

Emerging opportunities to prevent occupational lung disease

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KEY WORDS

Occupational lung disease; prevention

SUMMARY

In the last decade, newly recognized causes of occupational lung disease include food flavorings, synthetic flock, bio-contaminants in metalworking fluid, a chemical in pesticide manufacture, severe acute respiratory syndrome, and avian influenza. In addition, previously recognized associations of lung disease with damp residential environments are now being extended to nonindustrial occupational settings, such as offices and schools. On the horizon are efforts to understand the occupational determinants of chronic obstructive lung disease, only 80% of which is attributable to cigarette smoking. In addition, work is beginning on the substantial burden of work-exacerbated asthma in those workers whose asthma pre-dated their workplace exposures. Recognition of emerging work-related lung diseases depends on understanding that occupational exposure standards are often nonexistent, inadequate, or not enforced. Workers, astute clinicians, and public health surveillance are the reservoirs from which new questions of risk arise. The tool to describe new associations of lung disease with occupational settings is epidemiologic investigation, supplemented by toxicology and laboratory investigations of biologic plausibility, as appropriate. Thus, enhanced communication among workers, other health professionals, and agencies with epidemiologic skills, laboratory capability, and access to workplaces is critical to pursuit of novel opportunities to prevent occupational lung disease. Occupational safety and health professionals can advise risk-based management of controls and preventive measures for emerging lung diseases before compliance approaches based on exposure standards are available. Exposure standards usually require measurable etiologies and defined exposure-response relationships. Prevention of emerging occupational lung diseases is necessary and usually possible without knowing the specific etiology and corresponding safe exposure level.