Beating Back Pain: Surviving the Office
Why are we here?

Prevent Back Pain  Manage Back Pain  Beat Back Pain

3 Simple Goals
How do we ‘Survive the Office’ and ‘Beat Back Pain’? A 3 step plan

Today’s Agenda

1. Knowledge: Understand the spine & spinal pain
   • The structure & function of the spine
   • What goes wrong and why

2. Knowledge: Understand office ergonomics
   • Awareness of our ergonomic environment
   • Appreciation of impact on MSK System

3. Action: Know what to do about it
   • When a problem occurs
   • Know how to avoid problems in the first place
   • Simple ergonomic solutions
Step 1: Understand the spine

1. Understand the spine & spinal pain
   Structure & function (biomechanics) and what goes wrong

2. Understand office ergonomics
   Awareness & appreciation of impact on musculoskeletal system

3. Doing something about it
   Treatment, ergonomic management & prevention
Understanding the Spine: Back pain & the Stats

- Up to 80% of us will have a back problem at sometime during their working lives
- 50% of attacks of low back pain (LBP) will settle within 4 weeks
- 15-20% continue to have symptoms for at least 1 year
- 70% of people with LBP will have 3 or more recurrences or relapses
Practical: Improving Office Posture

• Imagine a spring running from the crown of the head to the base of the spine

• “Grow tall – as if being pulled upwards by the spring”

• Practice holding the position for 2-10 minutes per hour
  – Gradually build up tolerance

• Aim to avoid:
  – Sticking out chest
  – Holding breath
  – Over extending
Practical: Neck Office Stretches

1. Rotation
2. Side – Flexion
3. Retraction
Practical: Thoracic Office Stretches

4. Rotation

5. Extension

6. Side-Flexion
General Anatomy and Biomechanics: Joints

Joints of the spine

Function:

• Precise and controlled movement
• Anatomical variation

Problems:

• Sprain
• Degenerative change
• “Jamming”
Disc Biomechanics

- **Forward Bending**
- **Backward Bending**
Discs: What can go wrong?

- Bulge
- Tear
- Prolapse
- Degenerated

Does a Disc Slip?
General Anatomy and Biomechanics: Ligaments

Ligament Function:

- Stability
- Limit excess movement
- Attach bone to bone

Ligament problems

- Sudden tear
- Gradual overstretching
General Anatomy and Biomechanics: Muscles

Muscle Function:

• Produces movement
• Controls movement
• Supports and maintains posture

Muscle problems

• Spasm
• Strain
• Muscle imbalance
Muscle problems: Imbalance

We need a balance between:

• Movement
• Control of movement
• Stability

Generally speaking:

• Larger, more superficial muscles generate bigger movements
• Smaller, deeper muscles provide greater control and stability
• Posture and form during movement is vital to avoid excessive imbalance
Stability Exercises
General Anatomy and Biomechanics: Nerves

- Spinal cord travels inside bony canal formed by the vertebrae
  - Sensitive and highly specialised

- Nerve roots shoot off at each vertebrae
  - Neck: Supply arms and hands
  - Mid back: Supply trunk and internal organs
  - Lower back: nerve roots supply legs and feet

- Monitor position and movement
- Initiate movement
- Detect pain
- Provide sensation
Back Pain: Factors that contribute

- Poor posture
- Poor flexibility
- Poor strength
- Forward bending (repeated & prolonged)
- Twisting
- Poor job design
- Personal work habits
- Poor physical fitness
- Smoking
- Nutrition
- Overweight
- Stress
Progressive symptoms, gradually worsening:

1. Fatigue
2. Mild discomfort
3. General ache
4. Localised pain
5. Extending pain
6. Referred pain
7. Other signs and symptoms
Understanding Pain: A Complex Phenomenon

Pain Definition:

• “An unpleasant sensory and emotional experience in response to actual or potential tissue damage”

Purpose:

• Inform us of potential damage
• Inform us of actual damage
Understanding Pain

**Problems**
- Referred pain
- Chronic pain
- Peripheral sensitisation
- Central sensitisation

**Solutions**
- Early intervention vital
- Early Physio promotes
  - Normal movement and activity
  - Understanding of pain and influencing factors
  - Pain management / medication
Step 2: Understand Office Ergonomics

1: Understand the spine & spinal pain
   Structure & function (biomechanics) and what goes wrong

2: Understand office ergonomics
   Awareness & appreciation of impact on musculoskeletal system

3: Doing something about it
   Treatment, ergonomic management & prevention
Ergonomics: Ideal Display Screen Equipment Workstation

**Postural Checklist**

- Neutral spine
- Lumbar & Thoracic supported
- Neutral shoulders
- Elbows 90-100
- Hips ‘open’ 100
- Feet supported on floor / platform
- Forearms supported
- Wrists neutral
DSE: Laptops in work

For prolonged Laptop use

• ‘Same rules apply’

• Use DSE ‘Checklist’

• Consider a Lap top stand with a separate keyboard unit and mouse

• Promotes good spinal posture, neutral upper limb position and variation
Conclusion

Understanding of Anatomy and pain pattern

Several aspects to include to prevent, pre-empt and manage aches

Do not wait to address issues

Self management