Overuse injuries: Prevention and management for editors and indexers

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Write Edit Index conference
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The information is made available on the understanding that it does not constitute professional or expert advice.

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.
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.
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.
Patient A: Outcome

- Major improvement over six months following diagnosis.
- In management phase as of May 2015.
- Occasional relapses during particularly busy periods.
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
Causes of OOS: a vicious cycle

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

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

Initial Results
9. Slouching posture
10. Muscle tension

Ultimate Results
17. Pain
18. Numbness
19. Anxiety or depression
Root Causes
1. Working in one position for years
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7. Personality

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

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

Ultimate Results
17. Pain
18. Numbness
19. Anxiety or depression

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.

http://ergonomics.ucla.edu/component/content/article/83-injuries-and-prevention/111-repetitive-strain-injury-rsi
Posture & workstation setup
Common problems

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

WORKSTATION ERGONOMICS –
THE IDEAL SET-UP

- Top of monitor at eye level or just below
- Monitor roughly arms length away
- Minimal bend at wrists
- 90°–120° elbows close to body
- 90°–120° back straight
- Backrest supporting lower back
- Adjustable swivel chair
- Front of seat not pressing on back of knees
- Feet flat on ground or resting on footrest

flickr/sportEX journals
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.

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.

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.

SHOULDER ROLLS
In neutral sitting, roll your shoulders in a circle forwards and then backwards. Perform 6-8 rotations slowly in each direction.
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 forward. 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 6-8 times performing each motion slowly and with control.

**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.

**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.

**Seated Hamstring Stretch**
Maintain 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.

**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.
Standing workstation

- Monitor should be 20-30” away from face
- Tilt monitor at a slight angle
- Monitor should be higher than keyboard so that the neck isn’t strained
- Keyboard platform should be slightly below elbow level

Ideal Ergonomics for your standing desk
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 TypeIt4Me (Mac), Texter (PC).
Exercise for OOS prevention and management
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

- 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
Incidental exercise

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

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’

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

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:

<table>
<thead>
<tr>
<th>Hygiene</th>
<th>General and personal</th>
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<tbody>
<tr>
<td>Nutrition</td>
<td>Type and quality of food eaten</td>
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<tr>
<td>Lifestyle</td>
<td>Sporting activities, leisure, etc.</td>
</tr>
<tr>
<td>Environmental factors</td>
<td>Living conditions, social habits, etc.</td>
</tr>
<tr>
<td>Socioeconomic factors</td>
<td>Income level, cultural beliefs, etc.</td>
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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


Suggested reading


The shorter version:
http://s91524683.onlinehome.us/rsi/articles/Our_Theory_in_a_Nutshell.htm
Select bibliography


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  - Refer to medical professionals for further investigation.
- Set out:
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Thanks for coming!

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