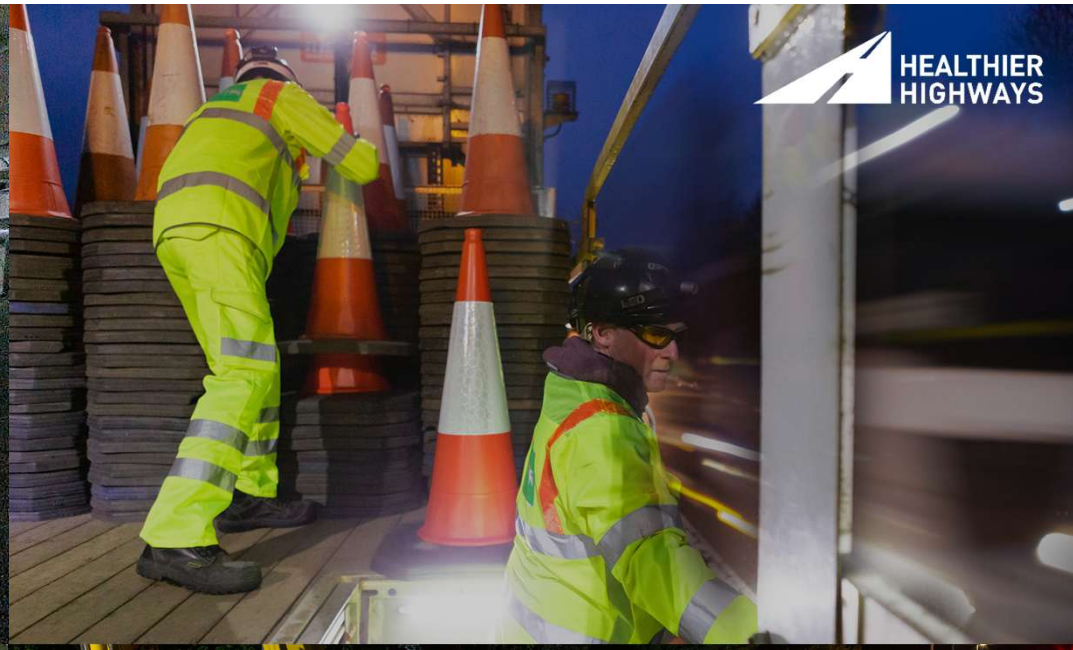

Musculoskeletal Risk Profiling (MRPro) highways research

Highways Safety Hub

1 May 2025

Steve Perkins
Managing Director,
Steve Perkins Associates

MRPro

Musculoskeletal **R**isk **Pro**filing highways research

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MRPro funders

HEALTHIER HIGHWAYS

national highways working in partnership with

Balfour Beatty · BREEDON · COSTAIN · Connect Plus · telent · core highways

Steve Perkins Associates · Carnell · TMCA · HC HIGHWAY CARE · Premier TRAFFIC MANAGEMENT LTD · ARCADIS

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Healthier Highways

The Five Lanes of HEALTHIER HIGHWAYS

ENGAGE
organisations

to raise **awareness** of health hazards

EDUCATE
our people

to improve health protection **competence**

PREVENT
ill-health

to **protect** our people and our business

MANAGE
health protection

to enable a **sustainable** workforce

LEAD
our industry

to **improve** worker health protection in highways

National Highways Industry Awards
2021 WINNER Safety - Outstanding contribution to health, safety and wellbeing

Highways AWARDS
Site Safety Initiative 2021 WINNER

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Workplace health

HEALTHIER HIGHWAYS

MRPro **M**usculoskeletal **R**isk **Pro**filing highways research

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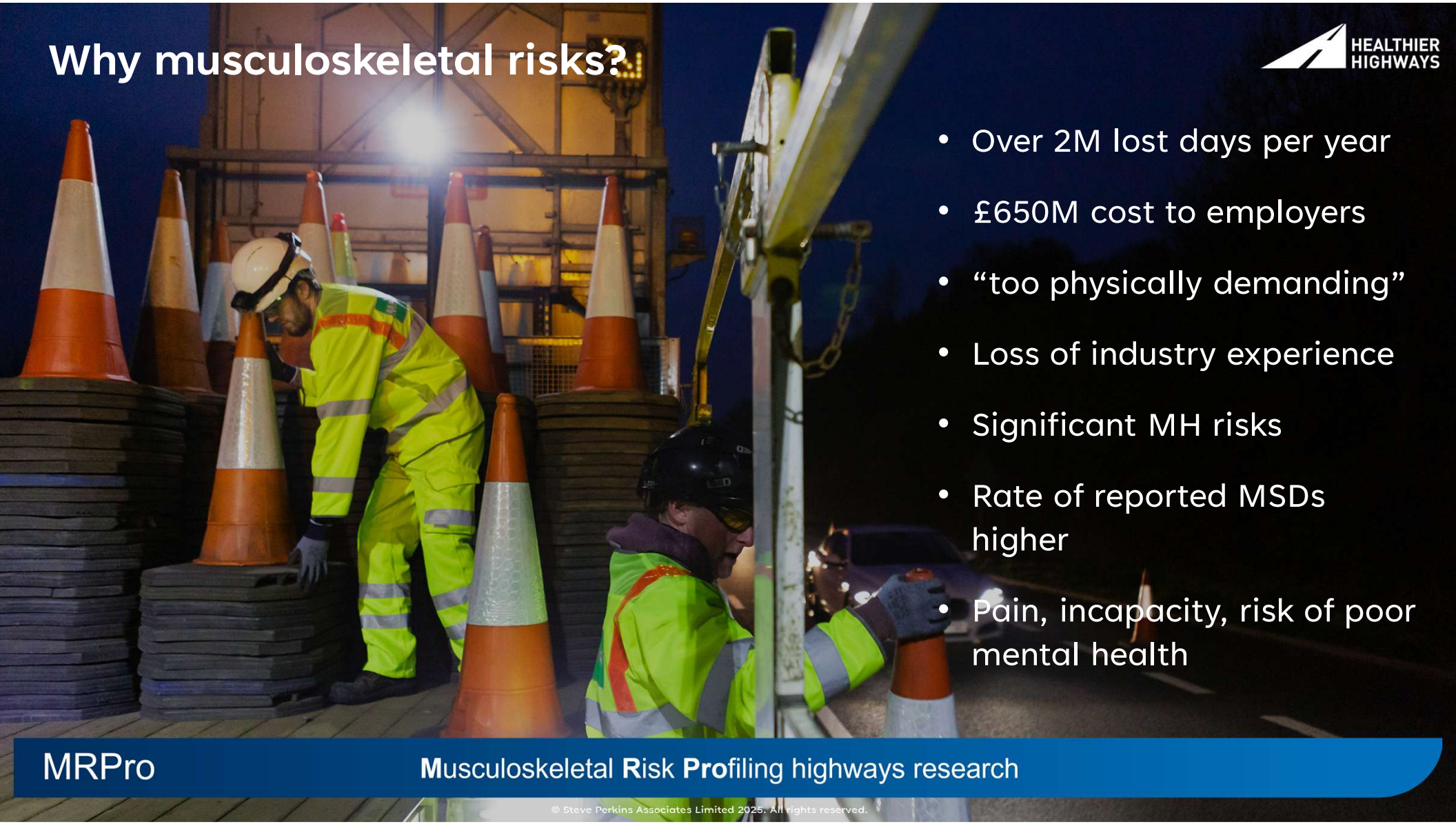
Why musculoskeletal risks?



- Over 2M lost days per year
- £650M cost to employers
- “too physically demanding”
- Loss of industry experience
- Significant MH risks
- Rate of reported MSDs higher
- Pain, incapacity, risk of poor mental health

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Why now?

- RIS3 - make most of existing infrastructure
- Not designed with maintenance in mind
- Increased manual handling activity
- More musculoskeletal innovation/intervention
- No sector risk profiling - no way to prioritise

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The MRPro project

- ✓ Deliver a national musculoskeletal risk profile.
- ✓ Covers whole supply chain & biggest MSK risks.
- ✓ Highlight and share good control practice.
- ✓ Insights into barriers to sharing solutions.
- ✓ 12-month programme in FY2025-26.
- ✓ Conducted by occupational hygiene and ergonomic specialists in highways.
- ✓ Supplier engagement to highlight MSk problems and recruit participants.

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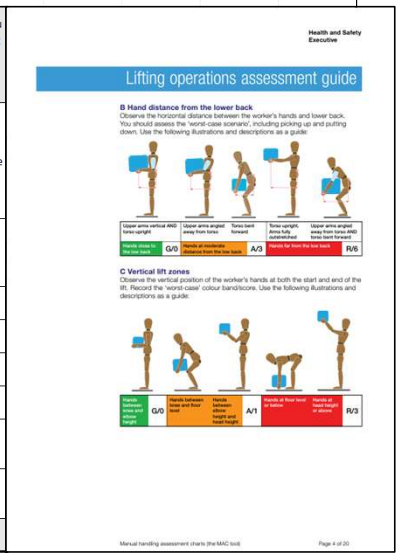
How will it work?

1. Communication and engagement
2. Stakeholder analysis and scope
3. Literature review
4. Focus groups for long list of tasks
5. Surveys to rationalise long list
6. Task risk scoring
7. Analysis and reporting
8. Results communication

Work Task	Task Description	2025 APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	2026 JAN	FEB	MAR	APR
1	Communication and engagement	Project Approval												
2	Stakeholder analysis and scope													
3	Literature review													
4	Long list of musculoskeletal tasks													
5	Survey to revise of tasks													
6	Task and hazard characterisation													
7	Analysis and rep													
8	Results commun													
9	Project manager													

Risk factors	Score	How might you reduce the risk of Red/Amber factors? Write down everything you can think of, including things which seem unrealistic, too expensive or don't exist at the moment. See http://www.hse.gov.uk/msd/mac/control-measures-scoresheet.htm for some ideas
Load weight/frequency	8	The weight of the lids ar 65kg. Because the the lids are hinged and on a pivot this reduces the weight. We are currently looking at ways to measure the reduced weight for an exact figure. This isnt a straight lift and more of a pull. This will be done under normal conditions once a day. There will be occasions where multiple daily lifts will be used. This will be done with two persons to reduce the risk and take in turns to lift. We havent had any RIDDOR or LTI. We have had a report of complainig of pain in the shoulder.
Hand distance from the lower back	4	The hand will be at 45degrees to the lower back, while remaining on the same level To lift, you lean back with legs straight, using body weight to raise the lids into a secure position.
Vertical lift zones	1	Workers only slightly bend bend when lifting as an extended key is inserted into the lid. And will never have to reach above the shouulders
Torso twisting and sideways bending OR Asymmetrical torso or load (carrying)	1	There will be no twisting or movement of the Torso. The lids are pulled with the legs slightly ajar with with the lid pulled straight back
Postural constraints	2	DRA's are carried out. If there is anything obstucting the lift, Works are to cease immeadiatley to assess.
Grip on the load	4	The load is lifted with a Key/lifting bar. Heavy duty gloves are required and the key is designed to enable a good grip/hand hold. The lids are solid, don't move
Floor surface	3	Again DRA's are carried out. The floor surface is generally flat concrete or grass and a good grip with safety boots can be maintend. If the DRA shows otherwise works will cease.
Environmental factors	3	Enviromental factors will play a big part, as the activity is outdoors. Rain, wind, snow, ice time of day or night are all to be considered. Through a DRA, if the conditions are slippery or unsafe, the activity will cease
Total score	26	



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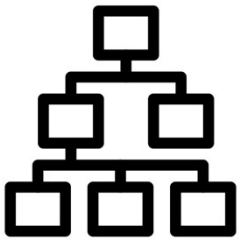
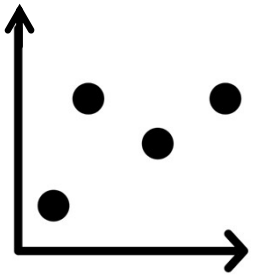
Data gathering



Work Breakdown Structure



Stakeholder Analysis

Focus Groups

Surveys

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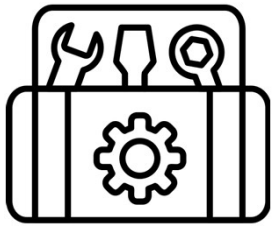
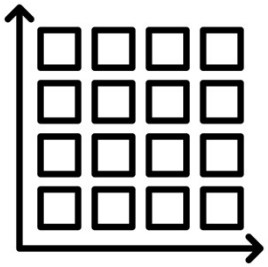
Task risk ranking



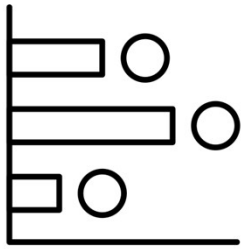
MAC, ART, RAPP tools

HSE Inspectors comparison method



Weighting for frequency and population

Spend profile



Final risk profile ranking

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What are the benefits?

- Understand the prevalence, scope and nature of MSk risks
- Evidence-based decisions on future innovation/intervention
- Highlight examples of good practice for wider sharing
- Insights on barriers to sharing/ implementing good practice
- Supports:
  - NH Safety imperative
  - Home Safe and Well
  - SCSLG Significant Risk 2040 vision

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Contact us

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