AI Article Summary Prototype Tool

Prevalence of Musculoskeletal Disorders (MSDs) Among Canadian Firefighters.

We wanted to know the frequency and body area affected by muscle and bone problems in Canadian firefighters.

What is the problem?

Firefighters are at high risk of suffering from a musculoskeletal injury (muscle and bone related injuries). Musculoskeletal injuries are generally described as Musculoskeletal Disorders (MSDs). These MSDs (sprains, strains, sore joints) remain the main type of injuries sustained during training and fireground operations. The purpose of this study was to calculate an average number to describe the frequency of MSDs that men and women firefighters have reported during their firefighting careers in fire services across Canada.

How did the team study the problem?

We searched health sciences electronic databases that indexed research published from January 1998 to November 2018 to identify studies that assessed the rates of MSDs among Canadian firefighters. We found many studies that mentioned fire or firefighters but only 5 studies with Canadian firefighters included. Two researchers recorded all the key information about these studies (what were the rates of MSDs, who participated, what were the results).

What did the team find?

We found two studies that reported MSDs rates in Calgary Alberta, one in Hamilton Ontario, and two studies that reported rates of MSDs across Canada. Total number of firefighters included in these 5 studies was 4143. The total rate of neck pain was 17% (men = 18.6%; women = 23.4%). The rate of shoulder pain was 23% (men = 28.6%; women = 23.7%). The total rate of back pain was 27% (men = 31.6%; women = 42.6%). The overall rate of knee pain was 27% (men = 29%; women = 21%). Also, the rates of sprain/strain injuries were high (1 in 10 firefighters reported sprain/strain injuries).

How can this research be used?

This FIREWELL study shows high rates of MSDs among firefighters across Canada. Results from this study support the need for firefighter-specific role MSK injury prevention and access to rehab to manage injuries as a way of improving firefighter wellness throughout their career.

Cautions

Our study measured the frequency and bodily location of MSDs and not the degree to which these injuries affected firefighters. It is also possible that some firefighters might have been off duty at the time of this study and therefore, were unable to provide us their injury history.

Reference: Nazari G, MacDermid JC, Cramm H. Prevalence of musculoskeletal disorders among Canadian firefighters: A systematic review and meta-analysis Journal of Military, Veteran and Family Health 6(1) 2020 doi:10.3138/jmvfh-2019-0024

Components

- Logo
- Title
- Lay title We wanted to know:
- What is the problem?
- How did the team study the problem?
- What did the team find?
- How can this research be used?
- Cautions
- Reference
- Funder
- Link

REVIEW

Prevalence of musculoskeletal disorders among Canadian firefighters: A systematic review and meta-analysis

Goris Nazari[a], Joy MacDermid[a] and Heidi Cramm[b]

ABSTRACT

Introduction: Firefighters are set to respond to a number of dynamic demands within their roles that extend well beyond fire suppression. These tasks (i.e., heavy lifting, awkward postures) and their unpredictable nature are likely contributing factors to musculoskeletal disorders (MSDs). Several individual studies have assessed the prevalence of MSDs among Canadian firefighters. Therefore, a systematic review and meta-analysis was conducted to critically appraise the quality of the body of available literature and to provide pooled point- and period-prevalence estimates of anatomical regions of MSDs among Canadian firefighters. **Methods:** The MEDLINE, Embase, PubMed and Web of Science databases were searched from inception to November 2018. Cross-sectional cohort studies with musculoskeletal prevalence estimates (point- and period-) of career/professional firefighters in Canada were identified and critically appraised. MSDs were defined as sprains/strains, fractures/dislocations and self-reported bodily pain (chronic or acute). Period- and point-prevalence estimates were calculated, and study-specific estimates were pooled using a random-effects model. **Results:** Five eligible cohort studies (3 prospective, 2 retrospective) were included, with a total of 4,143 firefighters.

Article Summary

Upload a research article here to receive an automated plain-language summary

Hi, James. When you submit this form, the owner will see your name and email address.

* Required

1. File (Non-anonymous question) *

Upload file

File number limit: 1 Single file size limit: 100MB Allowed file types: Word, PDF

Submit

What is the problem?

This study aimed to determine how common muscle and bone injuries are among firefighters in Canada, as this information was previously unknown but is important for developing ways to prevent and treat these injuries.

How did the team study the question?

The researchers looked at many studies about firefighter injuries in Canada, combined the results, and did math to figure out how common different types of injuries are among firefighters.

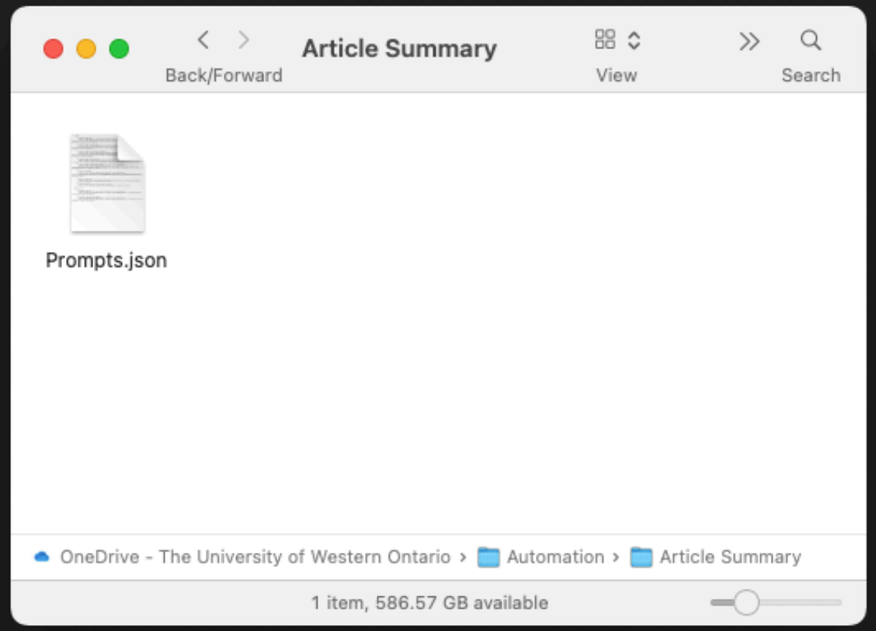
What did the team find?

The study found that muscle and bone injuries are very common among Canadian firefighters. About 1 in 4 firefighters reported having shoulder, back, or knee pain in the last few months. Sprains and strains were also common, affecting about 1 in 10 firefighters each year. These injuries were more frequent in firefighters compared to the general public. The researchers concluded that these high rates of injuries show a need for better ways to prevent and treat muscle and bone problems in firefighters.

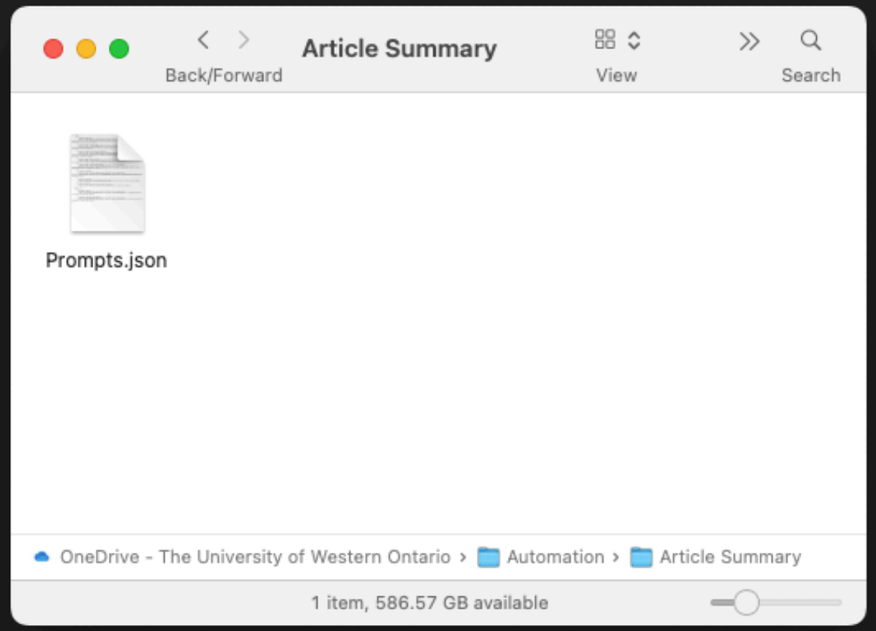
How can this research be used?

This study shows that muscle and bone injuries are very common in Canadian firefighters. This information is important for fire departments, health professionals, and safety experts. They can use it to create better training programs, protective gear, and treatment plans for firefighters. For example, they might focus on exercises to strengthen shoulders, backs, and knees, since these areas are often hurt. Or they could design new equipment to reduce strain on firefighters' bodies. By using this information to prevent injuries, fire departments can help keep firefighters healthy and ready to do their important work. This could lead to fewer sick days, lower medical costs, and safer firefighting teams overall.

Behind the scenes


Article Summary
Back/Forward
View
Search
Prompts.json
OneDrive - The University of Western Ontario › Automation › Article Summary
1 item, 586.57 GB available

```
    {
        "heading": "## What is the problem?",
        "system": "You are a creative, engaging research storyteller and science communicator",
        "prompt": "Generate a single, engaging sentence that describes the real-world problem that is
        addressed by this research. Write for a general, non-expert audience at a grade 8 reading
        level. Do not discuss findings or implications of results. Do not preface your response."
    },
    {
        "heading": "## How did the team study the question?",
        "system": "You are a creative, engaging research storyteller and science communicator",
        "prompt": "Generate a single sentence that describes the research methodology or research
        paradigm used in this study and how the team conducted this research. Write for a general,
        non-expert audience at a grade 8 reading level. Do not describe results. Do not preface your
        response."
    },
    {
        "heading": "## What did the team find?",
        "system": "You are a creative, engaging research storyteller and science communicator",
        "prompt": "Generate a single, short, plain-language paragraph that describes the findings or
        results or conclusions of the research. Write for a grade 8 reading level. Do not preface your
        response."
    },
    {
        "heading": "## How can this research be used?",
        "system": "You are a creative, engaging research storyteller and science communicator",
```


Article Summary
Back/Forward
View
Search
Prompts.json
OneDrive - The University of Western Ontario › Automation › Article Summary
1 item, 586.57 GB available

Blog post template (example)

- Findings lead-line
- Extract key quotes from article
- Explain the methodology as a narrative
- Discuss potential future research directions

Use Cases

- Scaling required
- Template-driven
- Human-in-the-loop

Open for beta testing

Article Summary

Upload a research article here to receive an automated plain-language summary

Hi, James. When you submit this form, the owner will see your name and email address.

* Required

1. File (Non-anonymous question) *

Upload file

File number limit: 1 Single file size limit: 100MB Allowed file types: Word, PDF

Submit