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Short-term tests for
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Comments . . .

The article, "drywall construction and asbestos exposure", (*Am. Ind. Hyg. Assoc. J.* 40:402-407 1979) authored by Alf Fischbein, M.D., A.N. Rohl, Ph.D., A.M. Langer, Ph.D. and I.J. Selikoff, M.D. of the Mt. Sinai School of Medicine, City University of New York, New York, NY prompted the following comment. The authors' reply is published at the conclusion of the comment.

I read this paper with interest, since correlation of exposure with medical findings is the cornerstone of meaningful standards for disease evaluations. Unfortunately, a number of fundamental questions were not addressed in the paper, and I hope they may be answered eventually.

1. The study reports on the various mineral components of 15 taping and spackling compounds, but does not identify the composition of the compound or compounds used during the air sampling.
2. The paper states that "During pole sanding, 7 out of 10 samples exceeded the then existing threshold limit value (TLV) of 5 fibers/cm³ longer than 5 μ m." No time data is given, so that it must be assumed that these are time weighted average exposures. Are they? If not, what was the duration of the samples?

If the actual time spent sanding is 5-10%, as stated in Work Procedures, the actual time weighted average exposures may be only one tenth of the means reported. Similarly, if mixing takes 90 seconds, the peak exposures measured may be 5.9 f/cc measured over the 15 minute period specified by current OSHA standards, rather than 59 f/cc.

3. Table II refers to distances (e.g., "Pole Sanding (3-5 ft.)." Are these distances to locations of samples? From where?
4. The Table VII referred to on Page 407 is missing.
5. In the *Discussion*, the authors state "the prevalence of asbestosis in this population of drywall tapers is similar to that found by others among asbestos insulation workers." The paper does not state elsewhere that any of the findings were

diagnosed as asbestosis - only that "abnormalities" were found. Were these diagnoses made? And what was the prevalence of diagnosed asbestosis?

Until these questions are answered, I do not think that the conclusion can be drawn from these studies that "asbestos disease . . . is an important hazard in this trade." Rather, the data in this study could lead to the conclusions that drywall tapers have exposures to asbestos less than OSHA standards, and that their lung abnormalities are attributable to smoking, urban living, and age.

I feel you owe it to your readers to get the authors to resubmit their paper, giving data from which valid conclusions can be drawn.

George J. Krafscisin
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Author's reply . . .

Thank you for sending us a copy of the letter from Mr. George Krafscisin of the National Loss Control Service Corporation. The following are responses to his numbered comments.

1. Table I indicates that all taping and spackling compounds analyzed contained asbestos, ranging from 5 to 12 percent by weight. Thus, all compounds used during the air sampling had been analyzed and found to contain one or more types of asbestos.
2. The concentrations noted refer in most cases to peak concentrations; the duration

COMMENTS...

- of sampling ranged from 3 to 15 minutes within an average of 8 minutes.
3. The distances refer to the distance between air sampler (breathing zone) and dust source (end of pole).
4. Printer's error.
5. The roentgenographic abnormalities are summarized in Tables V and VI. As indicated, the chest films were read according to the ILO U/C International Classification of Radiographs of Pneumoconioses. The criteria for an abnormal x-ray were those of the ILO Classification and are given in Table V ($> 1/0$, i.e. the presence of small irregular opacities). Thus, the "abnormalities" refer to radiological abnormalities diagnosed as pneumoconiosis. In general, radiologic signs of asbestosis are quite characteristic and are the common basis upon which a diagnosis is made. Other evidence may be provided by pulmonary function tests, and correlations with lifetime occupational history are additionally useful. Nevertheless, roentgenographic abnormalities are a keystone of diagnosis. Tissue analyses, which require invasive procedures, are inappropriate for investigative surveys.

Our identification of a very high prevalence (41%) of x-ray abnormalities in a group of asbestos-exposed tapers is clear evidence of a health hazard which existed in this trade. Rather than resubmitting our paper, we would urge Mr. Krafcsin as Vice President of the health services of a Service Corporation to review the significance of radiographic interpretation of pneumoconiosis. Perhaps it is the incomplete appreciation of such knowledge, and of the natural history of asbestos-related diseases, which permit Mr. Krafcsin to attribute occupationally induced disease to "smoking, urban living, and age." Such inadequacies can prove a serious obstacle to efforts to improve the health and safety of the American Worker.

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Editor's note: The printer's error cited in item 4 of the authors' reply was, in actuality, a faithful reproduction of copy included in the final revised manuscript submitted for publication. There was a Table VII in the original draft. When the manuscript was revised at the suggestion of the reviewer, Table VII was deleted, but the reference to it was not. This inconsistency was missed in the second review and in proofing by the authors and AIHAJ.

Low level radiation hazards . . .

Recent studies, including ours, have shown that the health hazards of low-level ionizing radiation have been seriously underestimated. We should try to avoid making the same mistakes with the health effects of non-ionizing radiation.

If there is one lesson that carries over from ionizing to non-ionizing radiation it is this: The hazards are not in the hardware itself but in the way the hardware is used. Lab tests of x-ray equipment can be very reassuring but it is a false reassurance. It is when the equipment is deployed in the field that the troubles appear.

In their report on "Electromagnetic Radiation Emitted from Video Computer Terminals" (April, 1979), Weiss and Petersen find low radiation levels in their laboratory tests. What they have shown is that they can monitor over the entire spectrum and this is an important step in the right direction. Now they must do in-use or equipment failure experiments to deal with the health problem.

We are moving into a deployment of terminals where millions of clerks and other employees will be sitting in front of these video terminals day after day, year after year. Some of this