
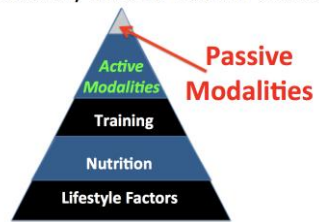


The Foundations of Recoverability



NSCA
Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System
2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

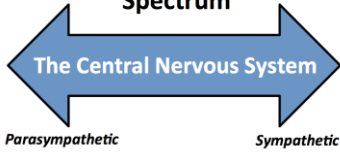
Recovery is NOT a Passive Process



Active Modalities
Training
Nutrition
Lifestyle Factors
Passive Modalities

NSCA
Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System
2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Optimizing The CNS Spectrum



The Central Nervous System
Parasympathetic
Sympathetic

NSCA
Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System
2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

The Performance Recovery System Expediting Mechanical, Neurological & Systemic Recovery

1. Global **SMR** Techniques
2. Bi-Phasic **Stretching**
3. Catch-All Flow Based **Mobility** Movements
*Neural **Recharge** Training*
4. LISS **Cardio** and **Energy Systems** Development
5. Parasympathetic Positional **Breathing**



Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System

2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Global SMR Techniques

- Foam Rolling (SMR) For The Purpose of:
 - Lymphatic Drainage
 - Active Muscle Pump Stimulation
 - Parasympathetic Response

*Same SMR Set Up Positions
Different Execution Based on
Objective GOALS



Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System

2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Global SMR Protocol

- Spend **2-3 Minutes** on Each Structure
- Move Slowly With **6-12 Inches** of Relative Movement Under Roller
- Roll **Distal To Proximal** When Warranted
- Prioritize Broad & Dense Musculature
 - **Hamstrings, Quads, Glutes, Lats, Pecs**

*Deep **Diaphragmatic Breathing** Strategies Throughout




Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System

2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Bi-Phasic Stretching

Dynamic Oscillatory + Static Positional



Bi-Phasic Stretching

NBCA
National Board of Certification and Recertification for Personal Trainers

Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System

2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Bi-Phasic Stretching

- **Extend Both Dynamic Oscillatory and Static Positional Holds to 1-3 Minutes Each**
- Target Primary Dynamic Movers Addressed In Global SMR Techniques Recovery Phase
 - Hamstrings, Glutes, Quads, Lats, Pecs

*Remain Posturally Aware During Longer Duration Holds. Distal mobility secondary to proximal stability

NBCA
National Board of Certification and Recertification for Personal Trainers

Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System

2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Parameters of Bi-Phasic Stretching

- Dynamic Oscillatory Stretch – 30-90 seconds
- Static End Range Stretch – 30-60 seconds
 - **TOTAL: 1-3 minutes**

*Focused Intent Placed On **Proximal Stability**, Tension and Torque of the “Pillar”

*Deep Diaphragmatic Breathing

NBCA
National Board of Certification and Recertification for Personal Trainers

Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System

2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Catch-All Flow Based Mobility

- Corrective Exercise and Mobility Drills Executed With Constant Movement & Flow
- Targeting Multiple Areas of Deficits Within a Few Staple Locomotive Based Movements
- *Example:* Walking World's Greatest Stretch

Finding The Optimal Flow

- **Goal:** Move as many joints of the body through a full range of motion in reciprocating constant movement fashion as possible
- Differentiating Flow Recovery from Conditioning
- Minimize high spikes in vital metrics
- Incorporating mindful breathing

Neural RE-Charge Training

- **Explosive Neurologically Driven Movements**
 - Olympic Lifts, Dynamic Efforts, Plyometrics etc.
- **Low Total Training Volumes**
 - Duration Under 20 minutes
 - Total Reps Between 25-50
 - Full Recoverability Between Bouts - Avoid Metabolic Fatigue
- **Systemic Neural Restoration & Recovery**
 - "recharging" NT balance - sparked recoverability
 - Increased anabolic hormone production
 - Improved NM Function - MU recruitment and coupling
- **Extremely High Effort Based Work**
 - Focus on Movement Efficiency and Quality

Train Harder and Recover Faster With Concentric Only Training (COT)

- Maximize Concentric Phase While Minimizing or **ELIMINATING** Amortization and **ECCENTRICS**
- Maximizing Training Volumes, Frequencies, Intensities while minimizing cumulative neural or mechanical fatigue – when programmed properly **SPARKING RECOVERY**
- **Proven COT Modalities**
 - Barbells, Plyometrics, Sleds, Carries

LIISS Energy Systems Development


- **Low Impact Activity**
 - Walking Preferred (And Mandatory With My Athletes)
- **Low Intensity** – Keep HR Under ≈120 bpm
 - Recovery to Zone 1 HR's Customized To Athlete
- Building A Cardiovascular **Base**
- Upper/Lower **Reciprocal Patterning** Preferred
 - Oblique Sling and Spiral Effects

Parasympathetic Positional Breathing

- Positions That Allow **Deloading of Spine**
 - Centration of Hip and Shoulder Complexes
 - Maximize SA Contact on Supported Surfaces
 - *Crocodile or 90-90 Supine Supported Preferred**
- **Tempo Based Breathe**
 - "Box Breathing"
 - Recovery Breathing
 - Corrective Breathing
 - **Tactical Breathing Intra-Workout**


Quality of Breathing

- **"Type"** of Breathing Pattern
 - Chest vs. Belly Breathing
- **Symmetry & Smoothness**
 - Inhalation/Exhalation
- **Monitoring of Global Vital Metrics**
 - Heart Rate, Respiratory Rate, Blood Press, Blood Flow...
- **Mental & Emotional Acuity**
 - **Environment MATTERS**


Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System
2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Programming Recovery Workouts


- Recovery Workouts Can Be Programmed In Three Basic Ways For Maximal Benefit:
 - 1. Post-Workout Window**
 - Directly On The Tail End of Training
 - 2. Secondary Recovery Workout**
 - Preferred 4-6 Hours Post Workout
 - 3. "Off" Day Programming**
 - Active Systemic and Neural Recovery


Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System
2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE

Quantifying Improved Recovery

A Synergy of the Overall Performance Landscape

- Heart Rate Variability (HRV)
- Training Performance and Goal Attainment
- Sport Specific Performance
- Cognitive Enhancement
- Localized/Systemic Inflammation
- Endless Metrics...


Dr. John Rusin, PT, DPT, CSCS, PPSC
The Performance Recovery System
2019 NSCA PERSONAL TRAINERS
VIRTUAL CONFERENCE
