In summary, methodological issues regarding the modified fast fit-testing protocol exist, and our results suggest that this modified protocol, in the "real world," may have reduced sensitivity in detecting respirator leaks compared with the standard protocol. We concur that rigorous and independent inquiry is required to ensure effective respiratory protection programs.

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Occupational Exposures in Nontuberculous Mycobacterial Pulmonary Disease

To the Editor:

We read with interest the review of the clinical epidemiology of nontuberculous mycobacterial pulmonary disease published in *CHEST* (March 2022) by Kumar and Loebinger,[1] which did give appropriate attention to general environmental sources of exposure and disease, such as water and soil. We were disappointed, however, that the important role played by occupational factors in nontuberculous mycobacterial pulmonary disease was not adequately addressed. Chief among these is silica dust exposure, which is a well-established, potent risk factor for such disease, with considerable literature from the South African gold mines.[2] Studies also suggest that exposures through other types of dusty work, including those leading to pneumoconioses other than silicosis, also are associated with an increased risk of nontuberculous mycobacterial pulmonary disease.[3] Beyond silica and other dusts, zoonotic nontuberculous mycobacterial lung infection from occupational contact also has been reported.[4] Calling attention to the work-related risk of nontuberculous mycobacterial pulmonary disease is important because, as one recent case report aptly emphasized, eliciting an occupational history is critical to appropriately identifying the cause of such disease.[5]

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Response

To the Editor:

We thank Dr Blanc and colleagues for their interest in our review on the clinical epidemiology and risk factors underlying nontuberculous mycobacterial pulmonary disease (NTM-PD).[1] We agree that it is important for occupational risk factors to be elicited in the clinical history of those with suspected NTM-PD, particularly because this may elucidate valuable information regarding the cause of the pulmonary architectural abnormalities that ultimately predispose patients to developing NTM-PD in the first place.

Occupational exposure to dusts other than silica is known to be associated with a risk of NTM-PD. In the United Kingdom, a case series reported an association between a history of coal workers' pneumoconiosis among former miners and the development of NTM-PD secondary to *Mycobacterium malmoense*.[2] In addition to dust exposure, other potential occupational risk factors should be considered. Exposure to mists of metal working fluids, which are used in various aspects of the metal industry, has been linked to hypersensitivity pneumonitis among metal workers. A study in a UK factory identified a close spatial association between an outbreak of hypersensitivity pneumonitis secondary to metal working fluids and *M avium*, suggesting a possible role for the latter in the outbreak.[3]

Occupational exposure to contaminated water also should be borne in mind. The use of pressure washers to clean hot tub facilities and their nylon filters has been linked to cases of "hot tub lung" among hotel workers, characterized by granulomatous pneumonitis and isolation of *M avium* from pulmonary samples.[4] This was likely related to water aerosolization during the filter cleaning process. Nontuberculous mycobacteria species that are traditionally thought to cause primarily extrapulmonary infections also may, on rare occasions, result in pulmonary disease. This has been highlighted in a case report of a patient who had a history of working in the deep-water fishing industry, uncontrolled diabetes mellitus, and intermittent steroid injection use for arthralgia and who developed invasive *M marinum* infection that included pulmonary involvement characterized by peribronchial nodules.[5]

A range of occupational hazards therefore should be considered in the assessment of patients with NTM-PD. Future studies should seek to determine the prevalence of these occupational risk factors among this patient cohort.

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