# **COMCARE WEBINAR**

Body stressing, musculoskeletal disorder and good work design

26 October 2023

## national safe work month

# For everyone's safety, **Work Safely**





# **Acknowledgement of Country**

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Acknowledgement of artist Healing Hands - Cover artwork by Dion Devow of Darkies Designs





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# QUESTION Where are you joining from?





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# Housekeeping



#### The session is being recorded

Camera off

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- Teams Chat Turn off notifications:
  - Click 'more'
  - Then 'settings'
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- Use the banner on the top of your screen to access 'Polls'



Having difficulties? Reply in the chat



### Survey

- QR Code
- Link
- Email





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# **National Safe Work Month**

### An annual initiative held every October

- Aims to raise awareness and enable discussion about safety at work
- Driven by Safe Work Australia
- Comcare Safe Work Month events

10 Oct 2023 Psychosocial Health and Safety Forum Visit our website to access

For everyone's safety, work safely

17 Oct 2023 Transport Network Forum Visit our website to access

26 Oct 2023 Body stressing, musculoskeletal disorders and good work design On now





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## **DIY Event Guide**



Safe Work Month | Do it your

- Do-It-Yourself guide for anyone can use this guide
- 5 key steps and considerations to help you plan and deliver a National Safe Work Month activity in your workplace
- Access it on our website: <u>National Safe Work Month 2023</u>
   <u>Comcare</u>





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## POLL QUESTION What are the greatest hazards/risk related to musculoskeletal disorders in your organisation?





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## **Panel Members & Agenda**

#### What does the research tell us?

Injury management data and practical data prevention

Good work design and body stressing

Panel discussion



Jodi Oakman Professor and Head of the Centre of Ergonomics and Human Factors, La Trobe University



Melanie lanssen Head of Rehabilitation, Australia Post



Lynn Gunning Director of Strategic Programs, Comcare





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# **POLL QUESTION**

# What risk assessment management tool is your organisation using to address body stressing risks?





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## Jodi Oakman

## Professor and Head of Ergonomics and Human Factors - La Trobe University





## What does the research tell us about MSDs and WHS prevention requirements?

Professor Jodi Oakman October 2023



#### ACKNOWLEDGEMENT OF COUNTRY

LA TROBE UNIVERSITY ACKNOWLEDGES THAT THIS EVENT AND OUR PARTICIPANTS ARE LOCATED ON THE LANDS OF MANY TRADITIONAL CUSTODIANS IN AUSTRALIA.

WE RECOGNISE THEIR ONGOING CONNECTION TO THE LAND AND VALUE THEIR UNIQUE CONTRIBUTION TO THE UNIVERSITY AND WIDER AUSTRALIAN SOCIETY.

WE PAY OUR RESPECTS TO INDIGENOUS ELDERS, PAST, PRESENT AND EMERGING AND EXTEND THIS RESPECT TO ANY INDIGENOUS PARTICIPANTS JOINING US TODAY.





- The Australian workforce landscape and implications for WHS practice
- How big is the MSD problem?
- Why does the MSD problem persist?
- Current tools for MSD prevention
- APHRIM toolkit
- Require actions

# **EXTENT OF THE PROBLEM**

- 27 percent of the population have chronic MSDs, with higher percentages among older people and women<sup>1</sup>
- Workplace hazard exposures are a major cause of this problem, estimated as accounting for 17 to 37 percent of all low back pain
- Back pain third leading cause of total burden of disease, next to coronary heart disease and dementia
- Resulting in early exit from work, low productivity, societal burden

# **RELEVANT TO WHS**

- AGEING WORKFORCE
- CHANGE IN DISTRIBUTION OF JOBS
- MODES OF EMPLOYMENT : GIG ECONOMY
- TECHNOLOGY: e.g. A.I, ROBOTICS
- AUTOMATION

#### **Working Future**

The Australian Government's White Paper on Jobs and Opportunities



nurce: Treasury analysis of ABS Labour Force, Australia, Detailed May 2023.

-Data and elaceifications from Australian and New Zealand Standard Classification of Occupations using Reserve



Chart 5.1 Projected employment growth by industry, November 2021 to November 2026

## WHERE WILL WORKERS BE WORKING

AGED CARE SECTOR WILL BE A BIG EMPLOYER

#### **NEEDS TO ADDRESS THE RETENTION PROBLEM**

#### MANY FACTORS HIGHLY RELEVANT TO WHS AROUND JOB DESIGN: SECURITY, QUALITY OF WORK, JOB DEMANDS



National Skills Commission, 2021 Employment Projections. Source:

Note Bars refer to projected change in employment (thousands). Percentages refer to the percentage growth for





- 1988 1993 1998 2003 2008 2013 2018 2023 Medical and Other Health Care Services Aged Care Other Care (Including Disability)
- Source: Treasury: ABS Labour Force, Detailed, Australia. May 2023.
- Note: Employment groupings based on the ANZSIC subdivisions for the Health Care and Social Assistance division. Annual moving average applied to quarterly data.





Check for

A STAMP analysis of the staff safety management system in residential Aged Care

Jodi Oakman<sup>a,\*</sup>, Natasha Kinsman<sup>a</sup>, Natassia Goode<sup>b</sup>

<sup>a</sup> Centre for Ergonomics and Human Factors, La Trobe University, Bundoora 3086, Victoria, Australia <sup>b</sup> WorkSafe Victoria, Australia

## **OVERCOMING BARRIERS TO EMPLOYMENT & BROADENING OPPORTUNITIES**

6.4.2 JOB DESIGN CAN ALLOW MORE PEOPLE TO PARTICIPATE

**6.4.3 ROLE FOR EMPLOYERS TO ADDRESS PARTICIPATION BARRIERS** 

6.6.3 HELPING MATURE AGE WORKERS REMAIN IN THE WORKPLACE LONGER

## 6.6.4 SUPPORTING PEOPLE WITH DISABILITY OR HEALTH CONDITIONS TO WORK TO THEIR CAPACITY



#### Good work design principles

## **CAUSES OF MSDS**



#### **COMMON PSYCHOSOCIAL HAZARDS**

18 WWW.WORKSAFE.VIC.GOV.AU/PSYCHOSOCIAL-HAZARDS-CONTRIBUTING-WORK-RELATED-STRESS



**Common psychosocial hazards** 

www.worksafe.vic.gov.au/psychosocial-hazards-contributing-work-related-stress

# **SYSTEMS THINKING AND SWHS**

- A system is a set of interacting pieces that combine for a common purpose. A system is not only the sum of its parts but the product of their interaction.
- Systems thinking poses two fundamental questions about each interacting part of a complex problem: what does it influence, what influences it?
- Systems thinking seeks multiple perspectives of the same thing, to help identify processes, procedures, perceptions, practices, policies and incentives that cause increases or decreases in the drivers or reinforcers of change.





# COMPLEXITY VS COMPLEX



## **EVIDENCE TO SUPPORT IMPORTANT ROLE OF PSYCHOSOCIAL HAZARDS**

Study	Outcomes
Bernal, 2015 Work-related psychosocial risk factors and musculoskeletal disorders in hospital nurses and nursing aides: A systematic review & meta-analysis (24 articles)	Effort-reward imbalance was associated with prevalent MSD at any anatomical site (OR 6.13; 95% CI 5.32–7.07) and low social support with incident back pain (OR 1.82; 95% CI 1.43–2.32)
Bugaska et al, 2013 Psychological factors at work and musculoskeletal disorders: A one-year prospective study	Psychological job demands significantly predict pain in the shoulders; decision latitude predicts pain in the upper back; job insecurity significantly predicts pain in the knees; and social support predicts pain in the neck and ankles/feet
Long et al, 2012 Work-related upper quadrant musculoskeletal disorders in midwives, nurses and physicians: A systematic review of risk factors and functional consequences (18 articles)	Job demands, demanding work schedules and physical exposures are associated with work-related upper quadrant musculoskeletal disorders.

## EFFECTS OF PSYCHOSOCIAL AND PHYSICAL HAZARDS



Number of measures analysed per hazard cat	tegory*		
HAZARD CATEGORY	NUMBER OF MEASURES		
Biomechanical			
Physical Task Demands – Whole Body	43		
Physical Task Demands – Hands/Fingers	9		
Physical Task Demands – Mixed	3		
Vibration <sup>1</sup>	3		
Total measures of biomechanical hazards	58		
Psychosocial			
Quality of Supervision & Leadership	5		
Job Development Opportunities	22		
Workload Quantity & Pace			
Role Conflicts & Emotional Demands			
Meaningful & Clearly Specified Work			
Physical Environment			
Support from Supervisors & Co-workers			
Psychosocial hazards – Mixed	8		
Job insecurity <sup>1</sup>	3		
Total measures of psychosocial hazards			
*Hazard categories previously derived by factor analysis of a large dataset of APHIRM survey responses (see Oakman et al. 2023) ^Vibration and Job insecurity are reported separately as they were not included in the APHIRM survey data set that generated the factors used to categories data			

Relative effects of work-related psychosocial versus biomechanical hazards on risk of musculoskeletal disorders: a

systematic review and meta-analysis: Oakman et al, in preparation

# **EFFECTS OF PSYCHOSOCIAL AND PHYSICAL HAZARDS**

- Both biomechanical and psychosocial hazards are associated with increased lower back, neck/shoulder, and general musculoskeletal symptoms
- Biomechanical hazards are more strongly associated with lower back and general symptoms
- Psychosocial and biomechanical hazards are equally associated with neck/shoulder symptoms

Summary of meta-analytic review					
		Pain symptoms			
	No. studies	k OR 95% CI			
Lower back symptoms					
Biomechanical	12	30	1.51**	1.14-1.99	
Psychosocial	12	27	1.15*	1.01-1.32	
Neck/Shoulder symptoms					
Biomechanical	14	44	1.19** *	1.10-1.28	
Psychosocial	14	48	1.19**	1.05-1.35	
Upper limb symptoms					
Biomechanical	7	28	1.22	0.99-1.51	
Psychosocial	7	26	1.03	0.94-1.13	
General symptoms					
Biomechanical	7	10	1.58*	1.14-2.18	
Psychosocial 7 32 1.19* 1.06-1.					
k = number of effect sizes; OR = pooled odds ratio;					

Note. \*p < .05, \*\*p < .01 \*\*\*p < .001

Relative effects of work-related psychosocial versus biomechanical hazards on risk of musculoskeletal disorders: a systematic review and meta-analysis: Oakman et al, in preparation

## **MEASUREMENT IN WORKPLACES**

- 2,329 Australian workers from 33 workplaces in industry sectors with high MSD risk analysed
- Most variability in hazard levels was in the psychosocial hazards
- Likely to achieve greatest benefit in MSD prevention from addressing psychosocial hazards compared to the physical hazards





Psychosocial hazards play a key role in differentiating MSD risk levels of workers in high-risk occupations

Jodi Oakman<sup>\*</sup>, Wendy A. Macdonald, Kate McCredie Gente for Breasonics and Human Factors. School of Psychology and Public Health. In Trabe University, Bundoorn. 3006 Australia



The link between workplace stressors and physical injury: A systematic review and qualitative study







# **USAGE OF**

#### 29 WHS MANAGERS/PROFESSIONALS



TOOLS

Negative tool aspects	Positive tool aspects
Complexity	Clear & measurable outcomes
Practical limitations	Evidence base & scientific look
No perceived gain	Simple, easy to use format
Excessive cost	Targeted nature
	Participative

## **FINAL MATRIX**

Tool	Brief description tool	Method	Target body area/work area	Workplace hazards assessed	Focus of assessment (organisation, job, task, individual level
Physical hazard assessment tools:	Whole body				
Borg RPE (Rated Perceived Exertion Scale)	Assesses exertion used in manual handling and physically active work.	Survey	Whole body	Effort	Task
DMQ (Dutch Musculoskeletal Questionnaire)	For the analysis of musculoskeletal workload, associated hazardous working conditions and symptom	Survey	Whole body	Force, Repetition, Environmental Factor	Task
KIM (Key Indicator Methods) Assess risks involved in manual handling of loads		Observational	Whole body	Force, Posture, Duration, Working Conditions	Task
MAC tool (Manual handling assessment charts)	Assessment tool for lifting and lowering, carrying and team handling	Observational	Whole body	Posture, Repetition, Speed, Vibration, Environmental Factor	Task
MAnTRA (Manual Tasks Risk Assessment Tool)	Assesses exposure to musculoskeletal risk factors associated with manual tasks in the workplace	Observational/ Participative	Whole body	Posture, Force, Repetition, Speed, Duration, Vibration	Task
NIOSH LE (National Institute of Occupational Safety & Health Lifting Equation)	Assesses manual handling risks associated with lifting and lowering	Observational	Whole body	Posture, Duration, Repetition, Force, Vibration	Task
<u>OWAS</u> (Ovako Working Posture Analysing System)	Evaluation of postural load during work	Observational	Whole body	Posture, Duration, Repetition	Task
DEDCORM (Participative	Cimplified manual tack risk management program	Obconstional/	M/bolo body	Bosturo Force	Tack

#### 27 tools

- 20 Physical tools
- 4 Psychosocial tools
- 3 Comprehensive tools

		1		Change consultation	
Physical and Psychosocial (compreh	ensive) hazard assessment tools				
APHIRM A Participative Hazard Identification Risk Management Toolkit	A comprehensive tool which assesses physical and psychosocial hazards at work	Survey Participative	Workplace environment and whole body	Physical Demands Psychosocial Demands (drawn from COPSOQ and WOAQ	Organisational Job
NASA TLX (NASA Task Load Index)	Workload assessment tool across a number of domains	Survey	Workplace environment	Mental Demands Physical Demands Effort Temporal demands Performance Frustration	Job
<u>QEC</u> (Quick Exposure Checklist)	Assesses a range of workplace physical and psychosocial hazards	Observational Participative	Whole body	Force, Duration, Posture, Repetition, Vibration, Work Pace, Speed	Job

## **CHANGE OUR THINKING!**









# Evidence to practice gaps – why do we need the APHIRM Toolkit?





Current risk management strategies do not typically reflect research evidence on the complexity of MSD aetiology



Barriers to more effective MSD risk management:

- Insufficient focus on psychosocial hazards
- Insufficient levels of worker participation in risk management
- Focus of attention on a single event or object as the problem, rather than several interacting agents or events – resulting in a focus on administrative controls e.g., training as a solution

## WHAT IS THE APHIRM TOOLKIT?

- evidence based, developed in Australia, only one of its kind
- manages risk from physical and psychosocial workplace hazards
- participative approach involves workers and other key stakeholders including supervisors and key managers
- provides support through a full risk management cycle
- provides benchmark data to measure ongoing improvements





Jodi Oakman<sup>a,\*</sup>, Victoria Weale<sup>a</sup>, Natasha Kinsman<sup>a</sup>, Ha Nguyen<sup>b</sup>, Rwth Stuckey<sup>a</sup>

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https://www.aphirm.org.au/

#### www.aphirm.org.au

Home	APHIRM toolkit	Upcoming Events	Services	Resources and Publications



CENTRE FOR ERGONOMICS AND HUMAN FACTORS



#### INTRODUCING APHIRM

... A Participative Hazard Identification and Risk Management toolkit for improving the risk management of musculoskeletal disorders

The APHIRM Toolkit was developed by a team of La Trobe University researchers in the Centre for Ergonomics and Human Factors. The toolkit is a set of OHS risk management procedures that target both physical and psychosocial hazards. It is freely available for use by Work, Health and Safety Professionals. To access the toolkit, go to the APHIRM toolkit tab at the top of the page.

### **5 stages of APHIRM toolkit**



## **WORKPLACE HAZARD CATEGORIES**

## **TYPES OF WORKPLACE HAZARDS**

- a) Manual handling hazards ... task specific
- b) <u>Psychosocial hazards</u>... 2 sub-groups:
  - **Organisational** work organisation, job design
  - **Social context** support, communications, relationships with managers
- c) <u>Bullying/Harassment and Occupational Violence</u>

# OUTCOME

# MEASURES

- 12 ITEM STRESS SCALE (ADAPTED FROM COPSOQ)
- MUSCULOSKELETAL DISCOMFORT PAIN MEASURED ACROSS 5 BODY AREAS (SEVERITY AND FREQUENCY)





## **REGISTRATION & IMPLEMENTATION**



# Number of organisations with assessments by sector



\* Excludes organisations that were just testing the software.

## **COST BENEFIT**

Country of study location	
United States	9
Canada	8
Netherlands	6
Australia	3
United Kingdom	3
Portugal	2
Brazil	1
Central America and the Dominican Republic	1
Denmark	1
International	1
Malaysia	1
Turkey	1
Grand total	37



## **COST BENEFIT: CASE STUDY**

**Study aim:** To assess the costs and consequences of a participatory ergonomics process at a Canadian car parts manufacturer from the perspective of the firm.

Study population and setting: Employees of car parts manufacturing business

Morerequired

**Type and purpose of economic evaluation:** Cost – Benefit Analysis via Multivariate Regression study; To assess the impact of the process on several health measures.

**Outcomes of economic evaluation:** Intervention associated with significant reduction in end weekly indemnity claims, number of all denied WCCs and denied WCCs for MSK injuries. No statistically significant associations with all and MSK WCCs, all and MSK first aid claims and modified duties episodes. No association with number of days of casual absenteeism or weekly indemnity claims. The benefit to cost ratio is 10.6

ROI demonstrated: yes

Tompa et al., 2009 Canada

# WHAT IS NEXT?

#### **WHS PROFESSIONALS**

- WHAT IS YOUR ORGANIZATION DOING TO ADDRESS PSYCHOSOCIAL HAZARDS AND MSDS?
- DO YOU AND THE TEAMS YOU WORK IN HAVE KNOWLEDGE AND SKILLS IN HOW TO EFFECTIVELY MANAGE MSDS?
- WHAT CHANGES DO YOU NEED TO MAKE TO IMPROVE MSD PREVENTION IN YOUR ORGANIZATIONS?

**RESEARCH LANDSCAPE** 

- EVALUATION OF INTERVENTIONS TARGETED AT REDUCING MSDS, WITH STRONG LONGITUDINAL DESIGNS
- MORE CASE STUDIES INCLUDING COST BENEFITS IN AUSTRALIAN ORGANISATIONS

## **INTERESTED IN LEARNING MORE?**



### **REGISTER YOUR INTEREST ON THE FOLLOWING WEBSITE**

### WWW.APHIRM.ORG.AU



# **THANK YOU**

latrobe.edu.au

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## **Melanie lanssen**

## Head of Rehabilitation -Australia Post



# Safety & Injury Management Transport Project



Australia Pos

Utilising injury management data to identify key hazards contributing to injuries in transport and proposed strategies to prevent and manage injuries for the life cycle of employment.

#### Reduce hazards associated with common injury types. **Purpose** Conduct an end-to-end analysis of 'risks' in transport. Promote the health benefits of work. Reduction in injury rates. Management of workers compensation costs. Explore new injury management strategies for the management of short- and long-term restrictions. Working together across all support functions Pre-Key employment Challenges Predictability Recruitment and ongoing challenges in an and medical consistency of injuries ageing workforce assessments

Lack of

suitable

duties

Mental health

Higher claim

costs

# **Key Focus Areas**

Recruitment & Induction of suitable, low risk workers. Medical: Pre-employment screening, health & fitness, periodic assessment, mental health. Plant & Equipment: Conduct a cost/benefit analysis of upgrades or improvements relating to curtains & entering/exiting cabs. Injury Management & pathways for recovery.

# **Key Insights**

Transport continues to be a high priority operational area for Wellbeing, Safety and Injury Management interventions to mitigate the increase in new claims and average cost per claim.

#### **Recommended focus areas:**



- Recruiting the right people for the right role
- Offering wellbeing programs as part of induction; and ongoing to promote optimal fitness for work

- Pre employment and Fitness for Duty Screening
- Maximise safety equipment to reduce risk of injury (e.g., strong arm strap)

 Fostering local partnerships across the network to ensure suitable duties are accessible to help reduce time off work, and promote work conditioning to achieve pre-injury driving duties



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## Lynn Gunning

## Director Strategic Programs -Comcare



## **Comcare's Prevention Strategy 2022-25**

Comcare's first Prevention Strategy to prevent workplace harm adopts elements of the Total Worker Health® approach and its goal to improve the design of work, management practices, and the physical and psychosocial work environment.

# A framework for action

#### Aim

To provide a coordinated pathway to support workplaces to prevent harm and enable a culture of health and safety, compliance and reporting.

#### **Top priorities**

- Bullying and harassment including workplace sexual harassment
- Work demands
- Body stressing

#### Actions

- Increasing awareness and providing information
- Improving systems

Building skills and capability

#### **Evaluating progress**

- Monitor data and trends for:
  - > Lead indicators > Lag indicators
- Track activity measures



**QR CODE** 





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# WHY GOOD WORK DESIGN?



- Work design is holistic
- Increased expectation that psychosocial risks will be managed effectively
- Need to enhance manager capability





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## What is Good Work Design?

• The 'content and organisation of one's tasks, activities, relationships and responsibilities.' (Professor Sharon K Parker, 2014)

## How does it impact MSDs?

- Improved job satisfaction can reduce 17- 69% of work-related back disorders
- Improving a worker's control of their work can reduce 37-84% of work-related wrist disorders





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## POLL QUESTION What do you think are the main causes of body stressing in your workplace?



## **Comcare's Good Work Design resources**

## Good Work Design: Resources for managers



Australian Government

GOOD WORK DESIGN





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## **The Good Work Design resource topics**

Knowing your team 6. Addressing work demands

- 2.
  - Providing flexible work **7**. Managing change at work
- 8. Building trust in your team Effective communication 3.
- Supporting Return to Work 9. Enhancing performance 4.
- Supporting your team 5.

**10. Managing absence** 

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# Applying good work design

Knowing your toam	•	You know Rob has chronic osteoarthritis.
and		Manufus discussed to bing a souley bus size and produing source bus size are to been unberging and a
Supporting return to work	•	You ve discussed taking regular breaks and making sure breaks are taken when heeded.
_	•	He can get anxious and miss details when deadlines are tight.
Addressing work demands	•	Providing a clear, written work plan and role clarity supports Rob to manage his time.
	•	In peak periods, Rob can prioritise key work and share excess tasks across team.
	•	Rob prefers to start work early in the day and do more complex tasks then.
Providing flexible work	•	He works from home two days per week to manage school drop off.
	•	He takes a longer lunch break three days a week to exercise.
Effective communication	•	Regular and clear communication is important for Rob.
	•	He goes quiet and withdraws when he gets overwhelmed by work





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# Integrate within systems, culture and management practice



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## **Good Work Design Information**



Visit comcare.gov.au for more



- 1. Address the psychosocial factors that are contributing to body stressing injuries.
- 2. Use good work design to address physical and psychosocial risks.
- **3.** Focus on frontline manager/supervisor capability.





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## **Panel discussion**

# Addressing your questions with a focus on 'practice into action'





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# **POLL QUESTION**

# What resources, guidance or supports would help you to prevent and manage body stressing in your workplace?





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# Thank you for attending







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