Failure To Prove Asbestos Exposure Produces Obstructive Lung Disease

To the Editor:

Ohar and colleagues (February 2004) analyzed the relationships among asbestos exposure, cigarette smoking, lung function, and chest radiograph abnormalities in 3,383 patients who had been referred primarily by plaintiff attorneys and trade union members. The authors confirmed, as had many others, that cigarette smoking is associated with a greater prevalence of parenchymal opacities on surveillance chest radiographs in asbestos-exposed workers. The important observation was that asbestos exposure causes clinically significant air-flow obstruction as well as restrictive changes in lung function, which were the result of a synergistic effect between cigarette smoking and asbestos exposure.

This study is important because the authors were able to obtain lung volume measurements in those patients with abnormal spirometry findings. The majority of the patients with mixed restrictive/obstructive airflow obstruction (73%) had a normal total lung capacity. Only 27% of these patients had coexistent restriction. Later on in the article, the authors stated that 83% of smokers and 71% of nonsmokers with obstruction and a reduced FVC had hyperinflation. Another contradiction later appears in Figure 2 (page 749) concerning the number of patients with obstruction but no restriction. The value n = 5,381 or 16.0% referenced in Figure 2 is incorrect (16% of 3,312 is 530, not 5,381).

The authors stated that among nonsmokers the FEV1/FVC ratio was 72.8% in those patients with a high International Labor Office (ILO) score (using the ILO scoring system for reading pneumoconiosis chest radiographs), as opposed to an FEV1/FVC ratio of 76.2% in those with low ILO scores (p = 0.025 [with Bonferroni correction]). This statistical method has been labeled as imprecise by Rothman and Greenland, and it is not clear that there truly is a statistically significant difference between populations.

Lung volume values with diffusion measurements are not presented in this group of study results, which makes this information very difficult to understand. What about the diffusing capacity of the lung for carbon monoxide? It is hard to believe that lung volumes were measured without measuring lung diffusion. Certainly, some of these patients might have emphysema that would not have been identified unless diffusion studies had been performed. No information is given about the cause of restrictive disease (ie, diffuse pleural disease vs asbestos) in this cohort. The total lung capacity should have been used for making clinical correlations instead of the FVC < 80% with an FEV1/FVC ratio of >70%.

The use of ILO scoring is fraught with error and confounding by cigarette smoking, as is pointed out by the authors. The accuracy of determining the smoking history is critical when evaluating a patient population for obstructive lung disease. Patients with higher ILO perfusion levels found on a chest radiograph are more likely to minimize or deny cigarette smoking when seeking compensation. In a population of patients that has been referred largely by plaintiff attorneys, there is a tendency to exaggerate asbestos exposure and minimize their smoking history. As well, the bibliography is selective, and the discussion fails to reference articles that are in disagreement with the authors conclusions.

I can certainly sympathize with the authors' struggles to make clinical, physiologic, and radiologic correlations from a very large database. Unfortunately, this article raises more questions than it provides answers, and it fails to prove the authors' hypothesis that asbestos exposure produces obstructive lung disease.

Dorsett D. Smith, MD, FCCP
University of Washington
Seattle, WA

REFERENCES
3 Ross RM. The clinical diagnosis of asbestosis in this century requires more than a chest radiograph. Chest 2003; 124:1120–1128

What Is a MOSAIC Study?

To the Editor:

I read and reread the recent article on the MOSAIC study in an attempt to find out what the acronym MOSAIC stands for. Finally I gave up, because I could not find its definition anywhere.

Readers of medical journals, especially physicians outside a specific specialty, are almost always frustrated and deeply aggrieved by unexplained acronyms. New acronyms, many of which are catchy, are being created everyday from clinical trials to capture both the spirit of the trials and the attention of those reading the eventual publication of the results. Despite your instruction that “Each abbreviation should be explained at first mention in the text and noted parenthetically after expansion,” this rule was not followed in this paper. Although the authors provided an alphabetical list of the abbreviations used in the paper, followed by their full definitions, MOSAIC was not among them.

I wish you would take a poll of your readers to find out how many of them know what MOSAIC stood for. I would not be surprised at all that very few, if any, know. So I wish to make a plea here: Must Not Forget to Spell out each Acronym in order to avoid Confusion (MOSAIC)!
Help for Interpretation of Cardiopulmonary Exercise Testing

To The Editor:

In the January 2004 issue of CHEST, Drs. Irvin and Kaminsky\(^1\) wrote an editorial regarding the American Thoracic Society (ATS)/American College of Chest Physicians (ACCP) statement on cardiopulmonary exercise testing (CPET) published in the American Journal of Respiratory and Critical Care Medicine in January of 2003.\(^3\) In their article, they point out that the data generated from CPET are easily the most difficult set of results a director of a pulmonary function laboratory has to interpret. They go on to give the opinion that the resources available to help physicians in interpretation are limited. They state that although the ATS/ACCP statement is comprehensive, it must be approached with “zeal” in order not to be overwhelmed. It is their belief that most readers would be using the document for information about interpretation. However, they feel that they could not just hand it to their fellows and have any hope that it would be read.

We also believe that there is a significant interest in CPET, but many physicians find interpretation difficult. Therefore, to assist them, we have created an interpretation software program. The program is called XINT (exercise interpretation). The executable program is available free over the Internet at www.xint.org. The source code is open. This will allow physicians to review the logic and interpretive statements in detail and even make changes if desired. The program runs in a Windows environment (Microsoft; Redmond, WA) or on a Macintosh (Apple Computer; Cupertino, CA).

We have used XINT to interpret exercise data from actual patients, and have found it clinically useful. We have also used it on the case examples in the ATS/ACCP statement, and believe it gives results similar to those of the expert panel. It also provides a professional-looking report for the patient chart.

The program is being provided free to the medical community because we believe, as do the authors of the editorial, that assistance with interpretation will lead to greater utilization of CPET and improved patient care. Although a computer program can never substitute for a human, it can be of benefit.

In the not-too-distant future, computers will play an integral part in patient diagnosis and management. XINT is another small step in that direction.

Robert M. Ross, MD, FCCP
David B. Corry, MD
Baylor College of Medicine
Houston, TX

Reproduction of this article is prohibited without written permission from the American College of Chest Physicians (e-mail: permissions@chestnet.org). Correspondence to: Robert M. Ross, MD, FCCP, 6550 Fannin St, Suite 2403, Houston, TX 77030; e-mail: rross@bcm.tmc.edu

REFERENCES


The Importance of Bronchoscope Reprocessing Guidelines

Raising the Standard of Care

To the Editor:

As expressed by Srinivasan et al (January 2004),\(^1\) I agree that bronchoscope-specific reprocessing guidelines that provide step-by-step instructions similar to those developed for GI endoscopes are needed.\(^2\) By familiarizing the pulmonary community with important infection control and reprocessing policies and details, the development and publication of bronchoscope-reprocessing guidelines would contribute to the establishment of a more consistent standard of care and to a reduction of the risk of disease transmission via contaminated bronchoscopes. Because specific reprocessing guidelines for bronchoscopes have not been published, some health-care practitioners may be unaware of the current minimum bronchoscope-reprocessing requirements, failing to practice important infection control principles that are crucial to the prevention of nosocomial infection. Others may “borrow” published reprocessing guidelines for GI endoscopes and apply them to bronchoscopes. Even though several of the reprocessing instructions and steps for GI endoscopes are similar to those for bronchoscopes, the application of reprocessing guidelines for one type of instrument to another can be confusing, can result in noncompliance, and can establish an unnecessary precedent.

In addition to agreeing with the recommendation of Srinivasan et al that bronchoscope-reprocessing guidelines be developed and published, I would like to express my concern that the current standard of care, which condones, if not encourages, the clinical use of “just-reprocessed-and-wet-with-rinse-water” endoscopes including bronchoscopes, is potentially unsafe.\(^3\) Several organizations recommend drying bronchoscopes, GI endoscopes, arthroscopes, and other types of flexible and rigid endoscopes after high-level disinfection at the end of the day—that is, before storage of the endoscope—but not between patient procedures during the course of the day.\(^4\) Moreover, for automated endoscope reproprocessors (AERs) that are labeled with instructions to “sterilize” endoscopes using a liquid chemical sterilant (LCS) and “sterile” rinse water, most organizations do not recommend drying the endoscope after reprocessing (and water rinsing) at any time, either between patient procedures or at the end of the day.\(^4\) To be clear, especially for a bronchoscope that may be reused several times in 1 day, the failure to dry the endoscope, including its external surfaces, suction channel, and biopsy port, immediately after reprocessing and before reuse all but ensures that the bronchoscope will be wet with rinse water when introduced into the patient’s lungs. Such a practice, while common, is dubious, because it can result in the transmission of waterborne bacteria during bronchoscopy and nosocomial infection, especially if the patient is critically ill and immunosuppressed. Several published reports\(^5–9\) have documented outbreaks (and pseudo-outbreaks) due to the transmission of waterborne bacteria via wet or improperly dried bronchoscopes (and GI endoscopes). As discussed in these reports, each bacterial outbreak was abruptly terminated once the bronchoscope was dried after manual or automated reprocessing (and water rinsing).

Therefore, I suggest, for the sake of clarity, completeness, and