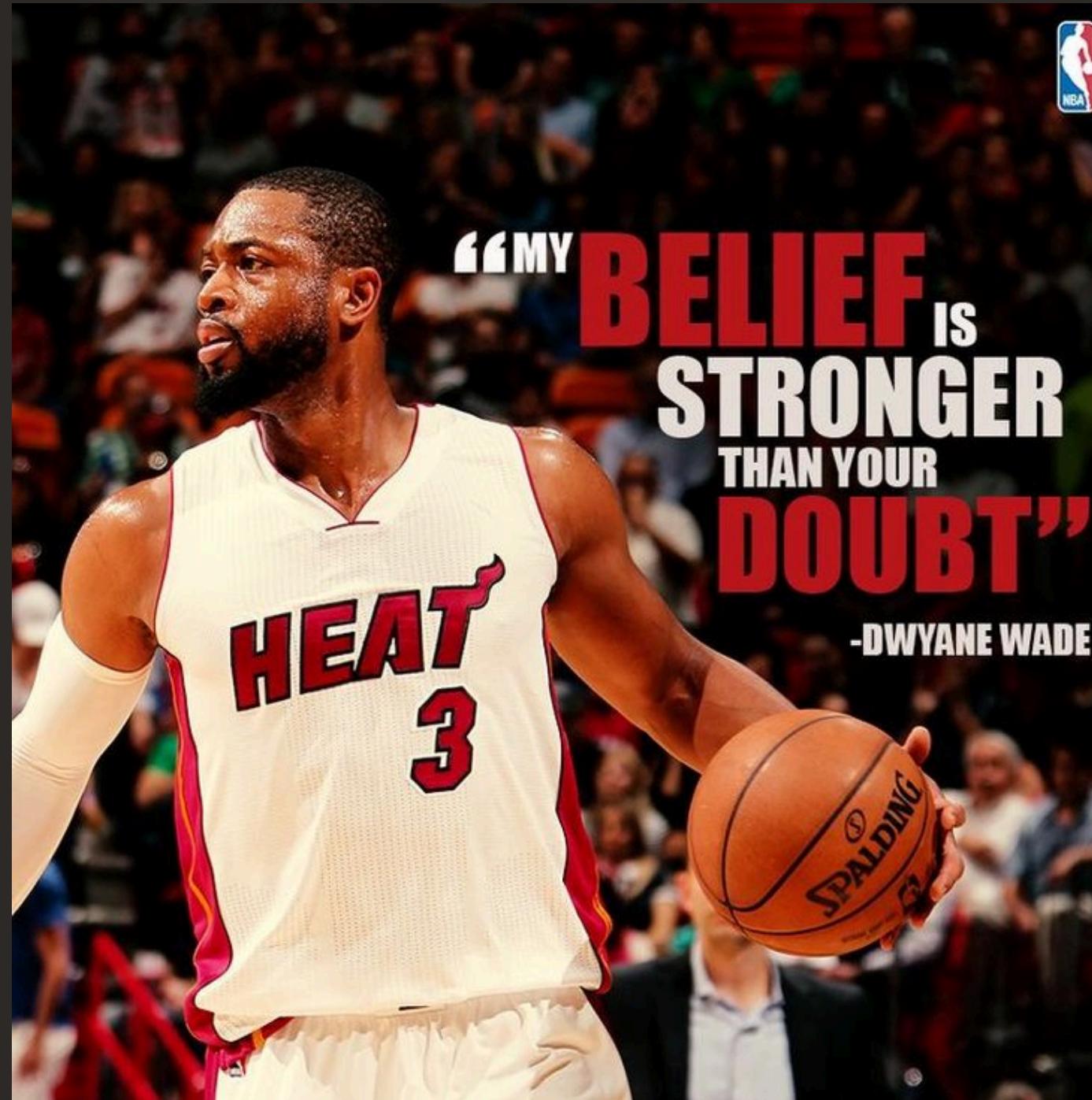
TAKING INTO CONSIDERATION:

Sport Specific Requirements
Accessibility of Equipment
Price of Equipment



THE BALANCE

INTEGRATING SCIENCE WITH
ATHLETE-CENTRED PRACTICE



SUMMARY.....

- Importance of big blocks of recovery- improve the good and reduce the bad.
- Evaluation of recovery strategy choices.
- Adapt recovery strategies- find the balances!



PRACTICAL TIME!!!



What differences do you feel in hot, cold, CO2 immersion?
Do the different strategies affect performance output?

Pre Handgrip → 3min Water Immersion → Post Handgrip

