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A LOOK AT SLEEP AND NUTRITION FOR SWIMMERS

BUILDING BETTER ATHLETES

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SLEEP AND RECOVERY FOR SWIMMERS

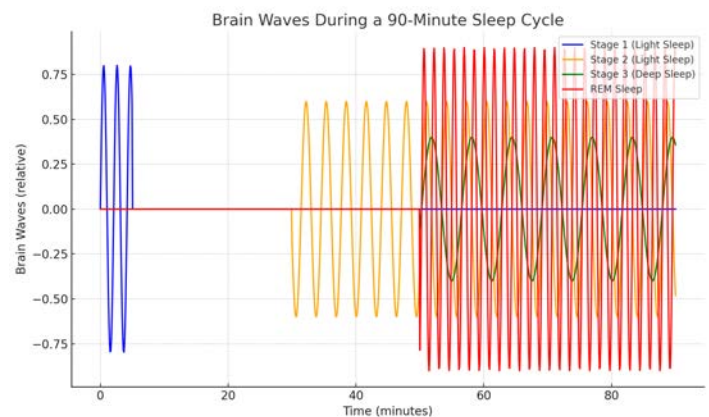
The Key to Peak Performance

Sleep is one of the most important aspects of recovery for swimmers. Without enough quality sleep, physical and mental performance declines, making it harder to hit your training goals. During sleep, your body undergoes crucial repair and recovery, helping you prepare for your next practice or competition.

Understanding the 90-Minute Sleep Cycle

Sleep follows a 90-minute cycle, consisting of four stages:

1. Stage 1: Transition between wakefulness and sleep. Brief and easy to wake from.
2. Stage 2: Deeper light sleep where body temperature and heart rate drop.
3. Stage 3: Deep sleep, the most restorative for your body. Muscle repair and release of growth hormone occur here.
4. REM Sleep: The brain becomes active, processing memories and emotions, crucial for mental recovery.



Best Bedtime for 5:30 AM Practice

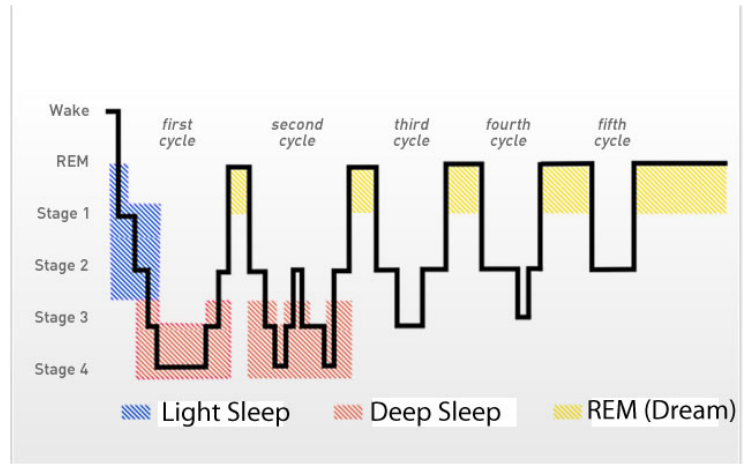
To ensure you are well-rested for an early-morning swim practice, aim for 7.5 to 9 hours of sleep.

Here is when you should go to bed if you wake up at 5:00 AM:

- 7.5 hours of sleep: Bedtime at 9:30 PM.

- 9 hours of sleep: Bedtime at 8:00 PM.

Maintaining a consistent sleep schedule, even on weekends, will help regulate your body's internal clock.



How Hormones Help You Recover During Sleep

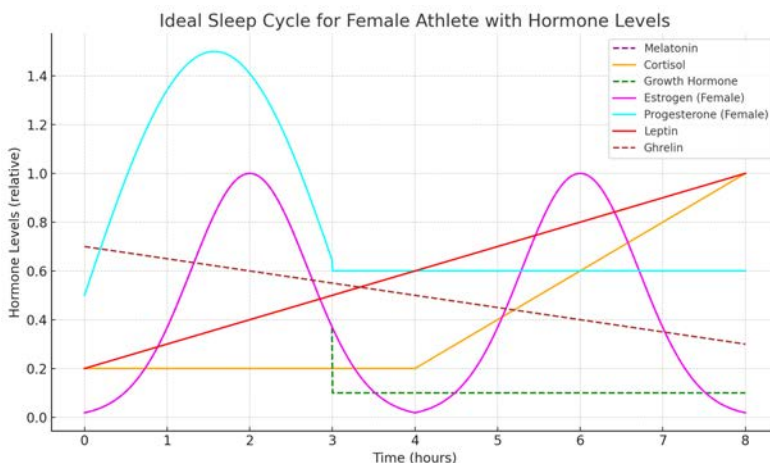
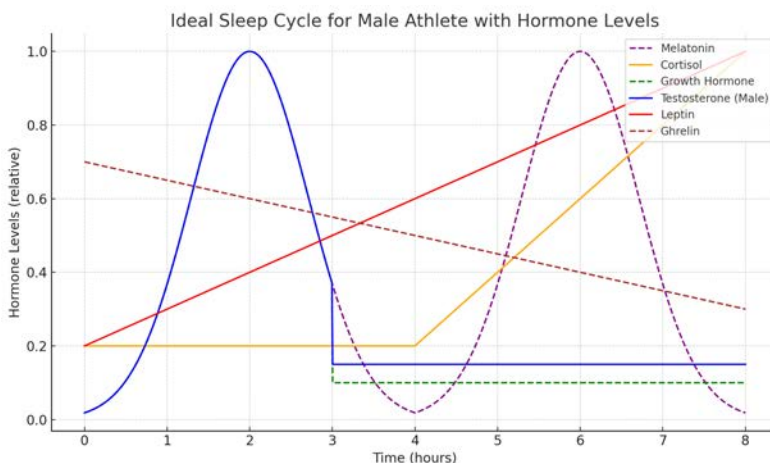
- Growth Hormone: Peaks during deep sleep, aiding muscle repair and growth.

- Cortisol: Lowest at night, then rises towards morning to help wake you up.

- Melatonin: Begins rising in the evening, promoting sleep and staying high throughout the night.

- Testosterone: Increases during deep sleep, important for muscle recovery.

Practical Sleep Tips for Athletes:



1. Consistent Schedule: Go to bed and wake up at the same time every day.
2. Pre-Sleep Routine: Have a wind-down routine with stretching or reading. Avoid screens one hour before bed.
3. Create a Sleep-Friendly Environment: Keep the room dark, quiet, and cool (around 65°F).
4. Napping: If you are short on sleep, a 15-30 minute nap during the day can help restore energy.

Special Considerations for High School and College Swimmers

Teenagers have a natural delay in their sleep rhythm, meaning they may prefer to go to bed later. However, it is still important to prioritize 8-9 hours of sleep. If an early bedtime is not realistic, ensure nap opportunities are built into the day to compensate for shorter nighttime sleep.

Why Sleep Matters

Adequate sleep not only improves physical recovery but also boosts mental clarity, mood, and overall well-being. Swimmers who consistently get enough sleep are more focused in practice, have quicker reaction times, and recover faster.

Summary of Key Points

- Aim for 7.5 to 9 hours of sleep every night.
- Stick to a regular sleep schedule for best results.
- Prioritize deep sleep for muscle repair and growth.
- Create a wind-down routine and keep your sleep environment conducive to rest.
- Remember, sleep is just as important as practice for peak performance!

YOU ARE WHAT YOU EAT:

NUTRITIONAL GUIDE FOR SWIMMERS AND PARENTS

Maximizing Performance, Recovery, and Health

Why Nutrition Matters for Swimmers

Competitive swimming demands a lot from the body: energy, strength, and endurance. Proper nutrition fuels your body, aids in muscle recovery, and ensures optimal performance during training and competitions.

Key Nutritional Needs for Swimmers

1. Energy (Calories): Swimmers need a high-calorie intake due to the demands of training.

Male athletes often require 4,000-6,000 calories daily, and females need about 3,000-4,500 calories.

2. Carbohydrates: 55-60% of daily intake for glycogen replenishment.

Best Sources: Whole grains, fruits, vegetables, quinoa, oats, sweet potatoes.

3. Protein: 1.2-2.0 grams/kg body weight for muscle recovery and growth.

Best Sources: Chicken, fish, turkey, eggs, legumes, tofu, dairy, nuts.

4. Healthy Fats: 20-30% of daily intake for long-lasting energy and hormone production.

Best Sources: Avocados, nuts, seeds, olive oil, fatty fish.

5. Hydration: Drink 8-10 glasses daily. Hydration is crucial for performance as dehydration can cause fatigue and impair focus.

Best Foods for Swimmers

1. Complex Carbs: Whole grains, oats, sweet potatoes for sustained energy.
2. Lean Proteins: Chicken, fish, legumes for muscle repair.
3. Healthy Fats: Avocados, nuts, olive oil for long-term fuel.
4. Fruits and Vegetables: For vitamins, minerals, and antioxidants.
5. Hydration Sources: Water, coconut water, and electrolyte drinks.

Foods to Avoid

1. Processed Foods: High in sugars, unhealthy fats, preservatives.
2. Sugary Drinks: Cause energy spikes and crashes, empty calories.
3. Fried Foods: Increase inflammation, slow digestion.
4. Refined Carbs: White bread, pastries; quick energy spikes, poor nutrition.

Meal Timing and Structure

1. Pre-Workout Meal (2-3 Hours Before Training): Carbs + protein to fuel the body.

Examples: Whole grain sandwich with turkey and veggies, oatmeal with fruits and nuts.

2. Post-Workout Meal (30-60 Minutes After Training): Protein + carbs for muscle recovery.

Examples: Protein smoothie with banana and spinach, chicken with brown rice and vegetables.

3. Snacks: Balanced snacks to sustain energy throughout the day.

Examples: Greek yogurt with berries, almond butter on whole grain toast, hard-boiled eggs.

Dietary Supplements: Pros and Cons

1. Protein: Convenient post-workout recovery, but avoid excess use.
2. Omega-3: Reduce inflammation, support joint health, but avoid excess.
3. Caffeine: Improves endurance but can cause jitteriness and disrupt sleep.
4. BCAAs: Reduce muscle soreness, but often unnecessary with a well-balanced diet.

Creatine: Pros, Cons, and Health Research

1. Pros: Improves strength, recovery, and lean muscle mass.
2. Cons: May cause water retention and slight weight gain.
3. Anti-Cancer Research: Emerging research shows potential anti-cancer properties.
4. Anti-Concussion Research: Creatine may reduce the severity of concussion symptoms.

Additives and Preservatives to Avoid

1. Sodium Nitrites/Nitrates: Found in processed meats, linked to cancer risk.
2. BHA/BHT: Potential carcinogens, found in snacks and cereals.
3. Artificial Sweeteners: Aspartame, sucralose linked to headaches and gut issues.
4. Artificial Colors: Red 40, Yellow 5 linked to hyperactivity and cancer risk.

Summary: Healthy Eating for Peak Performance

Prioritize whole, minimally processed foods. Balance carbs, proteins, and healthy fats. Stay hydrated and plan your meals around training. Limit processed foods, sugary drinks,

and artificial additives. Supplements can help but should complement, not replace, a balanced diet.

For links to my presentations detailing more of the specifics on these topics (our academic sessions from last Tuesday and Thursday) please see the following:

Performance Nutrition

Sleep Cycles for Athletes