

**Evaluating Asthma in the Workplace: Part 2 -- Investigation**

Your patient presents with symptoms of asthma that seem to be related to work. Does your patient have asthma? Is it work-exacerbated asthma (WEA) or occupational asthma (OA)?

Guidelines issued by the Canadian Thoracic Society (Tarlo, Boulet et al. 1998) and the American College of Chest Physicians (Tarlo, Balmes et al. 2008) provide guidance for evaluating and investigating asthma in the workplace.

Part 1 examined a framework for thinking about asthma in the workplace. Part 2 covers the investigation. The occupational history includes an exposure history for work, home, neighbourhood, and recreational activities. Can you make a presumptive diagnosis of asthma? A history of “better on weekends and vacations – worse on returning to work” suggests work-related asthma. The positive predictive value of clinical history is about 63% (Malo, Ghezzeo et al. 1991).

If “yes”, you order pre-shift pulmonary function tests and post-shift FEV<sub>1</sub> plus post-bronchodilator FEV<sub>1</sub>. Is there a 10+% drop in post-shift FEV<sub>1</sub> from pre-shift plus a 12+% improvement in FEV<sub>1</sub> following bronchodilator? If “yes”, your patient has work-related asthma. Your next task is to sort out whether work-related asthma is exacerbated by or caused by work: immunologic assessment if indicated, serial Pulmonary Function Tests, Methacholine Challenge Tests.

If there is not a 10+% drop in post-shift FEV<sub>1</sub> from pre-shift and/or a 12+% improvement in FEV<sub>1</sub> following bronchodilator, your patient should have a Methacholine Challenge Test within 24 hours of workplace symptoms. If this test is normal, then your patient does not have occupational asthma. If this test is abnormal, then your patient has asthma. Your next task is to sort out whether work-related asthma is exacerbated by or caused by work.

Early referral to a specialist in occupational asthma is recommended by the guidelines. A useful resource is the Center for Asthma in the Workplace (Dr. Jean-Luc Malo; Dr. Manon Labrecque), Hôpital du Sacré-Coeur, Université de Montréal. Payment of referral to or consultation with the Center requires prior authorization. Please contact WorkSafeNB if you need assistance to sort out asthma in the workplace.

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References:

Malo, J. L., H. Ghezzi, et al. (1991). "Is the clinical history a satisfactory means of diagnosing occupational asthma?" Am Rev Respir Dis **143**(3): 528-32.

Tarlo, S. M., J. Balmes, et al. (2008). "Diagnosis and management of work-related asthma: American College Of Chest Physicians Consensus Statement." Chest **134**(3 Suppl): 1S-41S.

Tarlo, S. M., L. P. Boulet, et al. (1998). "Canadian Thoracic Society guidelines for occupational asthma." Can Respir J.