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Preventing and Managing Injuries Among Musicians

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Objectives

- Identify risk factors for injuries
- Describe ways to avoid musculoskeletal injuries
- Give examples of ways to manage pain
- Identify when to get professional help
- Announce Musician Injury Preventions workshops by Physical Therapy students

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Musicians Are Athletes

Marathon ~ 55,334 steps



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2-Hour Concert ~
up to 57,600 movements



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Types of Musician Injuries

- Musculoskeletal
 - Neck or back pain; tendinitis, muscle pain, trigger points, TMJ pain, etc.
- Nerve entrapments
 - Carpal tunnel, cubital tunnel, etc.
- Focal dystonias

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Risk Factors for Pain

- Poor posture (abnormal or sustained)
- Instruments that do not fit the musician
- Not pacing yourself
- Not relaxing muscles between demands
- Hypermobility joints that are unstable
- Poor overall health and fitness
- Lack of sleep
- Emotional stress

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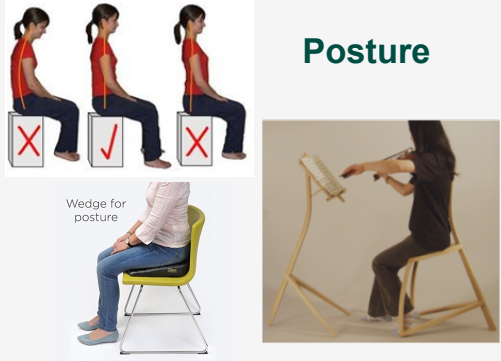
Avoiding Injuries

- Good posture and body mechanics
- Good technique
- Pacing, take breaks
- Warm up
- Stretch before and after you play
- Manage stress so you can relax
- Stay healthy (sleep, exercise, nutrition, H₂O)

Caution!

- These are general guidelines
- Your situation might be different
 - These suggestions might not work for you
- Stop doing anything that makes you worse
- Consider consulting a professional to give you personalized advice & exercises


Posture




Wedge for posture

Posture Aids

"Nada Chair"



Posture brace



Technique

- Keep joints in mid-range if possible
- Use the largest joints and muscles for the movement
- Use body mechanics rather than force
- Fit your instrument properly to you
- Relax muscles when not in use

Pacing

- Your body needs to take breaks
 - Macro-breaks, 10 minutes every hour
 - Micro-breaks, just moments between notes
- Make sure you relax your muscles during those breaks
- If able, move around, change position


Warm-Up & Stretching

- Warm up muscles & loosen joints
- Frequently used muscles get tight
 - They need to be stretched
- Reverse movements you most often do
- Stretch before and after playing


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Stretching

Finger flexors



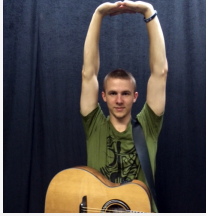
Posterior shoulder




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Stretches


Shoulder, wrist, elbow, back



Back stretch

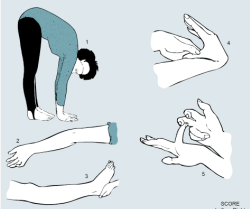


Hip stretch



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Joint Hypermobility



	Left	Right
1. Can you put your hands flat on the floor with your knees straight?	0	1
2. Can you reach your hands behind your back?	0	1
3. Can you bend your hand behind your head?	0	1
4. Can you bend your hand back with the foot of your head?	0	1
5. Can you bend your arm right up at 90° (right angles) to the back of your hand?	0	1
Score		

Figure 1. Beighton's modification of the Carter and Wilkinson scoring system. One point = 1 point for each of five responses to your question. (1) achievement of 5 points.

- Many musicians are hypermobile
- Stretch carefully, so you stretch the tight muscle and not the loose joint
- Avoid stretching hypermobile joints







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Relaxation

- Overall relaxation helps muscles relax
- Mental relaxation also decreases pain
- Short rest breaks allow muscles and tendons to get better blood supply

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Relaxation

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Stay Healthy

- Get enough sleep
 - Sleep is when your body repairs itself
 - People who do not get enough sleep have 50% more pain than people who do
- Exercise:
 - Aerobic, stretching, strengthening, core
- Eat nutritiously
- Stay hydrated

Manage Pain You Have

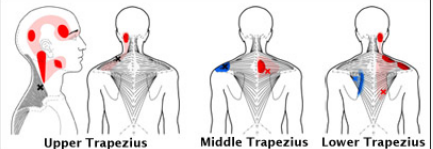
- First, figure out what is causing it and try to prevent it
 - Don't just treat the symptom
- Ice for acute or severe pain
- Heat for chronic or mild pain

Manage Trigger Points

- Trigger points are irritable spots in muscle that refer pain to another location
- They are frequently caused by overuse
- They cause weakness of the muscle
 - Overuse of TrP (i.e., 'strengthening' exercise) makes them weaker

Neck: Trapezius


- Caused by:
 - Poor posture
 - Overuse of the arms
 - Tension in the shoulders
 - Straps from bags, instruments, purses on shoulder
 - Not fully relaxing muscles when not in use




Upper Trapezius Middle Trapezius Lower Trapezius

Upper Trapezius

Stretching

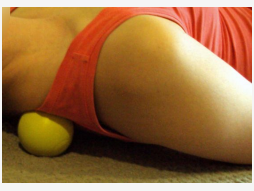


Theracane




More Trigger Point Techniques

Trigger point pressure

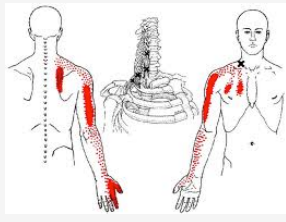


Or, same standing



Neck: Scalenes

- Causes:
 - Breathing against resistance
 - Improper breathing
 - Poor body mechanics
 - Other trigger points



Shoulder: External Rotators

- Causes
 - Activities with the arm held out in front of you
 - Repeated pulling
 - Holding the arm rotated outward
 - Not fully relaxing muscles when not in use

Pressure and/or Stretch

Wrist and Finger Extensors

- Causes:
 - Repetitive finger movements
 - Forceful or prolonged gripping
 - Referred pain from the shoulder
 - Not fully relaxing muscles when not in use

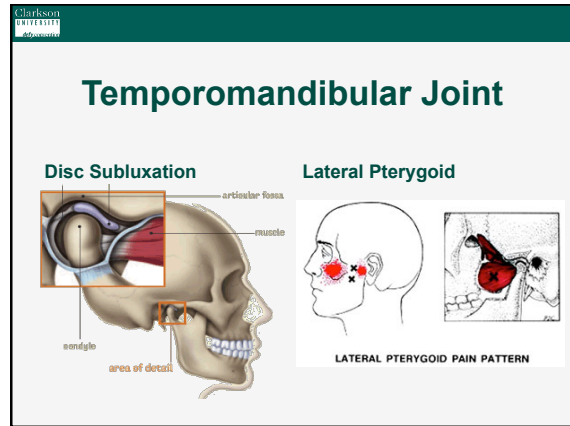
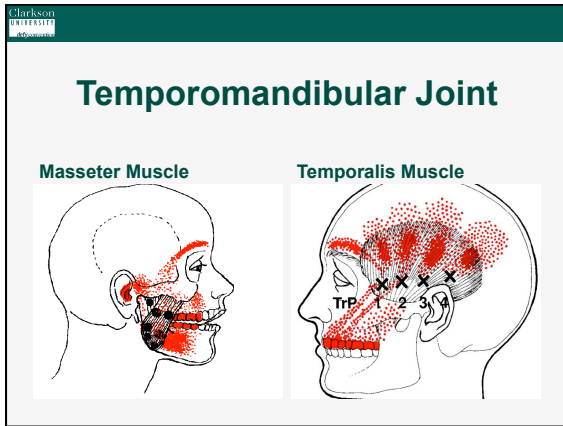
Wrist & Finger Extensors

Wrist & Finger Flexors

- Causes:
 - Forceful or prolonged gripping or wrist flexion
 - Prolonged fingering of musical instrument or computer

Hand Intrinsic Muscles

- Causes:
 - Forceful or prolonged precision finger movements
 - Incorrect technique
 - Not fully relaxing muscles when not in use



TMJ Pain Management

- Fix the cause of the problem
- Treat trigger points (heat, ice, massage)
- Treat the joint/disc if involved (it can be treated like any other joint in the body)
- Exercises for range, stability, coordination, depending on the problem

Now Do You Believe That Musicians Are Athletes?

Marathon ~ 55,334 steps **2-Hour Concert ~ up to 57,600 movements**

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But... You probably don't have 'athletic trainers'

The image contains two photographs. The left photo shows a male athletic trainer in a green shirt applying a white bandage to a patient's arm. The right photo shows a female athletic trainer in an orange shirt working with a patient on a table.

But, you can take care of your body!

The image contains two photographs. The left photo shows a man in a dark shirt performing a physical therapy exercise on a table with a woman's assistance. The right photo shows a woman in a black tank top running on a treadmill in a gym.

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If Your Pain Does Not Get Better...

- Get medical help if it becomes serious
 - Physical therapists are movement experts
 - They can teach you exercises and self-care specific to your issues
 - Occupational therapists are hand experts
 - Orthopedic surgeons can diagnose
- Your teachers are your “coaches”

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Injury Prevention Workshops

- Clarkson Physical Therapy students are running a series of Musician Injury Prevention workshops
 - First 'mini-workshop' today, 9-10 pm
 - C119 or C123
 - Full workshop Saturday, 4/1, 9:30-11:30, C107
 - 30 minutes each, learning about **Posture, Trigger Points, Relaxation, and Temporomandibular Pain**
 - Each session is limited to 30 people
- Handouts will be on Crane's Wellness Moodle page (some time soon)