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December 2008

Dear Health Care Provider,

This issue of the *Occupational Lung Disease Bulletin* provides a summary of the recently published consensus statement on work-related asthma (WRA) by the American College of Chest Physicians (ACCP). The statement was published as a supplement to the September 2008 issue of *CHEST*, and can be downloaded at no charge:

http://www.chestjournal.org/cgi/reprint/134/3_suppl/1S.

REMINDER: To receive your Bulletin by e-mail, please send a message to occupational.asthma@state.ma.us

Sincerely,
Elise Pechter MPH, MAT, CIH

American College of Chest Physicians Issues Consensus Statement on Diagnosing and Treating Work-Related Asthma

Adapted from: Tarlo SM, Balmes J, Balkissoon R, Beach J, Beckett W, Bernstein D, Blanc PD, Brooks SM, Cowl CT, Darowalla, Harber P, Lemiere C, Liss GM, Pacheco KA, Redlich CA, Rowe B, and Heitzer J.

Chest 2008;134:1-41 and

Project SENSOR News, Vol. 19.No4. Michigan State University

Physicians should ask *all* adults with new onset or worsening asthma about their work, according to a recent publication by the American College of Chest Physicians (ACCP). ACCP convened an expert panel, including 17 occupational medicine physicians, allergists, and pulmonologists. After a rigorous review of evidence based practice, they issued a consensus statement in September 2008, noting that up to 25% of adult asthmatic patients may have work-related asthma. It is estimated that 10-15% of new onset adult asthma is initiated by workplace exposures—and another 10% of adults with pre-existing asthma have work-aggravated asthma. They noted that adults may develop asthma from sensitizers and irritants, naming this *de novo* asthma occupational asthma (OA).

The 41 page document cites 304 references, updates previous guidance issued in 1995, covers diagnosis, management and prevention, and provide examples of industries, occupations and agents associated with OA. The consensus of the panel is summarized in 12 statements below. Statements in *italics* are by the editor of this bulletin, not the ACCP.

1. "In **all** individuals with **new-onset or worsening asthma**, take a history to screen for WRA (OA and work-exacerbated asthma (WEA)). Then confirm the diagnosis of asthma and investigate to determine whether the patient has WRA, performing these tests, whenever possible, prior to advising the patient to change jobs."
2. "In all individuals with suspected WRA, obtain a history of job duties, exposures, industry, use of protective devices/equipment, and the presence of respiratory disease in coworkers, and consult material safety data sheets (MSDSs), which list many recognized hazardous agents. Document the onset and timing of symptoms, medication use, and lung function, and their temporal relationship to periods at and away from work."
3. "In individuals who have asthma not caused by work but that subsequently worsens while working, consider the diagnosis of WEA, which is usually based on changes in symptoms, medication use, and/or lung function temporally related to work."

Key questions to ask of any patient with asthma starting or worsening during working life:

- Were there changes in work processes in the period preceding onset of symptoms?
- Was there an unusual work exposure within 24 hours before onset of initial asthma symptoms?
- Do asthma symptoms differ during times away from work such as weekends, holidays or other extended times away from work?
- Are there symptoms of allergic rhinitis and/or conjunctivitis that are worse with work?

4. "In individuals with suspected sensitizer-induced OA, in addition to carefully documenting the occupational history, perform additional objective tests when feasible (e.g., serial peak flow recordings, serial methacholine challenges, immunologic assessments, induced sputum testing, and specific inhalation challenges (SICs)) to improve the diagnostic probability."

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5. "In individuals with suspected WRA who are currently working at the job in question, record serial measurements of peak flow as part of the diagnostic evaluation and ask the patient to record these optimally a minimum of four times daily, for at least 2 weeks at work and 2 weeks off work."
6. "In individuals with suspected sensitizer induced OA, working at the job in question, perform a methacholine challenge test or obtain comparable measurements of nonspecific airway responsiveness during a working period, and repeat it during a period (optimally, at least 2 weeks) away from the work exposure to identify work-related changes."
7. "In individuals with suspected sensitizer induced OA, perform immunologic tests (skin prick testing or *in vitro* specific IgE assays) to identify sensitization to specific work allergens when these tests are technically reliable and available."
8. "In individuals with suspected sensitizer induced OA, conducting a Specific Inhalation Challenge (SIC) (where available) is suggested when the diagnosis or causative agent remains equivocal; however, this testing should only be performed in specialized facilities, with medical supervision throughout the testing."

We are unaware of the availability of a facility in Massachusetts that performs SIC as part of routine clinical care.

9. "For all individuals with WRA, attempt better control of exposures. **Remove patients with sensitizer-induced OA from further exposure to the causative agent** in addition to providing other asthma management."
The estimate of symptom recovery was 32% but ranged from 0 to 100% in different studies. Recovery was better from high molecular weight organic substances such as flour versus low molecular weight chemicals such as an isocyanate. The estimate of loss of nonspecific bronchial hypersensitivity after cessation of exposure was similar to symptom recovery at 38%.
10. "In individuals with irritant-induced asthma or WEA, the panel advises optimizing asthma treatment and reducing the exposure to relevant workplace triggers. If not successful, change to a workplace with fewer triggers is suggested in order to control asthma."
11. "For workers who are potentially exposed to sensitizers or uncontrolled levels of irritants, the panel advises primary prevention through the

control of exposures (e.g., elimination, substitution, process modification, respirator use, and engineering control)."

12. "An individual diagnosis of OA represents a potential sentinel health event:
 - Evaluate the workplace to identify and prevent other cases of OA in the same setting; and
 - For work environments with potential exposure to sensitizers, the Panel advises secondary preventive measures including medical surveillance using tools such as questionnaires, spirometry, and where available, immunologic tests."

The sentinel health event is the premise on which our surveillance program for work-related asthma is based and, as always, we are eager to receive reports of OA and WEA from health care providers so that we can characterize industries, occupations and exposures that pose risks, and initiate public health interventions where possible. Assistance with MSDS, product identification, referrals for workplace investigation and occupational medicine can be provided. Contact Elise Pechter at 617 624-5681 or Jim Laing at 617 624-5632.

Other WRA Guidance Documents:

1. Fishwick D et al. Standards of Care for Occupational Asthma. Thorax 2008; 63:240-250.
2. Mapp CE et al. State of the Art: Occupational Asthma. Am J Resp Crit Care Med 2005;172:280-305.
3. Nicholson P et al. Evidence Based Guidelines for the Prevention, Identification and Management of Occupational Asthma. Occup Environ Med 2005; 62:290-299.
4. Beach J et al. Diagnosis and Management of Work-Related Asthma. Summary, Evidence Report/Technology Assessment. Rockville, MD. Agency for Healthcare Research and Quality, Department of Health and Human Services, 2005; Pub #06-E0003-1.

Work-Related Asthma Cases Reported to Massachusetts SENSOR

July* 2008	Aug.* 2008	Sep.* 2008	Oct.* 2008
0	2	2	1

* In addition to the cases listed above, 22 possible cases were identified from hospital records and workers' compensation records reviews.

Please report work-related asthma cases to SENSOR by phone, fax, or mail!