Evidence-Based Practice Group
Answers to Clinical Questions

Causal Association Between Firefighting and Hypersensitivity Pneumonitis

A Rapid Systematic Review

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WorkSafeBC

About this report

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About the Evidence-Based Practice Group

The Evidence-Based Practice Group was established to address the many medical and policy issues that WorkSafeBC officers deal with on a regular basis. Members apply established techniques of critical appraisal and evidence-based review of topics solicited from both WorkSafeBC staff and other interested parties such as surgeons, medical specialists, and rehabilitation providers.

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Objectives

- To determine if there is any evidence for the potential (causal) association of being a firefighter and developing (chronic) hypersensitivity pneumonitis.

Methods

- A comprehensive and systematic literature search was conducted on September 28, 2023.
- The search was done on commercial databases, including BIOSIS Previews (1969 to 2008), Embase (1974 to 2023 September 27), Medline Epub Ahead of Print, Medline In-Process, In-Data-Review & Other Non-Indexed Citations, Medline Daily and Medline (1946 to September 27, 2023), Joanna Briggs Institute Evidence-Based Practice Database (Current to September 20, 2023), Cochrane Clinical Answers (September 2023), that are available through Ovid search platform.
- The search was also done on NIOSHTIC-2 (https://www2a.cdc.gov/nioshtic-2/AdvSearch2.asp), a non-commercial, searchable bibliographic database of occupational safety and health publications, supported in whole or in part by the US National Institute for Occupational Safety and Health (NIOSH).
- A combination of keywords were employed in these searches. These keywords include:

    1. (firefighter **OR** (fire and rescue personnel) **OR** (fire fighters) **OR** (fire fighter) OR firefighters OR firefighting) **AND** (chronic **AND** ((hypersensitivity pneumonitis) **OR** (hypersensitivity pneumonitides) **OR** (extrinsic allergic alveolitides) **OR** (extrinsic allergic alveolitis)))
    2. (firefighter **OR** (fire and rescue personnel) **OR** (fire fighters) **OR** (fire fighter) OR firefighters OR firefighting) **AND** ((hypersensitivity pneumonitis) **OR** (hypersensitivity pneumonitides) **OR** (extrinsic allergic alveolitides) **OR** (extrinsic allergic alveolitis)))
    3. (firefighter **OR** (fire and rescue personnel) **OR** (fire fighters) **OR** (fire fighter) OR firefighters OR firefighting) **AND** (interstitial lung disease*)

- No limitation, such as on the language or date of publication, was implemented in any of the searches.
- A manual search on the references of the articles that were retrieved in full was planned.

Results

- Search results:
    - No published studies, either on the Ovid platform or NIOSHTIC-2 database, were identified through search no. 1.
    - One[1] published study was identified from search no. 2 on the Ovid platform while searching on NIOSHTIC-2 did not identify any published study.
    - Thirteen[2-14] published studies were identified from search no. 3 on the Ovid platform and again this search on NIOSHTIC-2 did not identify any published study.
    - Overall, there were fourteen[1-14] published studies identified in this systematic literature search. Upon examination of the titles and abstracts of these fourteen[1-14] studies, three[4,8,11] studies were thought to be relevant and were retrieved in full for further appraisal.

- None of the three[4,8,11] studies that were retrieved in full provided any data on the development of hypersensitivity pneumonitis among firefighters.

Summary

- At present, there is no data/published study to support the potential (causal) association between being a firefighter and developing hypersensitivity pneumonitis.

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Appendix 1

WorkSafeBC — Evidence-Based Practice Group levels of evidence (adapted from 1-6)

1	Experimental, randomized controlled trial (RCT), systematic review RTCs with or without meta-analysis.
2	Evidence from controlled trials without randomization (quasi-experimental studies) or systematic reviews of observational studies.
3	Evidence from cohort or case-control analytic studies, preferably from more than 1 centre or research group.
4	Evidence from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments.
5	Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees based on scientific evidence.

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