

How to be Physically Active and Avoid Injury during the Pandemic

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Introduction – Michael Seifert, MD CAQSM

- Non-operative sports medicine provider with UNC Orthopedics.
- Specializes in diagnosis and management of sports related and other orthopedic conditions
- Performs musculoskeletal ultrasound and advanced injection techniques.
- Practices at the UNC Panther Creek clinic in Northwest Cary



Introduction – Evan Adler, PT, DPT, OCS

- Physical Therapist for UNC Health
- Based at the NW Cary Wellness Center
- Board certified orthopedic specialist with a personal interest in lower extremity injuries and working with endurance athletes
- Advanced training in manual therapy techniques
- Certification in instrument assisted soft tissue mobilization



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Introduction – Jacob Orndorff, CSCS, CSPS

- Personal Trainer for the UNC Wellness Center at NW Cary.
- He is a strength and conditioning specialist that helps people bridge the gap from therapy to performance-based training.



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Goals and Objectives

1. Guidance to help improve your fitness and maintain health
2. Advice to avoid injury
3. Provide exercise plans for various stages of life and skill levels will be provided
4. Answer questions

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What is Fitness?

- Depends on individual goals
- Possible Components:
 - Cardiovascular Fitness
 - Muscular Strength
 - Flexibility
 - Balance/Coordination
 - Sports Specific Movements
 - Injury Avoidance



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What has the Pandemic Changed?



- Duh, everything
- Exercise routines disrupted
- Team sports/group activities cancelled
- More people are exercising alone
 - Biking, running, home gyms
- Returning to activity after a COVID infection

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Overuse Injuries

- 44 yo programmer. Working at home more. Started running because the gym is closed. Develops pain in front of knee and side of hip
 - Example of patellofemoral syndrome, trochanteric bursitis
- 38 yo yoga lover. Starts using her 5 year old bike (for the first time?) rather buy a Peloton. Develops pain around her heel
 - Example of achilles tendonitis
- 65 yo buys home weight set before they sold out. Doing lot of arm and shoulder exercises. Starts to have constant soreness on side of shoulder, especially at night
 - Example of rotator cuff tendonitis

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Posture Check!

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COVID Posture

- Prolonged sitting for hours on end
 - Sitting for work
 - Sitting for meals
 - Sitting for binge watching
- Slumped posture
 - Forward head
 - Rounded shoulders
 - Flattened low back
 - Sacral sitting



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COVID Posture (Corrected)

- "The best posture is your next posture"
- Adjust your workspace
- Corrected posture
 - Ears over shoulders
 - Shoulders back
 - Thoracic spine upright
 - Natural curve at Lumbar spine
 - Pressure on your "Sit Bones"
- 20-20-20 rule



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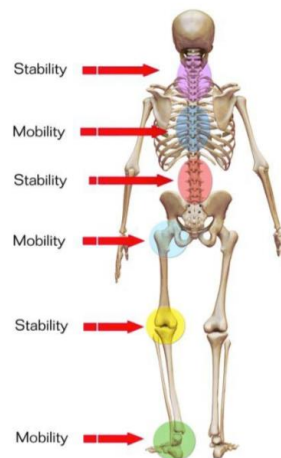
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The Kinetic Chain

"A journey of a thousand miles begins with a single step"

-Lao Tzu

- Do you have the right balance of stability and mobility?
 - Foot – Stable (acts as a rigid lever)
 - Ankle – Mobile (multiplanar movement)
 - Knee – Stable (hinge joint)
 - Hip – Mobile (ball in socket joint)
 - Lumbar – Stable ("Core strength")
 - Thoracic – Mobile (rotational mobility)
- Even that first single step of 1000 miles can lead to great injury if we aren't utilizing our chain properly.

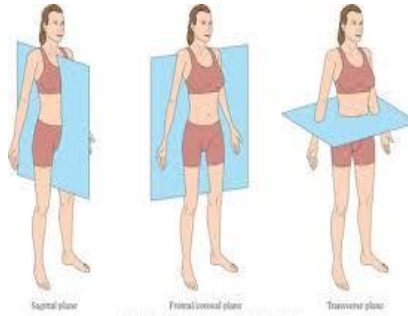


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Kinetic Chain – Importance of balance

- Multiple planes of the body
 - Sagittal
 - Frontal
 - Traverse
- The body LOVES cross patterns
 - Important for seemingly linear activities such as running and cycling
 - Important if you have a unilateral injury
 - Can result in compensatory patterns throughout the kinetic chain



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Cardiovascular Fitness

- Many benefits
- Warm up 5-10 minutes
 - 50-60% of MHR
- Spend 20-60 minutes at target HR
 - Either 60-70 or 70-80% MHR
- Cool down for 5 – 10 minutes
- Running and biking are not the only ways
 - Swimming
 - HIIT
- Maximum heart rate:
 - Rough estimate: $MHR = 220 - \text{Age}$
 - 35 yo -> 185 bpm
 - 60 yo -> 160 bpm



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Muscular Fitness



S.A.I.D (Specific Adaptation To Imposed Demands)

- What adaptations are you looking for?
- What tools can you use to help you reach the adaptation you want?
- Finding the sweet spot of stress. Not too much and not too little.

The types of demand placed on the body dictates the type of adaptation that will occur.

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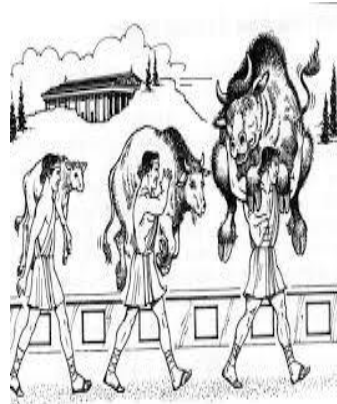
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Progressive Overload

The ability to do more over time.

Can be achieved in a variety of ways

- How is your programming started and being progressed in a way that creates the right change?



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Old Injuries

"Motion is Lotion"

- Every PT. Everywhere. Ever.

- We have decreased our frequency, intensity, and duration of activities
 - My shoulder doesn't hurt
 - I haven't been using it
 - Bad News – it's going to start hurting again
 - If you return back to the **same** activities with the **same** movement patterns that caused the injury in the first place
- Setting yourself up for re-injury...



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Old Injuries - Examples



Sprained ankle

- Rest helped, but...
- Without proper strengthening, another sprain is imminent

Shoulder Impingement

- Return will require addressing scapular mechanics and strength
- Need to avoid poor movement patterns
- **COVID-19 (lbs)**

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Current Guidelines – Post COVID 19 infection

Recommend cardiovascular screening exam
 Talk with your cardiologist or primary care physician
 -> Before returning to activity

Watch this space, things change quickly

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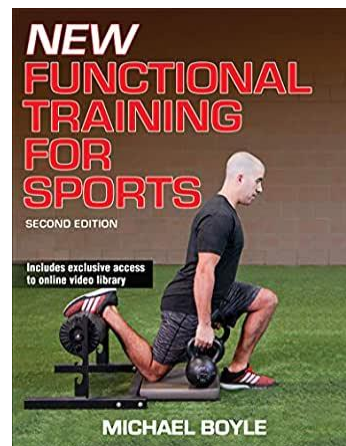
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Specific Training Suggestions

Major movements

Pushing (Horizontal/Vertical)
 Pulling (Horizontal/vertical)
 Hip dominant (Hinging)
 Knee dominant (Squatting)
 Loaded carries (Farmer walks, sleds, etc)
 Anti-core work (Planks, anti rotation, etc)

These are the main components that make up a good strength training program.



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Thank you!
Question Time

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