



# ALTIUS

COACHES' SYMPOSIUM 2024  
"Master the Art of Dynamic Warm  
Up & Recovery"

# AGENDA OVERVIEW

## Introduction

## Dynamic Warmups

- a. Theory and Physiological Effects
- b. Key Components within a quality dynamic warm up
- c. Practical Demonstrations

## Importance of Post-Recovery

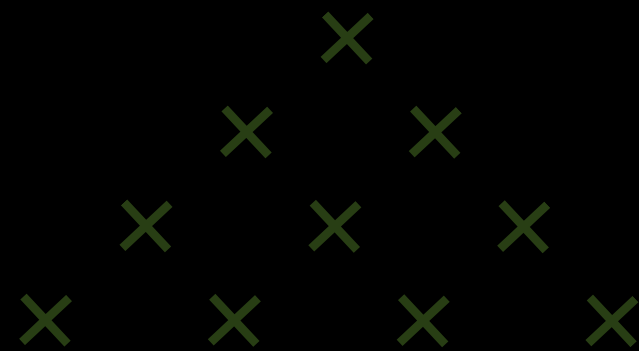
- a. Recovery Science Overview
- b. Recovery Techniques

## Q&A



# LEARNING OBJECTIVES

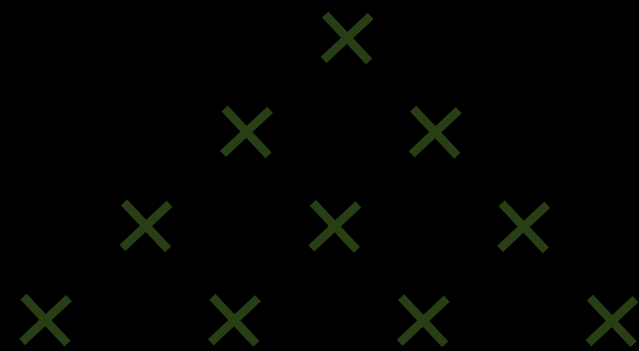
- Improved understanding of the science, benefits and goals of dynamic warmups
- Learning effective post-workout recovery techniques
- Practical guidelines and examples to easily implement into various sports contexts



# WHO WE ARE, WHAT WE DO

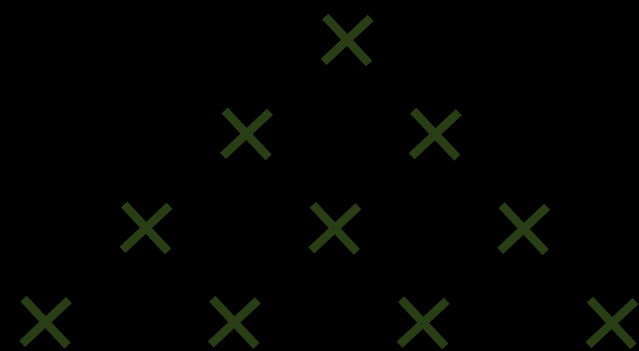
## MISSION STATEMENT:

“Within a culture that promotes character, attitude, effort and coachability, our goal is to inspire, develop, equip and empower athletes of all ages for greatness in sport and life through the delivery of evidence-and-encouragement-based sport performance and rehabilitation programs



# WHO WE ARE, WHAT WE DO

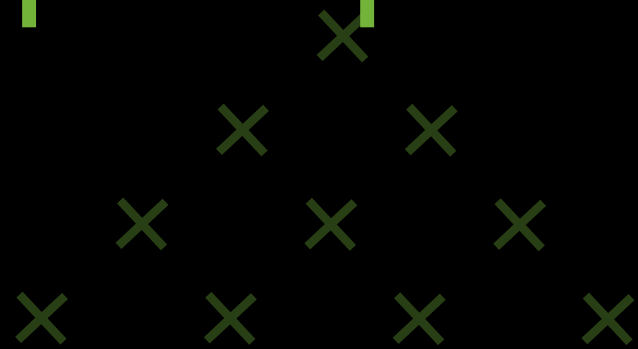
- ALTIUS=Higher
- We care a lot.
  - An athlete's success on and off the field is our success
  - Authentic relationships with our families.
- Evidence based periodized training designed to educate and empower athletes to achieve their goals.
- "Teaching athletes HOW TO MOVE" vs "Making athletes move"
- Make the grind fun!



# ICEBREAKER

## Question Swap Stretching

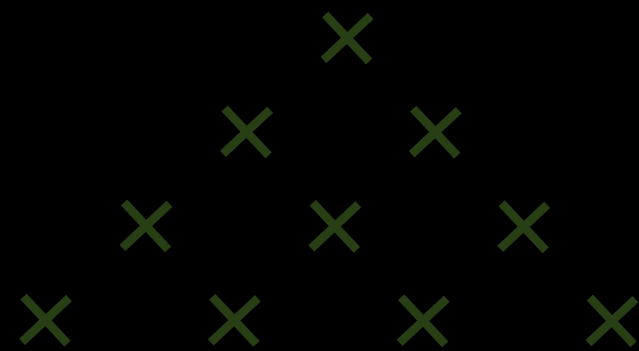
- Come to the podium & grab a card
- Find a partner
- Introduce yourself
- Ask your question & demo your favorite stretch
- Answer question prompt & then switch



# WARM UP/RECOVERY: WHY?

## WHY IS THIS IMPORTANT?

1. Youth are the future!
2. Research indicates:
  - a. Improved athletic performance
  - b. Specificity matters!
  - c. Injury "Prevention"

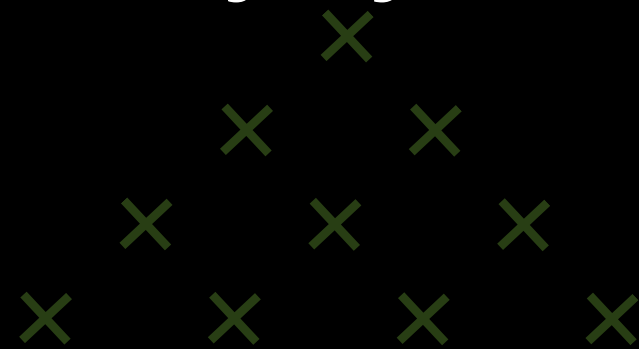


# DYNAMIC WU: THEORY & SCIENCE

## WHAT IT IS NOT:

- Mindless/Careless
- **STATIC STRETCHING!**
  - We need to **EXCITE** vs **DEPRESS** the CNS
    - Upper vs downer; caffeine vs melatonin
  - Decreased performance

Potential increased risk on injury

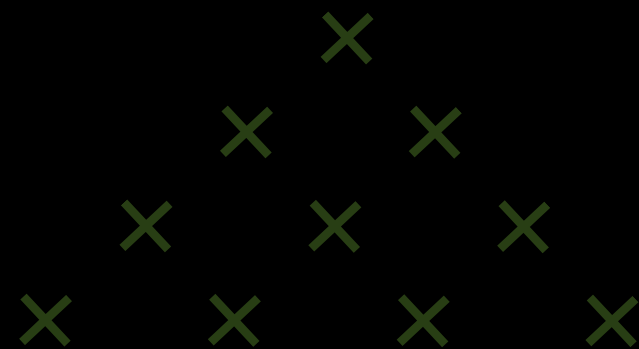




# DYNAMIC WU: THEORY & SCIENCE

## PRIMARY GOALS OF DYNAMIC/NEUROMUSCULAR WARM UP

- Mindset
- Thermogenics
- Activation
- Sport-Specific Movement Prep

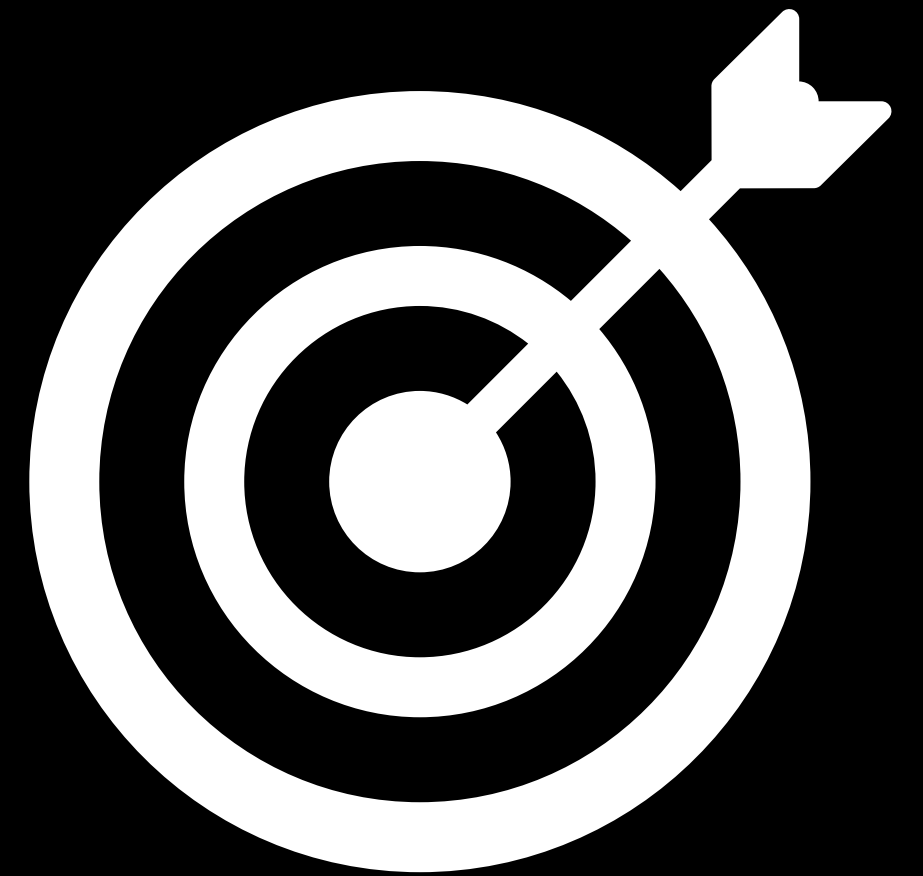


# DYNAMIC WU: THEORY & SCIENCE

## PRIMARY GOALS OF DYNAMIC/NEUROMUSCULAR WARM UP

### MINDSET:

- **DIAL IN!**
- **“Make the Bed”**
- A solid warm up serves as a **MASSIVE** opportunity to set the tone for **EVERYTHING** that follows.
- We can more often than not predict the “letter grade” of a team’s session by the quality of the WU.



# DYNAMIC WU: THEORY & SCIENCE

## PRIMARY GOALS OF DYNAMIC/NEUROMUSCULAR WARM UP THERMOGENICS

### TEMPERATURE REGULATION:

- Increased core temperature
- Improved blood flow
- Improved muscle pliability (reduced risk of muscle strain/injury)
- Joint lubrication (synovial fluid)



### PERFORMANCE ENHANCEMENT

- Improved nerve conduction velocity
- Enhanced muscle contractility
- Better muscle fiber recruitment
- Faster reaction times

### METABOLIC:

- Accelerated metabolic rate
- Increased calorie burn

# DYNAMIC WU: THEORY & SCIENCE

## PRIMARY GOALS OF DYNAMIC/NEUROMUSCULAR WARM UPS

### NEUROMUSCULAR:

- Improves mind-muscle connection
- Enhances motor unit recruitment
- Establishes movement patterns
- Primes neural pathways

### MOBILITY:

- Joint range of motion
- Dynamic movement capability
- Tissue extensibility
- Joint capsule preparation

### ACTIVATION



### FLEXIBILITY

- Dynamic stretching
- Muscle length optimization
- Fascial preparation
- Reduced tissue restriction

### STABILITY

- Stability Aspects
- Core activation
- Joint centration
- Balance preparation
- Proprioceptive awareness

# DYNAMIC WU: THEORY & SCIENCE

## PRIMARY GOALS OF DYNAMIC/NEUROMUSCULAR WARM UP MOVEMENT-PREP

### SPORT-SPECIFIC

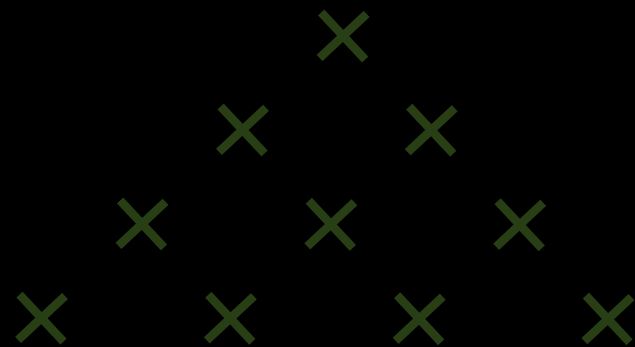
What are the movement demands of the sport?  
What muscle groups contribute to these movements?

### TEAM-SPECIFIC


What are the needs of the team? Where are they struggling?

### INDIVIDUAL SPECIFIC

What are the individuals' needs?



# DYNAMIC WU: KEY COMPONENTS

- **Mindset: Set the tone!**
  - **Coach must be actively involved!**
- **Get moving:**
  - **General Movement**  **Specific Movement**
- **Full ROM Activation: Mobility, Stability, Flexibility**
- **Progressive Intensity: Ramp up to perform**
- **Neural activation:**
  - **Great movement is easy movement!**
    - **Fluid & efficient, strong, fast, stable**
  - **Look for and cue common deviation patterns**
    - **Injury "prevention" strategies**



# PRACTICAL DEMONSTRATION

## GENERIC TEAM-SPORT DYNAMIC WARM UP

- Jog (sideline to sideline) 1-2'
- Carioca: Loud Hip Swivel, Hip Close High Knee Pop x 10 yds each
- Walking DRoM (10 yds each): Quad CrossOver, Figure 4 Squat, Knee Hug to FO Lunge & Rotate, Reverse Yoga Lunge
- Plank DRoM: Mountain Climbers x10 B, K2EX x5B 3" ISO, Drop Push Ups x8
- Partner Leg Swings: Linear/Lateral x6B each
- Alt Plyo Lunge Jump x5B
- Sport Movement (10 yds each, unless otherwise denoted):
  - Low Pogos/Ground Contact Pops
  - A Position: ISO A Dual Pop Switch, Rx A Triplets (punch punch punch; quick quick stick)
  - Build Ups 2x20-30 yds
  - Power Shuffle
  - Rx Shuffle FF COD to Accel Hip Turn x10-20 seconds

# POST TRAINING/COMPETITION RECOVERY OVERVIEW

## Importance of Proper Recovery:

- Crucial time to balance the stressors of training or competition with physiological and psychological recovery.
- “Maximizes the adaptation from, and performance in, subsequent training sessions or competition.”
- Restore the physiological and psychological capacities of the athlete to decrease probability of overuse injuries



## Different Types of Recovery:

- Passive Recovery
- Active Recovery

## Recovery Timeline:

- Wide variance dependent on age, intensity of training/competition, GPP, consistent adherence to recovery protocols, training/competition schedule, etc.



# FOUR PILLARS OF RECOVERY

## Sleep:

- Inadequate sleep of <8 hours decreases time to exhaustion by 10-30%. <6 hours a night makes an athlete 170% more likely to become injured.
- Adequate sleep for athletes is 8-10 uninterrupted hours per night consistently.
- Sleep hygiene is critical for optimal sleep. Room temp., noise pollution, light pollution, and bedding must be considered to create the perfect sleeping environment.

## Hydration:

- Critical consideration for thermoregulation & performance. 2-3% drop of BW = increased HR, RPE, core body temp. & dehydration.
- Be euhydrated before training/competition. Most athletes fail!
- Rehydration protocol: 5-7 ml/kg 4 hours before activity.
- Dark urine or no urination = 3-5 ml/kg 2 hours before, slowly.
- Sodium intake is critical to stimulate thirst & fluid retention! 460-1,150 mg added or in fluids or sports drink.

# FOUR PILLARS OF RECOVERY

## Protein/Nutrition:

- Carbohydrate & Protein consumption is critical for beginning the recovery process & promoting muscle growth!
- 90 min.-2 hours post-training/competition, athletes should consume 0.5g/lb (BW) of carbs & ~20g of high-quality protein.
- Training/competition =<8 hours from previous, consume 1.0-1.2g/kg/hr of carbs for 4 hours. 24 hours from previous, consume 7-12g/kg (BW). Daily protein = 0.8-1.0g/lb (BW)

## Movement:

- “Active Recovery” is a powerful tool to shift athletes from a sympathetic “fight or flight” to a parasympathetic “rest & digest” state, beginning the recovery process.
- Immediately post-training/competition or on a rest day, active recovery can relax muscles, increase RoM and intramuscular blood flow, enhance BLA removal and muscle energy, & decrease delayed onset muscle soreness/DOMS symptoms.
- Post training/competition = 6-10 min. low intensity w/static stretching. Off/Rest day = 30-45 min. low intensity @ 70-80%  
x x x x

# RECOVERY TECHNIQUES

## Cool-Down Protocols:

- Coaches use principles of the 4 Pillars of Recovery to aid their athletes in the initial phases of the recovery protocol after training or competition. Encourage accountability of athletes in completing their recovery protocols consistently at home to maximize performance.

## Other Recovery Modalities & Tools:

- There are a multitude of other tools and methods of recovery that athletes can engage in to maximize their recovery. These modalities have less research backing but a body of evidence suggests a positive impact on the recovery of athletes & subsequent athletic performance.

a. Massage Therapy

b. Instrument-Assisted Soft Tissue Mobilization (IASTM)

c. Compression Garments

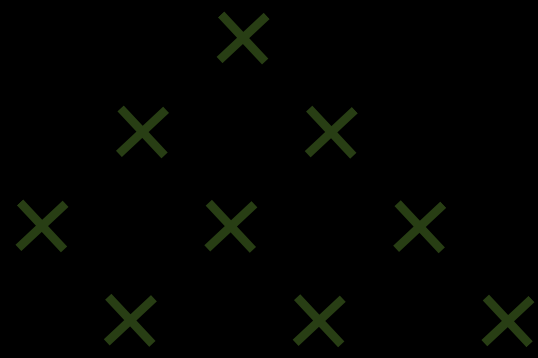
d. Hydrotherapy

e. Epsom Salt Hot Baths

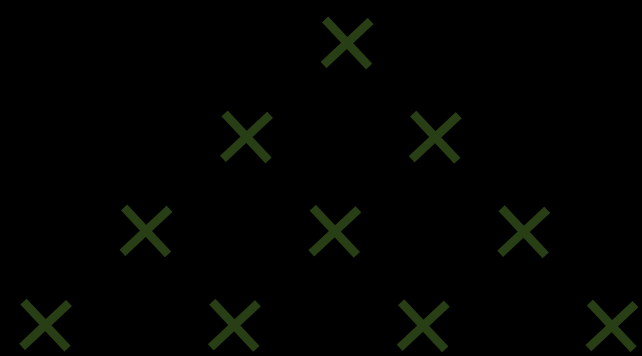
f. Contrast Water Therapy (CWT)

g. Cold Water Immersion (CWI)

h. Muscle Electric Stimulation Therapy



# Q&A Session



# THE ALTIUS ADVANTAGE

## ELITE SPORT-SPECIFIC TRAINING

With our unique combination of Strength & Conditioning (CSCS) certified trainers & Physical Therapists: we implement a detailed performance schedule to meet your team goals while maximizing the performance and mechanics of each individual athlete.

Our expertise in collegiate sports as well as our effective athlete pre-screening process allows us to address team tendencies, strengths, and weaknesses to optimize efficiency in sport-specific movements.

### Mastery of Fundamental Components

Each program is designed to improve strength, power, explosiveness, speed and movement mechanics, agility, flexibility, speed form, and balance.

# IMPORTANCE OF PERFORMANCE TRAINING

TEACHING athletes how to move

VS.

MAKING athletes move

- Proper biomechanical form allows full potential to be unleashed; while minimizing susceptibility to injury.
- Leads to subconscious problem solving athleticism in sporting environments.
- Yields intelligent, robust and resilient athletes.



# PROVEN RESULTS

## St Croix Soccer- Team Training Results 2023-2024 Season

### VERTICAL

Pre-Season: 16.23" Post-Season 18.93"  
+2.7 inches (14.27% Increase)

### BROAD JUMP

Pre-Season 73" Post-Season: 81.47"  
+8.47 inches (10.4% Increase)

### PRO-AGILITY (5-10-5)

Pre: 5.42 seconds Post: 5.17 seconds  
-.25 seconds (4.7% Decrease)

Nathan Klonecki

Executive Director  
St Croix Soccer Club

"St Croix ECNL boys have been part of the Altius program for the past 3 years and we have seen a difference in their strength, quickness, and their mental aspects during training and games. The staff is friendly and educators but also give the boys a discipline that is needed in their everyday sports and daily life. We are excited to start the third season - especially for those players who have been part of the program since we started."