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 ACTIVE AGING NUTRITION  
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 AQUATIC EXERCISE  
 BARRE  
 BOKING  
 CORE TRAINING  
 FLOWING YOGA  
 FOAM ROLLING  
 FUNCTIONAL FLEXIBILITY  
 FUNCTIONAL PILATES  
 GROUP EXERCISE  
 GROUP FITNESS DIRECTOR/STUDIO OWNER  
 GROUP STEP  
 GROUP STRENGTH  
 HIIT  
 KETTLEBELL  
 KIDS IN MOTION  
 LIFESTYLE & BEHAVIORAL COACHING  
 MEDITATION  
 MIND BODY FUSION  
 MOMS IN MOTION  
 NUTRITION, HORMONES & METABOLISM  
 PERFORMANCE STABILITY TRAINING  
 PERSONAL TRAINING  
 PILATES MATWORK  
 PILATES SMALL APPARATUS  
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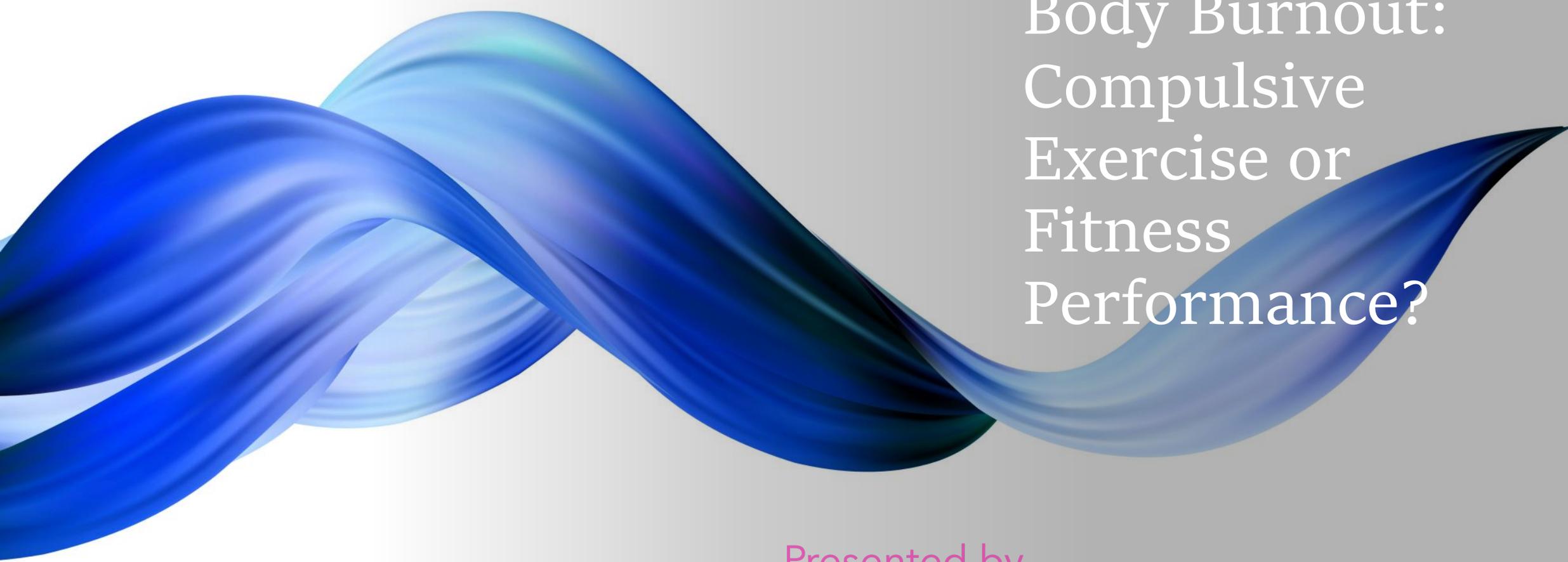
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 SCW STAR PRESENTER

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Body Burnout:  
Compulsive  
Exercise or  
Fitness  
Performance?

Presented by

Irene McCormick, M.S., C.S.C.S.

# Body Burnout: Compulsive Exercise or Fitness Performance?

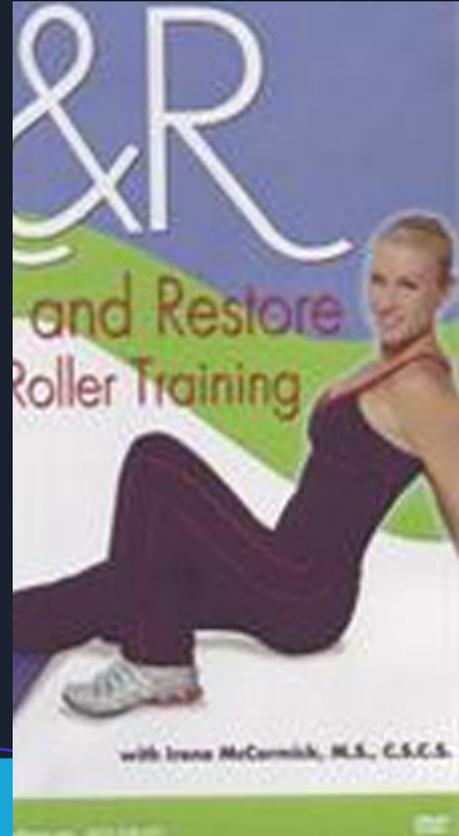
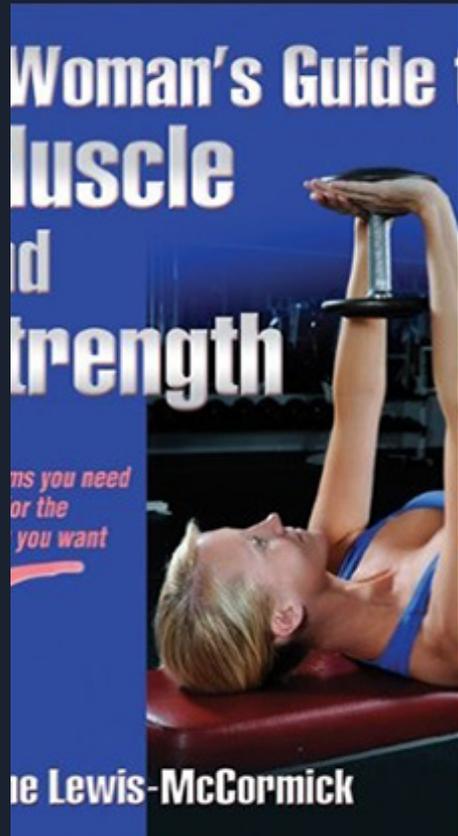
- Training for an event or trying to reach new goals often includes a rise in intensity, volume and seriousness.
- Learn signs of overtraining syndrome including OTS, FOR and NFOR and ways to overcome overtraining injuries.
- Are YOU a compulsive exerciser?
- Understand available strategies for how and when to implement specific recovery strategies & techniques to get the most out of performance.
- Learn to use foam rollers for both meditation and relaxation in recovery and mobility techniques.

# Irene McCormick, M.S., C.S.C.S.



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- **Adjunct Faculty, North Georgia University**
- **Fitness & Talent Consultant**
- **2018 IDEA Fitness Instructor of the Year**
- **Contributing writer and published author Human Kinetics (2)**
- **Subject Matter Expert; ACE, Human Kinetics, ISSA, NASM & AFAA**
- **RYKA FitPro Brand Ambassador**
- **Master Trainer WaterRower, Savvier Fitness and RumbleRoller**

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Exercise is the stimulus, but recovery is the magic.



## What is Recovery?

- Bishop et al. (2007) define recovery as the ability to meet or exceed performance in a particular activity.
- Recovery includes (*Jeffreys, 2005*)
  - 1) normalization of physiological functions (e.g., blood pressure, cardiac cycle)
  - 2) return to homeostasis (resting cell environment)
  - 3) restoration of energy stores (blood glucose and muscle glycogen)
  - 4) replenishment of cellular energy enzymes (i.e., phosphofructokinase a key enzyme in carbohydrate metabolism)

# Who needs recovery?

- **All exercisers!**
- **Individual variability**
- **Training status (trained vs. untrained)**
- **Factors of fatigue**
- **Ability to deal with physical, emotional, and psychological stressors**  
(Jeffreys, 2005)



# Consequences of Overtraining

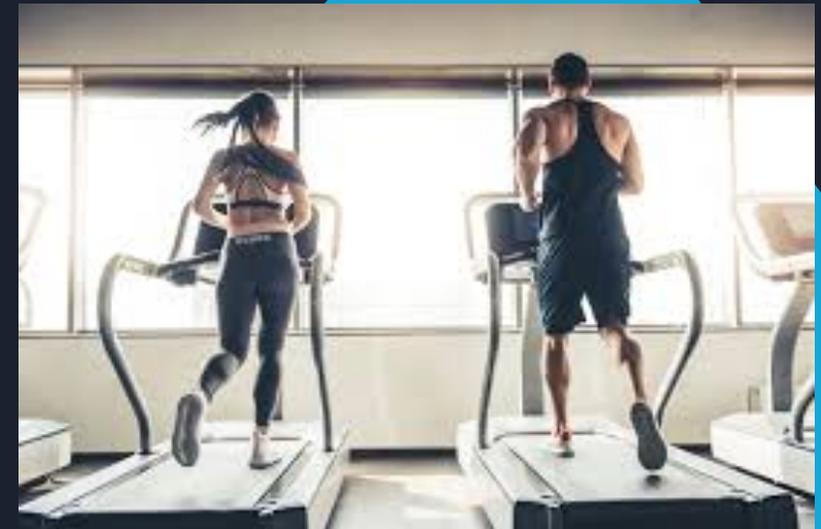


- Aches and pains/muscle soreness and weakness
- Increased injury risk
- Boredom
- \*Overwork relative to rest
- \*Immune suppression due to exhaustion and stress
- Hormonal imbalances
- Poor nutrition
- Dehydration

# Recovery is not a One-Size-Fits-All

An appropriate recovery program should be individualized and take into consideration:

- Age
- Gender
- Current fitness level
- Volume/intensity of training
- Type of training





## 3 Recovery Types

**Immediate recovery** occurs during exercise itself (lower body rests while upper body works)

- Fitness levels will greatly influence this type

**Short-term recovery** involves acute recovery between sets or intervals \*most common during exercise (Seiler, 2005)

- re- establishes intramuscular blood flow for O<sub>2</sub> delivery
- promotes replenishment of phosphocreatine stores to resynthesize ATP
- maintains acid-base balance

**Between workout recovery** is the time between workout sessions; hours, days, weeks, etc .

- EPOC
- Rest
- Periodization Training

# Recovery & Training

- How Much Rest Between Sets?
  - Muscular endurance training: 30 to 90 seconds
  - Hypertrophy training: 1 to 2 minutes
  - Power training: 3 minutes
  - Muscular strength (not adapted to strength training): 4 to 5 minutes
  - Muscular strength (for clients well-adapted to strength training): 3 minutes

# HIIT Interval Guidelines

- Work/Rest Ratio
- 1:1 ex. 30 seconds work/30 seconds rest
- 2:1 ex. 30 seconds work/15 seconds rest
- 3:1 ex. 30 seconds work/10 seconds rest

# Methods You Can Use to Determine If YOU are Overtraining

- **Measure "wake-up" heart rate**
  - Lower than normal or higher than normal
- **Check body temperature**
- **Use fatigue index**
  - **POMS mood scales (profile of mood states)**  
Morgan, et.al, 1988.
- **Hormones, i.e. cortisol to testosterone ratio**
  - **Blood test - expensive**



# 10 Methods to Explore for Optimal Exercise Recovery

Replace lost fluids

Eat healthy recovery foods

Rest & Relax

Mobility pre/Stretch post workout

Active recovery between workouts

Massage/foam rolling

Ice bath/cold therapy

Visualization/psychology

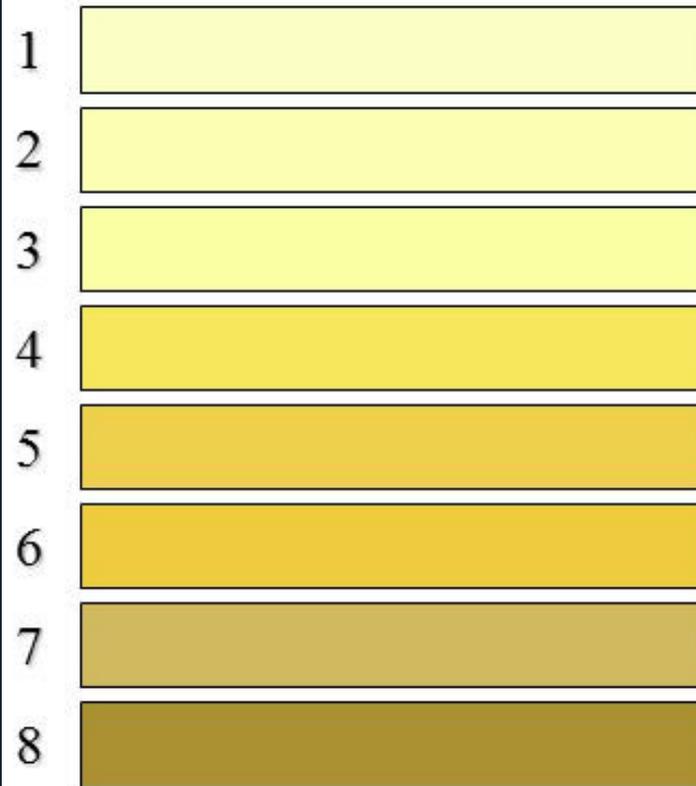
Sleep

Avoid overtraining

# Hydration

**$\frac{1}{2}$  Body Weight = Amount  
of Water Consumed Daily  
in Ounces**

## Hydration Urine Chart



- 1-3 = Hydrated

- 4-6 = Dehydrated

- 7-8 = Severe Dehydration

# Optimal Recovery Nutrition



Replenish lost carbohydrate stores



Facilitate muscle-damage repair  
and reconditioning



Rehydrate and restore electrolyte  
balance



Attenuate excessive inflammation

A person is seen from behind, sitting in a dark wooden chair with a light-colored fabric backrest. They are wearing a light green t-shirt and light-colored shorts. Their hands are clasped behind their head, and their feet are propped up on the chair. They are looking out over a calm ocean towards a sunset. The sky is a mix of soft orange and pale blue. In the distance, there are dark, silhouetted hills or mountains. The foreground shows a stone wall or ledge. The overall mood is peaceful and serene.

Rest & Relax

# Mobility Pre-Workout Stretch Post-Workout



- Pre-workout
  - Movement patterns to activate muscles
  - Foam Rollers and Rollers
- Post-workout
  - Static stretching
    - 7-10 seconds minimum (ACE)
    - 30-60 seconds, 4x (ACSM Guidelines)
  - Spinal Alignment Shoulder Mobility



## Ball or Roller Releases

- Feet
- Supine shoulder releases
- Achilles
- Hip Openers
- Knee
- Spinal Flexion
- Hip
- Knee and Ankle





## Active Recovery Between Workouts – Rest-ercise

- Walking
- Yoga
- Low Intensity Cardio
- Meditation
- Recreational Sport

# Massage/Foam Rolling

- Psychological benefits of massage/rolling are powerful for the user
- Foam rolling techniques can flush tissue, create muscular pliability, and initiate the recovery process
  - it is important to learn proper techniques when using these strategies
  - not all these techniques are research-based





## Ice Bath/Cold Therapy

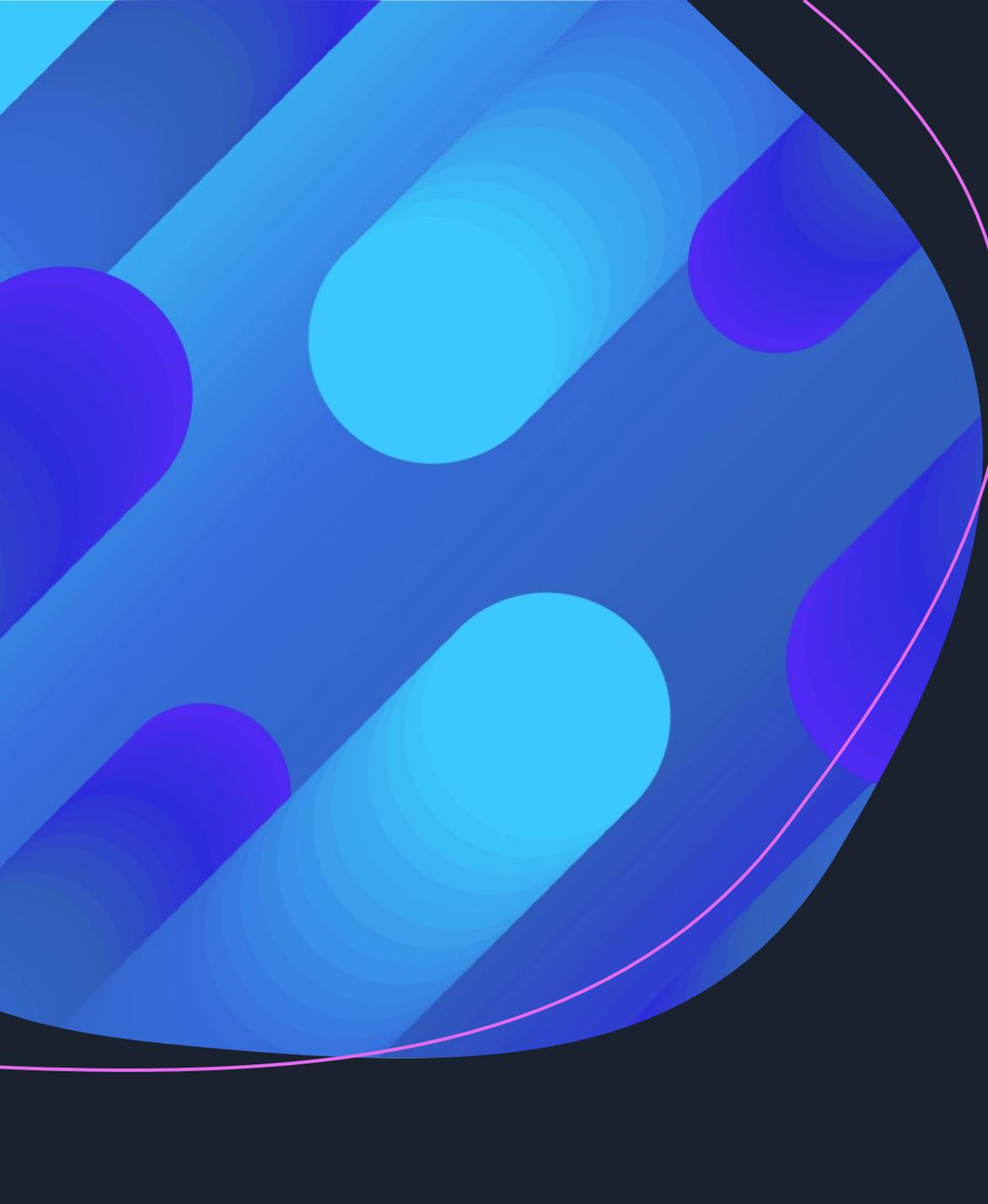
- **Hydrotherapy includes floating, moving through or plunging into hot or cold water**
- **Cold water plunge pools are purported to enhance muscle recovery speeds and reduce joint and muscle inflammation**
- **Buoyance takes stress off the body**
- **Hydrostatic pressure decreases inflammation**
- **3-D resistance allows for concentric contractions with few to no eccentric loads**

# Kryotherapy

In 2015, a small German study found endurance athletes recovered more quickly and were able to perform better in the second of two running tests separated by an hour if they underwent whole-body cryotherapy.

A Cochrane review – the gold standard in healthcare evidence – pooled the results of four previous studies involving 64 active adults and concluded insufficient evidence to support its use to relieve muscle soreness after exercise.



The left side of the slide features an abstract graphic design. It consists of several overlapping, rounded geometric shapes in various shades of blue and purple, set against a dark, almost black background. The shapes are arranged in a way that creates a sense of depth and movement. A thin, light-colored curved line separates this graphic area from the text on the right.

# Use Visualization to Improve your Psychology of Sports Performance

- A 2012 study published in the *Strength and Conditioning Journal* found that before actually attempting it, visualizing an exercise can result in increased performance success
- Use your senses to create a mental image of a physical task before you attempt it, including imagining what the movement will feel like in your muscles and your mind



## Sleep and Performance

- Fewer hours of sleep have been linked to shorter workouts and quicker fatigue
- Avoid exercise a few hours before attempting to sleep
- Exercise may affect the incidence of insomnia
  - Staying asleep longer with less disruptions
    - only after 16-weeks of consistent exercise
  - The exact number of ideal sleep hours varies for everyone



# Over- Training Syndrome (OTS)

- Symptoms resulting from excessive physical training;
  - fatigue, poor exercise performance, frequent upper-respiratory tract infections, altered mood, general malaise, weight loss, muscle stiffness and soreness, and loss of interest in high-level training.

Medical Dictionary for the Health Professions and Nursing © Farlex 2012

- Overtraining syndrome is a neuroendocrine disorder characterized by poor performance in competition, inability to maintain training loads, persistent fatigue, reduced catecholamine excretion, frequent illness, disturbed sleep and alterations in mood state.



# Signs & Symptoms of Overtraining

- A compulsive need to exercise
- Decreased appetite
- Depression
- Headaches
- Increased incidence of injuries
- Insomnia
- Lack of energy, feeling washed-out, tired, or drained
- Loss of enthusiasm for the sport
- Lower immunity (increased number of colds, and sore throats)
- Mild leg soreness, general aches, and pains
- Moodiness and irritability
- Pain in muscles and joints
- Reduced training capacity/intensity
- A sudden drop in performance

# Warning Signs of a Compulsive Exerciser

## “You Suffer from OTS if...”

- You force yourself to exercise even if you don't feel well.
  - You almost never exercise for fun.
- Every time you exercise, you go as fast or as hard as you can.
- You experience severe stress and anxiety if you miss a workout.
- You miss family obligations because you must exercise.
- You calculate how much to exercise based on how much you eat.
- You would rather exercise than get together with friends.
- You can't relax because you think you're not burning calories.
- You worry that you'll gain weight if you skip exercising for one day.



## FOR & NFOR

- Functional Over Reaching
  - Purposeful, short-term, specific
- Non-Functional Over Reaching
  - Unending, no periodization

# Key Takeaways



RECOVERY IS REAL AND NECESSARY FOR A CHANGE IN PHYSIOLOGY



RECOVERY SHOULD BE *PERSONALIZED* TO THE INDIVIDUAL AND IS DEPENDENT UPON MANY FACTORS



COMPULSIVE EXERCISERS MAY BE AT HIGHER RISK FOR OTS



LEARN STRATEGIES TO IDENTIFY & OVERCOME OVERTRAINING



IDENTIFY RECOVERY OPTIONS INCLUDING PROPER WORK TO REST RATIOS



UNDERSTAND AT LEAST 10 METHODS TO FACILITATE RECOVERY



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Thank you for attending!

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