

CHEST experts issue advice for investigating occupational and environmental causes of chronic cough

November 3 2016

Although the understanding of cough triggered by occupational and environmental causes has improved, experts say there is still a gap between current guidelines and clinical practice. A report by the CHEST Expert Cough Panel published in the journal *CHEST* suggests an approach to investigating occupational and environmental causes when these are suspected. The report has been endorsed by professional associations in the U.S., Canada, and Asia.

Coughing is one of the most common reasons people visit a family doctor. Chronic cough can be triggered when a person is exposed to certain irritants in the air and can be of little consequence, or it can be a symptom of more significant disease.

The American College of Chest Physicians (CHEST) first published evidence-based guidelines on the diagnosis and management of cough in 1998 and updated these guidelines in 2006. Since the previous statement, there has been an increased understanding of the mechanisms of cough related to environmental triggers. There have also been several studies that have clarified laryngeal disorders leading to chronic cough and the role of occupational and environmental triggers for laryngeal causes of cough.

For the purpose of this latest report, experts reviewed occupational and environmental contributions to chronic cough with a focus on factors not

covered in the 2006 Cough Guideline. They provided suggestions for investigating and managing these factors when suspected.

"We recently identified ten general chronic cough guidelines and protocols, but only the three published since 2006 included advice on detailed occupational and environmental assessments. One additional cough statement focused entirely on occupational cough," explained lead investigator Susan M. Tarlo, MBBS, FCCP, of Toronto Western Hospital, and University of Toronto, Ontario, Canada. "However, of the 28 cohort studies of patients with chronic cough that specifically noted that they followed guidelines or protocols, none provided details regarding occupational and environmental assessments, suggesting a gap between recommended guidelines and [clinical practice](#)."

The CHEST Expert Cough Panel performed a comprehensive literature search using the MEDLINE and TOXLINE literature databases, supplemented by articles identified by the panel's occupational and environmental subgroup members, to identify occupational and environmental contributions to chronic cough. The literature review identified relevant articles regarding mechanisms, allergic environmental causes, chronic cough and the recreational and involuntary inhalation of tobacco and marijuana smoke, nonallergic environmental triggers, laryngeal syndromes and occupational diseases and exposures.

The subgroup developed guideline recommendations or suggestions, which then underwent review and voting by the full cough panel. Consensus-based statements were developed for the approach to diagnosis due to a lack of strong evidence from published literature.

The panel makes four main recommendations for examining adult patients with chronic cough:

- Occupational and environmental causes should be routinely

elicited in the history, including length, severity, and timing of the exposure in relation to the onset or worsening of the patient's cough, smoking history and atopic history, reviewing Material Safety Data Sheets and/or occupational hygiene reviews of the patient's workplace, and the time period between last exposure and medical evaluation

- Where the history suggests an occupational or environmental cause, the panel suggests lung function testing and when appropriate rhinolaryngoscopy (a method for examining the nose and throat)
- Where there is a history of occupational or environmental exposure, the panel suggests a number of objective tests such as sputum cytology, before and after exposure methacholine tests to demonstrate potential causality, immunologic tests, and tests for chronic beryllium disease
- Where there is a high suspicion that cough is due to environmental and/or occupational exposures, the panel suggests that these patients be managed according to evidence-based guidelines for these exposures and/or be referred to specialists with expertise in environmental and occupational disease

"There is a need for further documentation of occupational and environmental causes of cough and to close the gap between guidelines and clinical practice," commented Tarlo. "Identifying occupational and environmental causes of [chronic cough](#) can affect symptom management and offers opportunity for exposure control and prevention in the future."

This report has been endorsed by the American College of Allergy, Asthma, and Immunology, the American Association for Respiratory Care, the Asian Pacific Society of Respirology, the Canadian Thoracic Society, and the Occupational and Environmental Medicine Association of Canada.

More information: Susan M. Tarlo et al, Occupational and Environmental Contributions to Chronic Cough in Adults, *Chest* (2016). DOI: [10.1016/j.chest.2016.07.029](https://doi.org/10.1016/j.chest.2016.07.029)

Provided by Elsevier

Citation: CHEST experts issue advice for investigating occupational and environmental causes of chronic cough (2016, November 3) retrieved 19 November 2023 from <https://medicalxpress.com/news/2016-11-chest-experts-issue-advice-occupational.html>

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