

# **Overuse injuries: Prevention and management for editors and indexers**

**Sarah JH Fletcher  
Write Edit Index conference  
May 2015**





# Welcome

# Disclaimer

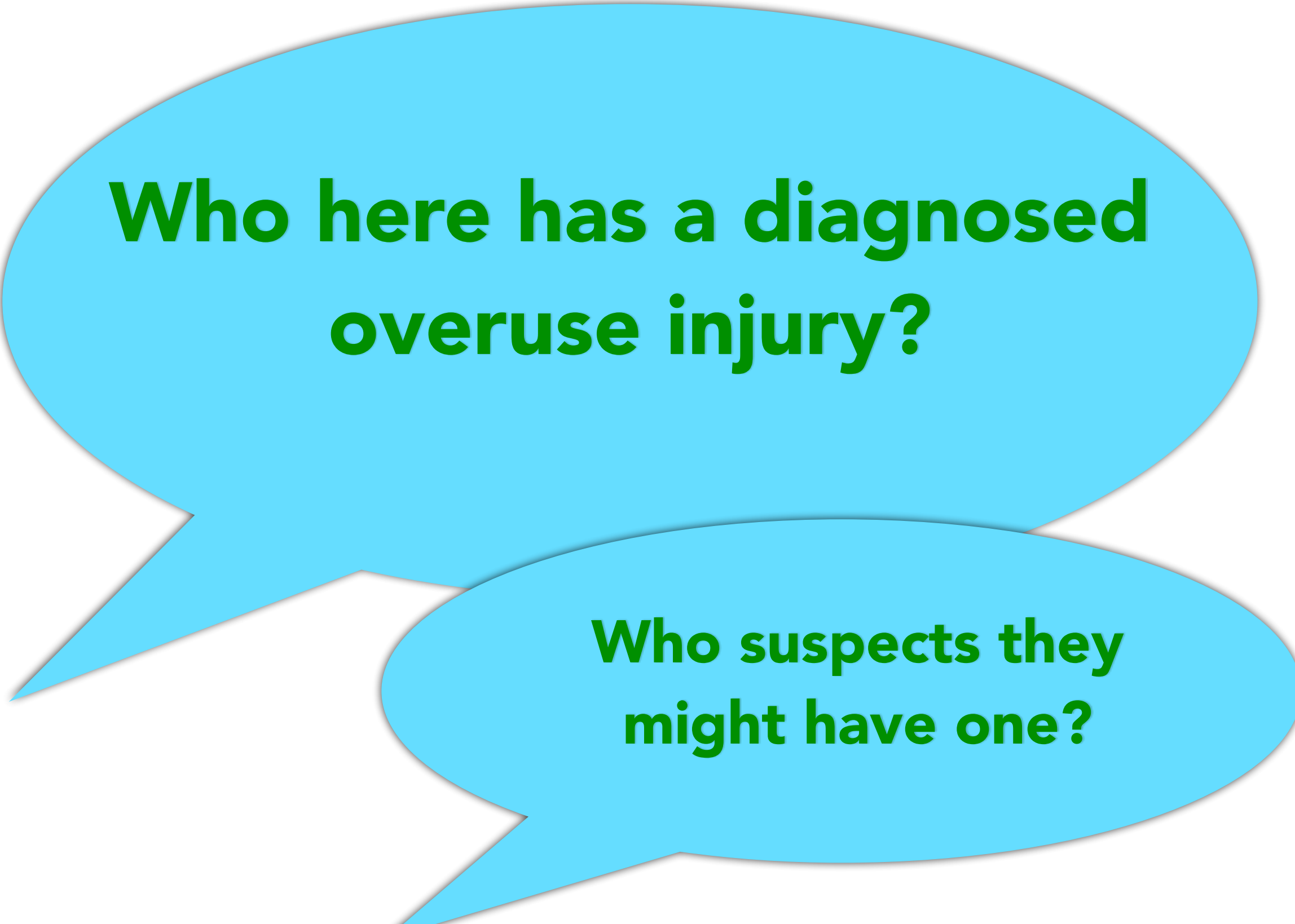
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You should **seek assistance from a health care professional** when interpreting this information and applying it to your individual circumstances. If you have any concerns about your health, consult your general practitioner.

Information provided in this session does not imply endorsement of third-party services or products.

- Case study
- What is occupational overuse syndrome?
- Causes and risk factors
- Warning signs
- Treatment and prevention
- Adjustments at work
  - Posture; workstation setup
- Self-care
  - Exercise
  - Self-massage
  - Mental health



**Who here has a diagnosed  
overuse injury?**

**Who suspects they  
might have one?**

# Current state of OOS in publishing-related jobs

- Anecdotally: significant numbers of workers develop overuse injuries,

BUT

- There's very little education for publishing students and new entrants to the industry.



# Aims of this session

- Encourage **identification of workers at risk** of occupational overuse injuries (OOS).
  - Refer to medical professionals for further investigation.
- Set out:
  - OOS **prevention tips**.
  - **practical management strategies** for those already dealing with an overuse injury.
- Provide a **foundation for OOS education** for new entrants to the publishing industry.

# THE CASE STUDY



# Patient A: History

- Average **typing 3–7+ hours per day since 1996.**
- Stints as a professional transcriptionist.
- Began editorial duties in 2007.
  - **Very long work days**
  - Sometimes working 15+ hours at a stretch during difficult/high-pressure edits.
  - **Intensive keyboard use.**
  - Sedentary lifestyle.

THE CASE STUDY



# Patient A: Symptoms

Presented to GP in late 2012 with:

- **Tingling, numbness, weakness, muscle spasms** in both hands/arms
- Persistent **pain** that was getting gradually worse
- Difficulty sleeping.

THE CASE STUDY



# Patient A: Diagnosis

Referred to hand therapist.

Diagnosed with bilateral:

- **Upper extremity overuse syndrome**
- **Carpal tunnel syndrome.**

Bilateral = both sides of the body.



# Patient A: Treatment

- **Rest**
- Wrist braces
  - Full time at first
- Nerve-glide **exercises** as prescribed
- **Postural and workspace adjustments**
- Changes to type of work (according to keyboard intensity required)
- **Lifestyle improvements**
- Remedial massage.

THE CASE STUDY



# Patient A: Outcome

- **Major improvement over six months** following diagnosis.
- In **management phase** as of May 2015.
- Occasional relapses during particularly busy periods.

THE CASE STUDY

# Patient A

(me)





# Some definitions



# Overuse injuries

- Umbrella term for a cluster of **related conditions** that are caused by **repetitive movements** and **awkward postures**.
- **Any setting** – factory, office, sport, etc.



# Occupational Overuse Syndrome (OOS)

- **Subcategory** of overuse injuries.
- Common to fingers, hands, wrists, elbows, shoulders, neck.
- **Specifically associated with workplace computer use.**



# What's the difference between OOS and RSI?

They are sometimes still used interchangeably, but:

- **RSI is an older term**, now considered a less helpful label.
- **OOS is the currently preferred term** in Australia.

# JARGON ALERT



# OOS can include...

- Upper extremity overuse syndrome
- Carpal tunnel syndrome
- Tendonitis
- Tenosynovitis
- Thoracic outlet syndrome
- Etc.





# But what do all these terms mean??

- Outside the scope of this session.
- For our purposes, it's enough to know that **they have certain features and causes in common.**



# Who is at risk of OOS?



Anyone who performs a **manual task** that requires **fast and repetitive movements** and/or working in **fixed or awkward postures** for **long periods of time**.

# The bad news...

**Editors, indexers and writers**  
(as well as allied professions)  
**are at particular risk of OOS.**



# Some good news

**Early identification  
and treatment** of OOS



**Better prognosis**

# However:

Occupational overuse injuries develop over weeks, months and years.

**They don't heal overnight.**

# OOS prognosis

In general:

- Many people make a full recovery.
- Some people experience longer-term effects of varying severity.
  - Some of these may be able to manage their OOS by making changes to the way they work.

**EARLY IDENTIFICATION AND TREATMENT  
IMPROVE PROGNOSIS**



# OOS prognosis

**PREVENTION** is preferable to treatment.  
It is also more cost effective.

# Causes & risk factors



## Root Causes

1. Working in one position for years
2. Millions of repetitions
3. Work intensity
4. Aging and loss of tissue resilience
5. Physiology and anatomy
6. Ergonomics
7. Personality

# Causes of OOS: a vicious cycle

## Initial Results

8. Fatigue
9. Slouching posture
10. Muscle tension
11. Chest compression

## Secondary Results in Feedback Loop

12. Compensation and overloading
13. Inflammation and swelling
14. Abrasion and irritation
15. Nerve entrapment
16. Loss of sleep

## Ultimate Results

17. Pain
18. Numbness
19. Anxiety or depression

## Root Causes

1. Working in one position for years
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1

## Initial Results

8. Fatigue
9. Slouching posture
10. Muscle tension
11. Chest compression

2

## Ultimate Results

17. Pain
18. Numbness
19. Anxiety or depression

4

## The Dangerous Feedback Loop

## Secondary Results that Become Causes

12. Compensation and overloading
13. Inflammation and swelling
14. Abrasion and irritation
15. Nerve entrapment
16. Loss of sleep

3



# Complex causes mean that...

...prevention and management of OOS  
involve many elements.





# Risk factors



# Workplace risks



# Risk factors: workplace

- **Intensity, duration and repetitiveness** of manual tasks.
- **Furniture and equipment** that don't conform comfortably to your body.
  - Workstations that are too high, too low or too far away from your body.
- Tight deadlines that **prevent you from taking sufficient breaks.**
- Cold working environments.

# Risk factors: general

- Overall lack of movement (exercise)
- Lack of sleep
- Stress
- Poor diet



# Risk factors: general

- Physiology
  - Some bodies are more prone to developing OOS.
    - ▶ e.g. people with an unusually narrow carpal tunnel.
- Psychosocial factors
  - Personality traits, work culture, financial pressures, etc.

# Many non-work activities can exacerbate OOS

- Driving
  - Preparing food
  - Reading
  - Smartphone and tablet use
  - Playing musical instruments
  - Cycling
  - Videogaming
  - Sewing, knitting, crochet
  - Gardening
  - Carpentry
  - Racquet sports
- and so on...

# What to look out for

**THIS NEXT SLIDE IS THE MOST IMPORTANT PART OF THE WHOLE SESSION**







# OOS warning signs



- Tingling
- Throbbing
- Numbness
- Pain, aching or tenderness
- Weakness, lack of endurance
- Muscle spasms/ cramping
- Swelling
- Clumsiness
- Disturbed sleep from the above.

# If you have any of these warning signs...



... and you haven't had them  
investigated by a doctor yet...

I recommend that you do so **as soon as possible**.

- If you work inhouse, talk to your manager and/or HR, too.

# How OOS may progress

1. You notice symptoms while doing a particular task, but they go away when you stop the task (rest). This stage can last a couple of weeks, or longer.
2. Symptoms get worse and cause longer periods of pain. Longer rests are required to reduce symptoms.
3. Symptoms become constant. Resting has little to no effect on them.



# Some treatment options: medical and physio

- Range of motion and mobility exercises
- Strengthening exercises
- Postural exercises with emphasis on scapular and core strengthening
- Nerve gliding activities
- Soft tissue mobilisation
- Massage
- Splinting
- Pain management
- Surgery (certain conditions only).

# Some treatment options: workplace

- Improved work techniques, including posture
- Improved work pacing and time management
- Use of adaptive equipment, including:
  - keyboards
  - pointing devices
  - furniture
  - speech recognition software.

# Posture & workstation setup

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# Common problems

- Rounded spine
- Slumped shoulders
- Crossed legs
- Chin poking forward
- Feet unsupported.



flickr/sportEX journals

# Better seated posture



# Work-based posture exercises

## FIND YOUR NEUTRAL SITTING POSITION

Slump your back and then slowly straighten your back by pushing your tummy forward (and with it rocking your pelvis forward). When you can feel the weight resting on the bones in your buttocks, you have reached your neutral sitting position. This is the position in which you should perform all the following exercises.



## NECK FLEXION AND EXTENSION

In your neutral sitting position, tilt your neck forward (chin to chest) and back but make sure not to over extend your neck. Repeat this exercise 10 times.

SETS REPS

1 10



## NECK SIDE TO SIDE

In your neutral sitting position, tilt your neck side to side alternately attempting to touch your ear to your shoulder. Hold this stretch for 5-8 seconds and repeat this 5-10 times on each side.

SETS REPS

1 10



## NECK ROTATION

Again while maintaining your neutral sitting position, turn your head to look over each shoulder alternately. Make sure to perform this exercise slowly. Hold each rotation for 5-8 seconds and repeat 5 times on each side.

SETS REPS

1 5



## SHOULDER ROLLS

In neutral sitting, roll your shoulders in a circle forwards and then backwards. Perform 6-8 rotations slowly in each direction.

SETS REPS

1 10-15





# Work-based posture exercises

## FLEXION AND EXTENSION OF SPINE

Make sure you are sitting on your sitting bones and then slump slowly forward rounding your back letting your shoulders fall forwards. Then slowly sit upright and gently push your chest and stomach forwards. Make sure not to extend too far that it causes pain. Repeat this exercise 5-8 times performing each motion slowly and with control.

SETS REPS

1 5-8



## TRUNK ROTATION

Cross your arms in front of your chest and keeping your whole body moving together as a unit, slowly rotate your trunk so you are looking over your shoulder. Hold this position for 3-5 seconds and repeat on the other side. Try and make sure the amount of rotation is similar on both sides. Perform 5-6 rotations on each side.

SETS REPS

1 5-6



## PLANTAR/DORSI FLEXION OF ANKLE

Shunt forward so you are sitting on the edge of your seat. Extend one leg in front of you so that the knee is straight. Flex your toes so they are pointing towards the ceiling and then point them directly ahead of you. Repeat this movement 8-10 times on each leg.

SETS REPS

1 8-10



## SEATED HAMSTRING STRETCH

Maintaining the position from the above exercise, put your hands on your hips or in your lap and bend forwards until you feel a stretch in the back of your leg, to increase the stretch point your toes towards the ceiling at the same time. Hold this stretch for 8-10 seconds and return to sitting. Repeat this stretch 5-6 times on each leg.

SETS REPS

1 5-6



## BUTTOCK STRETCH

Return to your normal seated position. Cross one knee over other knee and lean forward until you feel a stretch in your buttocks. Hold this stretch for 8 seconds before straightening your back again. Repeat this movement 5-6 times on each leg.

SETS REPS

1 5-6



# Standing workstation



# Standing desk options

Excellent overview at The Wirecutter

<http://thewirecutter.com/reviews/best-standing-desk/>



# Moderation is key!

Standing all day can cause problems, too.

Start slowly and work up to a sitting–standing mix that works for you.



Portable, but ergonomically terrible:  
**The laptop problem**





# Better laptop ergonomics

Use with an **external keyboard and mouse** wherever possible, so you can **elevate the screen**.





**Ergonomic  
solution:  
still pet-  
friendly**



# OOS management strategies





# Workspace changes

## Overall ergonomic reassessment

Laptop + external display

Ergonomic keyboard

Ergonomic mouse

Sometimes standing to work

Phone headset

Specialised computer programs



# Key programs:

## RSI Guard

- Designed for management/avoidance of OOS.
- **Monitors intensity of keyboard and mouse use.**
- **Dynamically adjusts break length/frequency.**
- Suggests stretching exercises.

<http://rsiguard.remedyinteractive.com/>

Alternatives include Workrave and Stretch Break.

# Key programs:

## Text Expander

- Powerful: you set up short keyboard strings to **automate tedious and repetitive typing**.
  - E.g. ;nqr can become **Not quite right – consider rephrasing?**
- In 2.5 years it has **saved me 77,000 keystrokes**.

<https://smilesoftware.com/TextExpander/index.html>

Alternatives include Typelt4Me (Mac), Texter (PC).



A photograph of three people running on a paved road. On the left is a man with glasses wearing a grey t-shirt and dark shorts. In the center is a woman wearing a light blue tank top and dark leggings. On the right is a man with glasses wearing a white t-shirt with a logo and red shorts. They are all running towards the camera. The background shows green grass and trees. The text 'Exercise for OOS prevention and management' is overlaid in green.

# **Exercise for OOS prevention and management**

# Another disclaimer

**Talk to your doctor before starting any new exercise program**, particularly if you think you might have OOS.

You may need input from a qualified professional – such as an exercise physiologist – to avoid injuring yourself further.

Be cautious about forms of exercise that may exacerbate OOS.

# Exercise

- Regular exercise forms an **important part of overall health.**
- Exercise doesn't provide an infallible safeguard against OOS, but if done safely, it can **help you prevent or manage overuse injuries.**



# Australian physical activity guidelines (adults)

- **Doing any physical activity is better than doing none.** If you currently do no physical activity, start by doing some, and gradually build up to the recommended amount.
- Be active on most, preferably all, days every week.
- Accumulate 150 to 300 minutes (2½ to 5 hours) of moderate intensity physical activity or 75 to 150 minutes (1¼ to 2½ hours) of vigorous intensity physical activity, or an equivalent combination of both moderate and vigorous activities, each week.
- Do muscle strengthening activities on at least 2 days each week.

# Cardiovascular exercise

- Good for your overall health.
- **Improves circulation**, which can help counteract factors leading to OOS.



# Strength training

- OOS often involves **posture imbalances** caused by overcompensating for over-tight or weak parts of the body.
- Strategic resistance training can **improve both muscular strength and endurance**, and help **maintain good posture**.
- E.g. weight training; body-weight exercises.



# Specialised OOS management exercises

- As prescribed by a medical professional, e.g. a physiotherapist.
- Nerve glides, etc.

Example:

<http://www.askdoctorjo.com/content/neural-glides-ulnar-median-radial-nerves>

# Yoga and pilates

- Strength, flexibility, stress management.
- Won't suit everybody! But helpful for some.

NB: You'll probably need to modify certain asanas/exercises.

- Find a good teacher.
- Let them know about any pre-existing conditions before your first class.

# Mindfulness meditation



flickr/Lyn Tally

- Body awareness – can help posture.
- Stress management, breathing technique.
- Won't suit everybody! But helpful for some.

Lots of ways to get started, e.g.  
[headspace.com](https://www.headspace.com)



# Incidental exercise

The amount of **movement** you do while going about your **daily activities**.



# Incidental exercise

A person is walking a dog on a beach at sunset. The person is in the foreground, walking away from the camera. The dog is in the middle ground, also walking away. The beach is wide and sandy, with waves breaking in the distance. The sky is filled with soft, orange and yellow clouds, and the sun is low on the horizon, creating a warm, golden light. The overall scene is peaceful and suggests a healthy, active lifestyle.

Can help:

- offset the health risks of a sedentary, desk-bound job.
- **prevent or manage OOS.**

# Incidental exercise

While working:

- Take a **short break every 20 minutes** to **get up and move around**.
- Minimise long periods of sitting.



# Three-minute dance party

1. Find a relatively clear space.
2. Turn on your favourite upbeat song.
3. Dance until the song finishes.

(Bonus cardiovascular points for singing along.)

Suggested tracks:

Taylor Swift, 'Shake It Off'

Mark Ronson & Bruno Mars, 'Uptown Funk'

Dee-Lite, 'Groove Is In The Heart'

The Pointer Sisters, 'I'm So Excited'

James Brown, 'I Got You'.

**Perfect for the  
home office!**

# Incidental exercise: find out more

Australia's Physical Activity and  
Sedentary Behaviour Guidelines:

**Tips and Ideas for Adults** (18–64 years)

Department of Health

[http://www.health.gov.au/internet/main/  
publishing.nsf/Content/ti-18-64years](http://www.health.gov.au/internet/main/publishing.nsf/Content/ti-18-64years)



# Cruel Irony

Having OOS can  
be **stressful** –  
emotionally,  
physically,  
financially.

But stress makes  
it **harder to  
recover**  
from overuse  
injuries.





# Self-care is important

Self-care is **what people do for themselves** to establish and maintain health, prevent and deal with illness.

It encompasses:

Hygiene	General and personal
Nutrition	Type and quality of food eaten
Lifestyle	Sporting activities, leisure, etc.
Environmental factors	Living conditions, social habits, etc.
Socioeconomic factors	Income level, cultural beliefs, etc.

# Self-care for OOS

- **Get enough sleep.** (Most adults need approximately 7 hours of sleep per night for their bodies to rest and repair themselves.)
- Eat foods that make you feel good.
- **Move your body** in ways that make you feel good.
- **Breathe deeply** from the diaphragm, instead of shallowly from the top of the chest.
- Engage in **relaxing leisure activities** that don't exacerbate your OOS.
- **Talk** to supportive friends and family.
- Carry out regular **self-massage** (if you find it helpful).
- Do what you can to reduce financial, cultural and interpersonal pressures.
- **Pursue medical help** where necessary.

# OOS and mental health

Having an overuse injury can be a painful and destabilising experience.

- Potential trigger or exacerbator of mental health issues such as depression.
- In some cases OOS may also be associated with harmful behaviours such as abuse of drugs (particularly painkillers) and/or alcohol.

If you are concerned that OOS is affecting your mood and/or quality of life, please seek qualified help as soon as possible.

Lifeline

13 11 14 <https://www.lifeline.org.au>



# Self-massage

- Cheap or free.
- Can be done on your schedule, wherever you like.

Consider using a self-massage tool to reduce strain on hands.

Use bodyweight where possible.

# Self-massage tools

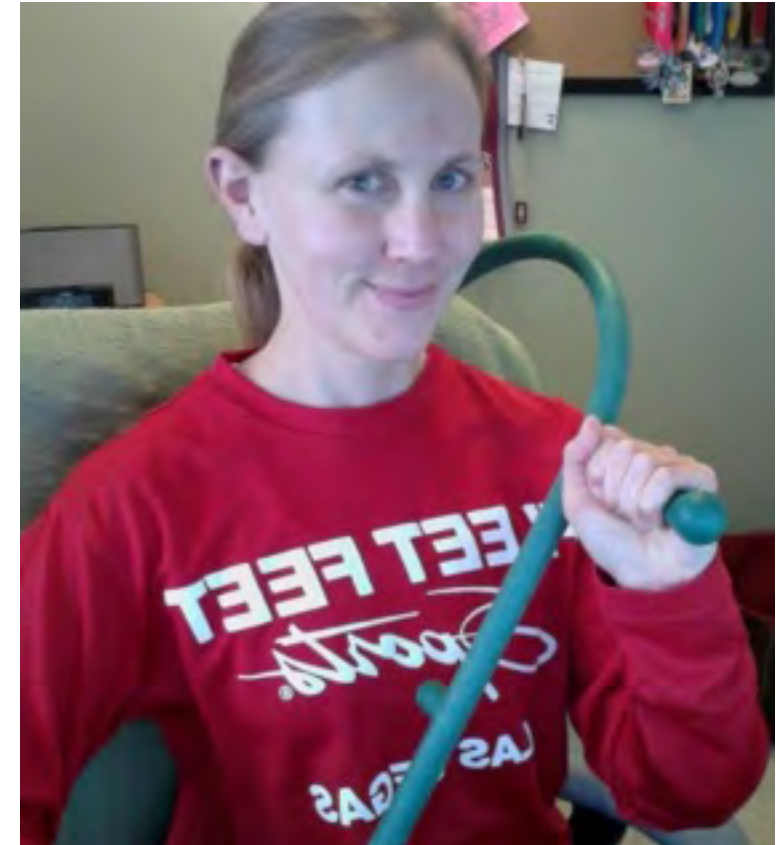


Tennis ball

flickr/David Hawkins-Weeks

TheraCane

flickr/jow



Foam roller

flickr/Dr Beth Snow



Tiger Tail



# Self-massage resources

Davies, Clair & Davies, Amber, *The Trigger Point Therapy Workbook*, 2nd ed., New Harbinger Publications, Oakland, 2004.

[http://www.prevention.com/food/cook/  
healthy-recipes-runners-world-cookbook](http://www.prevention.com/food/cook/healthy-recipes-runners-world-cookbook)



# Suggested reading

Damany, Suparna & Bellis, Jack, *It's Not Carpal Tunnel Syndrome! RSI Theory and Therapy for Computer Professionals*, Simax, Philadelphia, 2000.

The shorter version:

[http://s91524683.onlinehome.us/rsi/articles/  
Our\\_Theory\\_in\\_a\\_Nutshell.htm](http://s91524683.onlinehome.us/rsi/articles/Our_Theory_in_a_Nutshell.htm)

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*National Code of Practice for the Prevention of Musculoskeletal Disorders from Performing Manual Tasks at Work*, Office of the Australian Safety and Compensation Council, 2007, <http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/274/>

[NationalCodeOfPractice\\_PreventionOfMusculoskeletalDisordersFromPerformingManualTasksAtWork\\_2007\\_PDF.pdf](#)

*Occupational Overuse Syndrome: Guidelines for Prevention and Management*, Occupational Safety and Health Service of the Department of Labour (NZ), 1991, <http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/occupational-overuse-syndrome-oos-guidelines-for-prevention-and-management/oos-prevention-guide.pdf>

*Guidance Note for the Prevention of Occupational Overuse Syndrome*, National Occupational Health and Safety Commission, 1996, [http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/282/GuidanceNote\\_PreventionofOccupationalOveruseSyndromeInKeyboardEmployment\\_NOHSC3005-1996\\_PDF.pdf](http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/282/GuidanceNote_PreventionofOccupationalOveruseSyndromeInKeyboardEmployment_NOHSC3005-1996_PDF.pdf)

'Repetitive Strain Injury (RSI): What Is Good Treatment?', UCLA Ergonomics, <http://ergonomics.ucla.edu/component/content/article/83-injuries-and-prevention/111-repetitive-strain-injury-rsi>

# Aims of this session

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- Provide a **foundation for OOS education** for new entrants to the publishing industry.







**Questions?**



# Thanks



- Dr Ken Hazelton, for medical review. Any inaccuracies that remain are the author's own.
- Robyn Zampa, for suggesting additional lines of enquiry.
- Friends and colleagues who have shared their OOS experiences with me.
- The photographers credited – thanks for licensing your work under Creative Commons.



# Thanks for coming!

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