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Consideration of Occupational and Environmental Lung Carcinogen Exposures for Lung Cancer Screening Using Low-Dose Chest CT

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To the Editor:

We read with great interest the American College of Chest Physicians' guidelines for lung cancer screening[1] and the excellent Point and Counterpoint editorials by Drs Wood and Mazzone[2–5] in *CHEST* (June 2018) addressing the important issue of how to approach persons at high risk for lung cancer who don't meet the guidelines' core criteria for lung cancer screening. In his final rebuttal, Dr Mazzone[5] states that the guidelines "...recommend that the cohort that does not meet our core eligibility criteria, but is at elevated risk for lung cancer based on risk calculators, should not be 'routinely' screened. We remark under this recommendation that although we do not recommend 'routinely' screening this cohort, we recognize that some individuals within this high-risk cohort will be healthy enough to consider screening."

We agree that lung cancer screening should be considered for high-risk individuals, in whom the benefits of screening are likely to exceed harms, and urge practitioners to take occupational and environmental histories from their patients and consider associated exposures to carcinogens when deciding about whether to enter into shared decision-making about screening. Exposure to occupational and environmental carcinogens is a well-established lung cancer risk factor, as noted in a recent update of the National

Comprehensive Cancer Network (NCCN) guidelines, of which Drs Wood and Mazzone are both authors.[6] Consideration of exposure to occupational and environmental lung carcinogens is especially important because they can synergize with smoking history to

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increase risk in a greater-than-additive fashion.[7] Also, there is potential for benefit, as documented in a recent systematic review of lung cancer screening after asbestos exposure published in this journal.[8]

Unfortunately, exposures to most known occupational and environmental carcinogens are not considered by currently available risk calculators. In view of this, we support consideration of lung cancer screening in those who meet NCCN group 2 criteria, are aged 50 or older with a ≥20 pack-year history of smoking tobacco, and with one additional risk factor (in this case, personal history of exposure to radon or occupational carcinogens).[6] In the case of occupational carcinogens, a French workgroup has suggested 10 years of exposure as a pragmatic threshold for consideration of screening.[7] We urge that all such screening be done within the context of comprehensive screening programs and that, in the United States, data be reported to the national lung cancer screening registry operated by the American College of Radiology.

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