



FUEL, REPAIR, REPEAT: OPTIMIZING RECOVERY IN AQUATIC SPORTS

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Let's Start with Two Questions

- 1. How many of you believe recovery starts only after the session ends?*
- 2. What's more important for performance – training harder or recovering better?*

What Are We Recovering From?



Glycogen
depletion

Mental
fatigue

Fluid &
electrolyte
loss

Muscle
damage

Phases of Recovery in Aquatic Athletes

Recovery is a process, not a moment. It can be divided into:

Phase	Timeline	Focus
Acute	0 – 6 hrs	Rehydration, injury screening
Early Recovery	6 – 48 hrs	Sleep, gentle mobility, nutrition
Extended	2 – 7 days	Neuromuscular control, reloading
Return-to-Play	Varies	Functional assessment

Types of Recovery

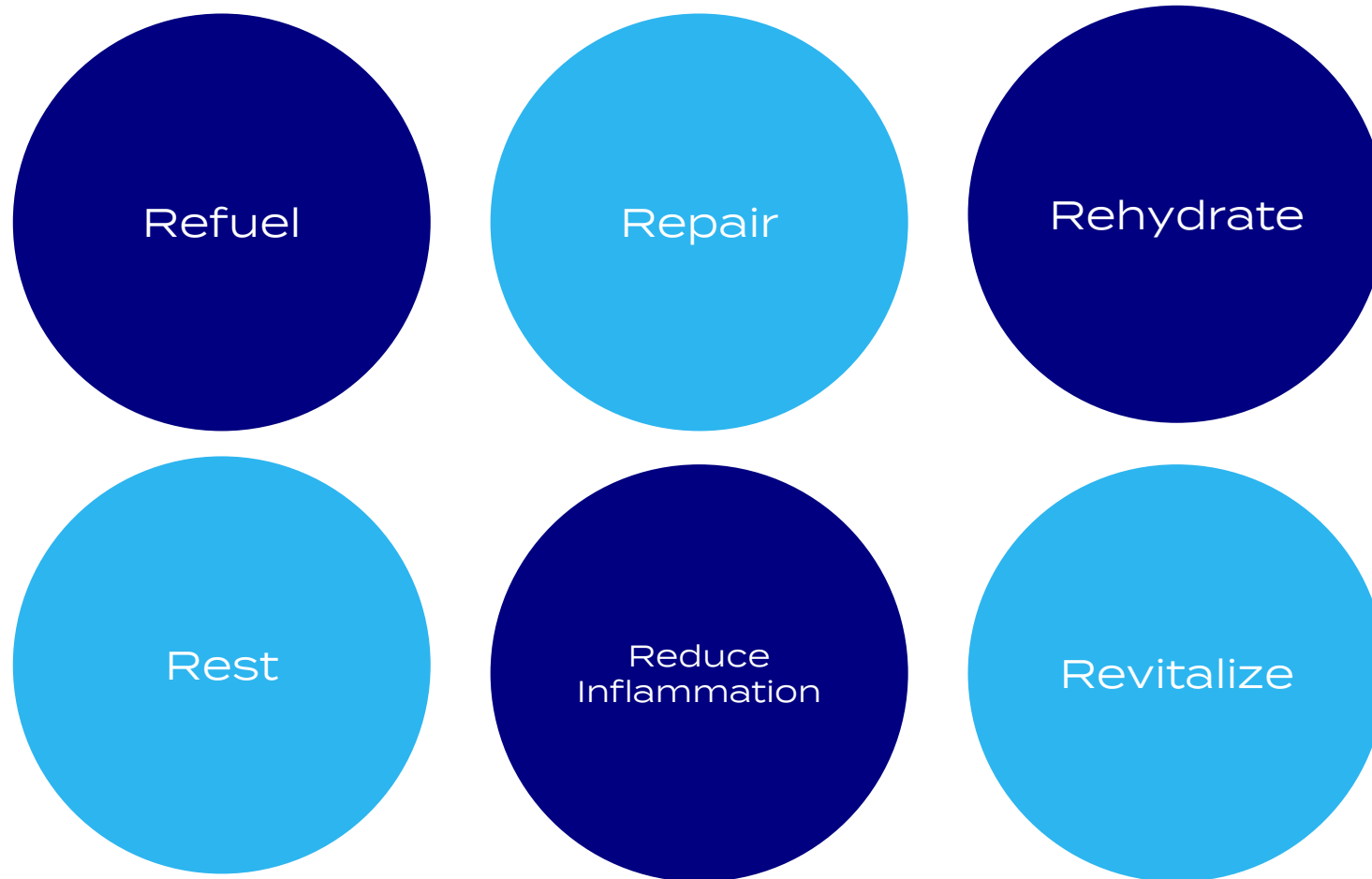
Physical – Muscular,
skeletal, neuromuscular

Psychological – Mental
fatigue, stress

Nutritional –
Replenishing substrates,
repairing tissue

Burke's 6Rs of Recovery Nutrition

Developed by Prof. Louise Burke — a gold standard model in sports nutrition.



Refuel: Energy Balance & RED-S

- ↑ Caloric needs by 10–15% during intense phases
- Watch for RED-S in under-fueled swimmers

Macronutrient Targets

- **Carbohydrates:** 5–10 g/kg/day
- **Protein:** 1.6–2.2 g/kg/day
- **Fats:** 20–35% of total energy

Post-Exercise Timing

- Carbs: 1–1.2 g/kg/hr for 4 hrs
- Protein: 0.3 g/kg within 30 min
- Leucine-rich sources (e.g., whey)
- Liquid nutrition preferred early

Rehydrate: More Than Just Water

- Replace **150%** of fluid lost
- Add **sodium** for better retention
- Monitor **urine color** & body weight

Revitalize: Micronutrients

Correct deficiencies — especially in swimmers.

Key nutrients:

- **Iron**
- **Vitamin D**
- **Calcium**
- **Magnesium**
- **Vitamin B12**
- **Zinc**

Rest: The Foundation of Recovery

- **8+ hours of sleep/night**
- **20–30 min naps** post-training
- Optimize **sleep hygiene**

Reduce Inflammation Naturally

➤ **Omega-3s** (EPA/DHA)

➤ **Tart cherry juice**

➤ **Turmeric**

Supplements: When and Why

Food comes first. Supplements are **targeted tools**, not substitutes.

- **Creatine Monohydrate** – 3–5 g/day for sprint/resistance work
- **Omega-3s** – DOMS, inflammation recovery
- **Vitamin D** – Up to 5000 IU/day (test 25(OH)D every 3–6 months)
- **Caffeine** – 3–6 mg/kg 60 min pre-event (avoid before sleep)

Common Barriers to Recovery

- Low protein intake
- GI upset post-swim
- Skipped meals
- Poor hydration
- Travel & stress food choices

Monitoring Recovery: Objective + Subjective

- Blood tests: ferritin, CK, Vit D
- Tech: HRV, sleep, wearable data
- Wellness scores: mood, sleep, soreness

Key Takeaways: The 6 R's

- ✓ Prioritize food
- ✓ Master the 6Rs
- ✓ Monitor consistently
- ✓ Adjust to individual needs
- ✓ Remember the **6 R's**:
Refuel – Repair – Rehydrate – Revitalize – Rest – Reduce
inflammation

Recovery Starts on the Plate

"Plan recovery with the same intention you plan training."

Let food be your athlete's secret weapon for performance, resilience, and long-term success.



Thank you!

We are



WORLD
AQUATICS