Care and Prevention of Sedentary Workplace Injuries

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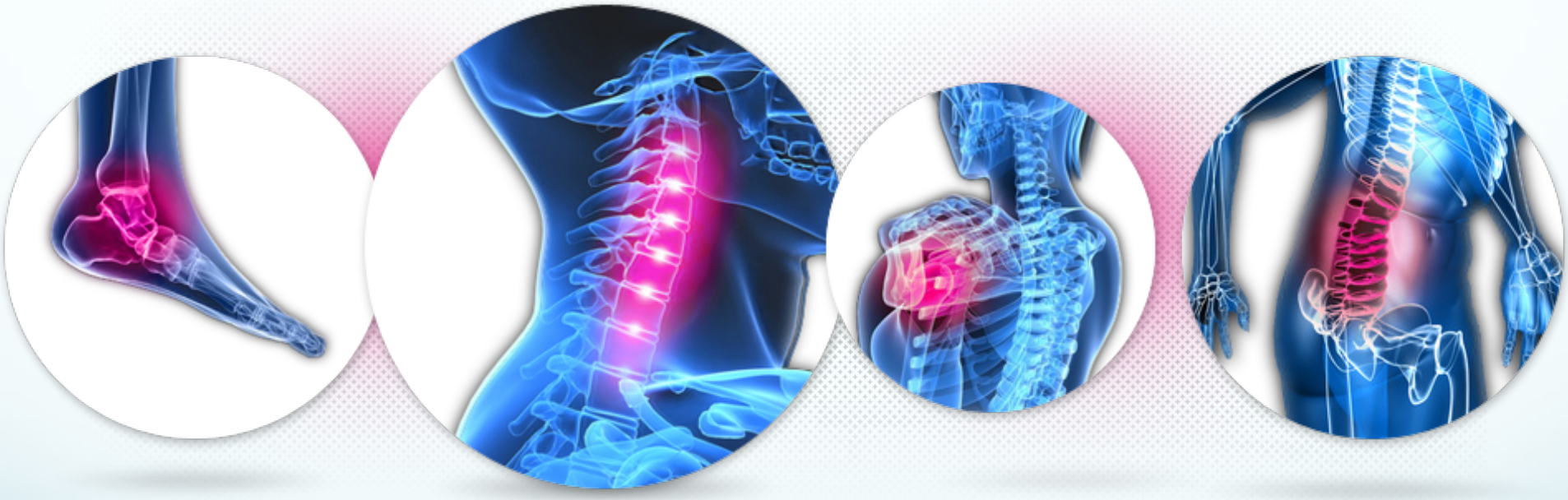
Learning Objectives

- By the end of this presentation you should be able to:
  - Understand the diagnostic process and how we make clinical decisions.
  - Recognize common sedentary workplace injuries and their symptoms.
  - Learn preventative strategies to avoid injury.
  - Understand the treatment options available in the event of injury.

Who am I?

- New Brunswick native.
- Moved to BC 7 years ago.
- Graduated from UBC Masters program in PT.
- Competitive Rower at the Provincial and National stage.
- Plan to pursue clinical doctorate in PT.

What do I do?



What do I do?

- Develop a clinical picture from patient information and medical history.
- Screen for medical “Red Flags” that may require further medical consultation.
- Compare clinical picture with objective findings through thorough assessment.
- Establish a likely diagnosis and treatment plan based on findings.

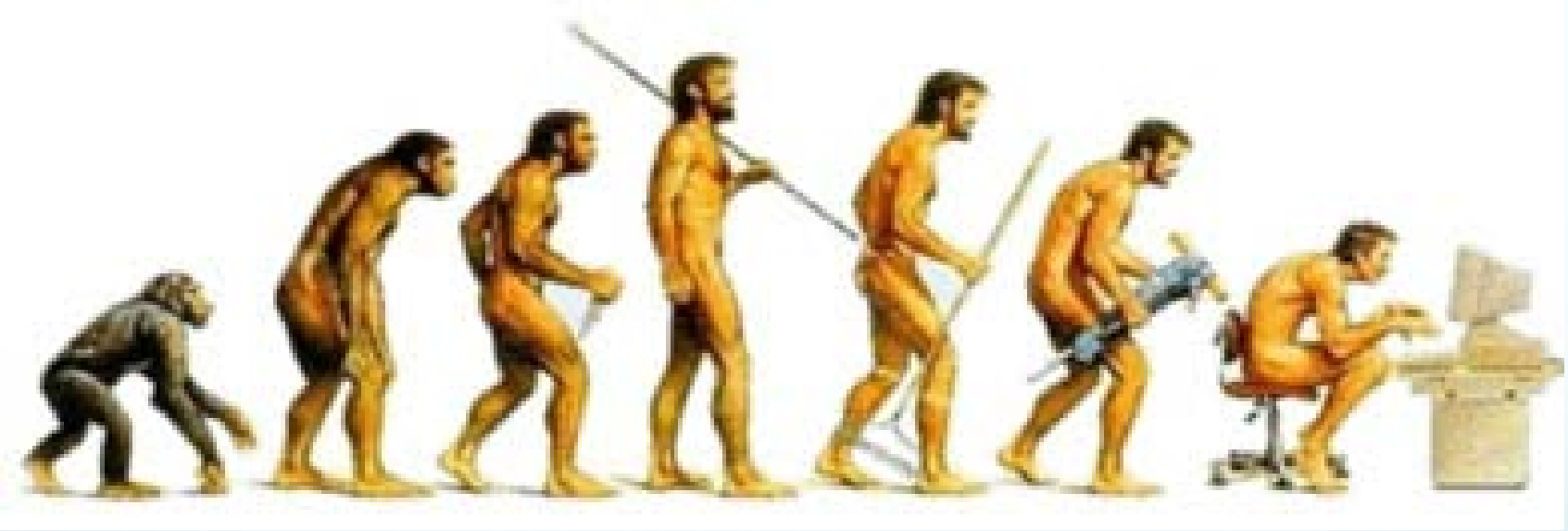
Subjective

- The When, Where, How.
- Previous injury history.
- History of significant illness.
- Nature of symptoms.
- Aggravating and easing factors

Objective

- Consists of a series of directed movements and measurements to gather data.
- Performed to confirm or deny preliminary diagnoses.
- Can be uncomfortable as we are trying to identify the source of pain.

Sedentary workplace injuries



Where do you hurt?

- Elbows?
- Wrists?
- Shoulders?
- Back?
- Neck?
- Jaw?

Why do you hurt?

- Acute Vs. Chronic injuries
  - Acute: sudden, short term overload of a structure.
  - Chronic: permanent overloading resulting from repetitive movements or sustained positions.

Why do you hurt?

- 1/3 of sedentary workplace absences are due to MSK disorders[2].
- 60% of these are lumbar spine injuries, followed by cervical and upper extremity[2].
- Least common are lower extremity (predominantly knee) injuries which are likely secondary to lifestyle choices.

Why do you hurt?

- You’re not lifting with your neck or back……so why are they such common places for injury?

- Answer: reduced muscular demand= increase joint loading and stress on inert structures due to deconditioning.

Lumbar spine injuries

- What is lumbar spine pain?
- What causes lumbar spine pain?
- When is lumbar spine pain dangerous?

Lumbar spine injuries

- What is sciatica?
  - Leg dominant pain
  - Constant and unrelenting despite changes in position.
  - Positive neurological findings on examination
  - Resolution 3-9 months
  - 2-5% are surgical

Lumbar spine injuries

- What is Stenosis?
  - Narrowing of the spinal column either laterally or centrally
  - Neurogenic claudication

Lumbar spine injuries

- Mechanical back pain
  - Most common type of back pain
  - Back dominant pain
  - Intermittent
  - Negative neuro findings
  - Changes with position or activity

Treatment

- Lumbar manipulation
  - How it works
  - Clinical prediction rule
  - Risk of harm
  - Side effects

Treatment

- Centralization exercises
  - Indication
  - How does it work?
  - Which direction to go?

Treatment

- Core stabilization exercises
  - Indication
  - Expectations

Treatment

- Traction
  - Indication
  - How does it work?

Treatment

- Prolotherapy
  - What is it?
  - When is it indicated?

Upper extremity and neck injuries

- List some common injuries
- Are your symptoms accurate?

Upper extremity and neck injuries

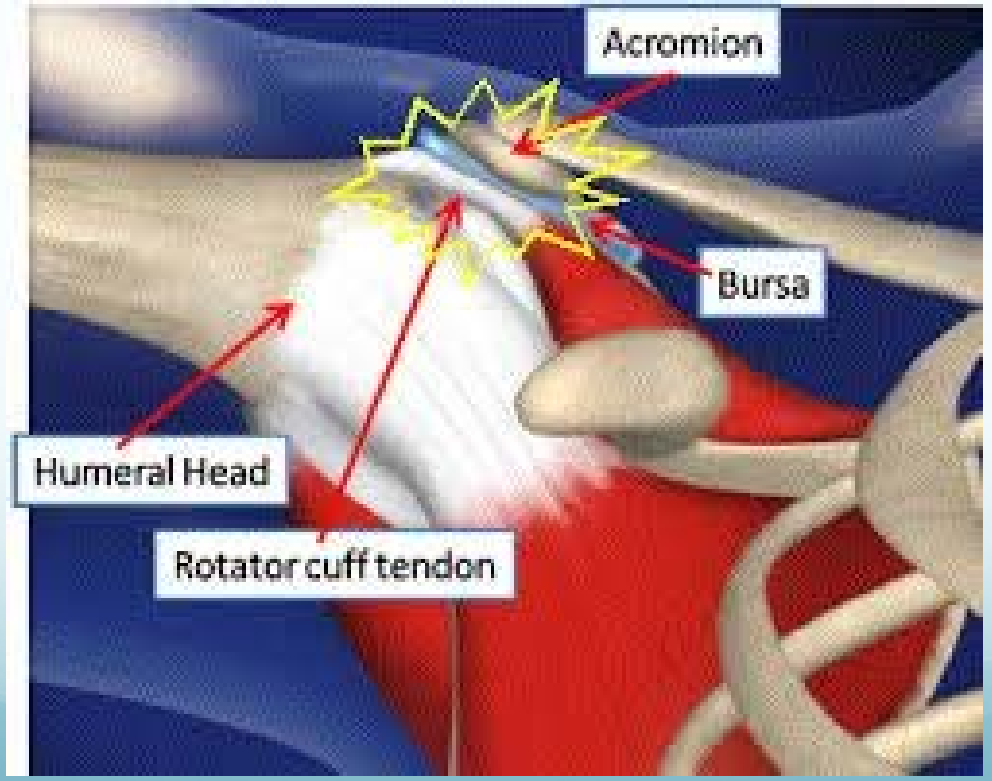
- Cervical spine:
  - Classification of neck pain
  - When is it dangerous?
  - What are the red flags?

Treatment

- Manipulation/ mobilization
- Deep neck flexor exercises
- Traction
- Traumeel injection/ prolotherapy

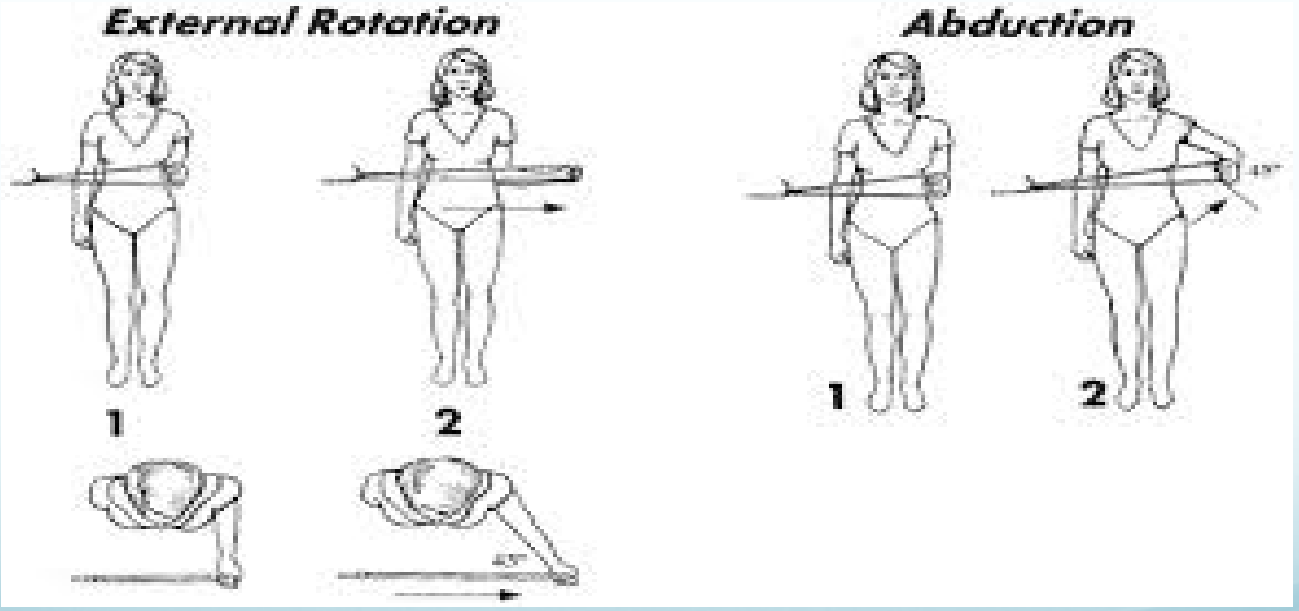
Shoulder

- Mechanical impingement
  - What is it?
  - Why does it happen?



Shoulder

- Treatment
  - Scapular retraining
  - Soft tissue release/Active release



Shoulder

- Treatment
  - Graston technique

Shoulder

- Treatment
  - Shockwave therapy
    - What is it?
    - How does it work?
    - Indications?

Elbow

- Tennis Elbow
  - What is it?
  - Acute versus Chronic
  - Symptoms
  - Mechanism of injury.

Elbow

- Treatment
  - Graston
  - Active release
  - Extensor exercises
  - Shockwave
  - bracing
  - Management/prevention

Wrist

- Carpal tunnel
  - What is it?
  - Why does it happen
  - symptoms

Wrist

- Treatment
  - Graston
  - Ice, rest, bracing
  - Active release
  - Stretching
  - Traumeel
  - Management/ prevention

Acupuncture

- What is it?
- How does it work?
- When it is effective?

Prevention

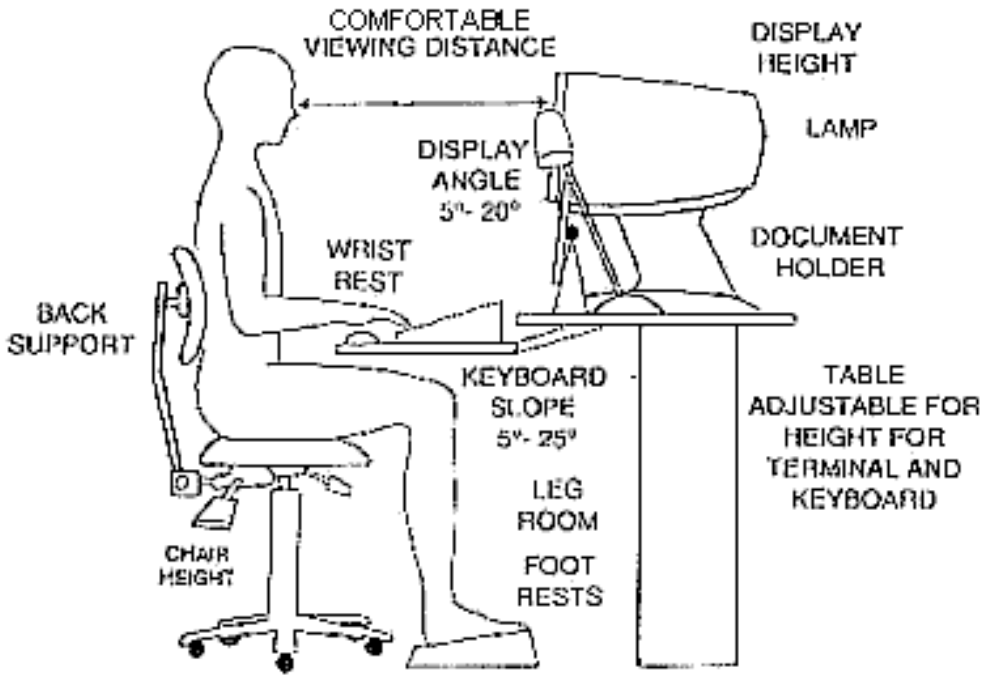


Diagram from "Ergonomics and VDT Use," flyer prepared by the Library of Congress Collections Services VDT Ergonomics Committee, 1991-92.

Prevention

- Rules of Thumb:
- Take Breaks!!!!! (set alarm)
- Mid day stretches
- Heat or Ice as needed
- If not resolving in 1-2 weeks or getting progressively worse over the course of the week despite management. Seek further care.

Questions?

References

1. Cleland, J. Childs, J. Frtiz, J. Emberhart, S. **Development of a clinical prediction rule for guiding treatment of a subgroup of patients with neck pain: use of thoracic spine manipulation, exercise, and patient education.** Physical Therapy.2007 Jan;87(1):9-23

2. Lutteman, A., Jager, M., Griefahn, B. **Preventing musculoskeletal disorders in the workplace. Protecting Workers' Health Series No. 5.2003**

3. Puentedura Ej, Cleland JA, Landers MR, Mintken PE, Louw A, Fernandez-de-Las-Penas C. **Development of a clinical prediction rule to identify patients with neck pain likely to benefit from thrust joint manipulation to the cervical spine.** Journal of Orthopedics, Sports and Physical Therapy. 2012 Jul;42(7):577-92