

Safety and Health Assessment and Research for Prevention Program

Promoting Safer, Healthier, Workplaces
PO Box 44330, Olympia, WA 98504-4330

Dear Physician,

The Safety and Health Assessment and Research for Prevention (SHARP) Program at the Washington State Department of Labor and Industries, is alerting you to the disease bronchiolitis obliterans, an uncommon occupational disease that can be easily misdiagnosed. The disease is serious, disabling and sometimes fatal. In California, two cases of the disease were recently linked to exposure to diacetyl, a butter flavoring ingredient. Summaries of these cases, reference sources, and copies of an alert sent to Washington food and flavorings manufacturers are enclosed. Consider the following information to help you recognize and diagnose work-related bronchiolitis obliterans:

Occupational History: While diacetyl is one of the chemicals that cause “microwave popcorn lung disease,” it is found in much more than packaged, un-popped popcorn. Diacetyl may be used by any company engaged in manufacturing the following types of food: butter, cheese, milk, flour mixes, cookies, crackers, candy and confectionery products, chocolate and cocoa products, shortening, food oils, margarines, flavored syrups, potato chips, corn chips, ready-to-mix desserts, prepared frosting, and gelatin desert preparations. Workers are exposed in the form of vapors, dusts or sprays. When assessing a patient’s occupational history, obtain a description of all jobs held and specific chemical exposures. Review the Material Safety Data Sheets (MSDS) to the chemicals they are exposed to. Diacetyl may be listed by name or by the Chemical Abstract Service (CAS) number 431-03-8 on the MSDS.

Symptoms: The respiratory symptoms to look for include cough (usually without phlegm) and shortness of breath on exertion. Symptoms do not improve at home, on weekends, or on vacations. Symptoms are typically gradual in onset and progressive, but acute severe symptoms can occur. Some workers experience fever, night sweats, and weight loss. Symptoms have been incorrectly attributed to asthma, chronic bronchitis, emphysema, pneumonia, and smoking.

Medical Evaluation: Spirometry most often shows fixed airways obstruction and sometimes shows restriction. Lung volumes may show hyperinflation. Diffusing capacity of the lung is generally normal, especially in early disease. Chest X-rays are usually normal. High resolution chest computerized tomography (CT) scans at full inspiration and expiration may show findings consistent with bronchiolitis obliterans. A lung biopsy may be necessary.

Please contact SHARP if you would like more information or if you suspect a case (1-888-667-4277).

Sincerely,



David Bonauto, MD, MPH, Associate Medical Director, Labor & Industries, SHARP Program