

EDUCATIONAL STANDARDS-SETTING PROGRAMS OF THE ACR TASK FORCE ON PNEUMOCONIOSIS IN SUPPORT OF NIOSH

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The Task Force on Pneumoconiosis of the American College of Radiology is in its eighteenth year of providing advice, counsel and educational programs in support of activities of the National Institute for Occupational Safety and Health. This is a remarkable length of service for a partnership between a public health agency and a national medical specialty society. The task force was created to solve problems stemming from the 1969 enactment of the Coal Mine Health and Safety Act. This established in the United States a national surveillance program for active coal miners and a compensation program for former miners and their survivors. The key bit of medical evidence specified in the law was a chest radiograph of good quality, interpreted by a qualified physician using a standardized descriptive system.

Unlike many countries which created earlier miner surveillance programs, the American law did not allow NIOSH to establish an expanded public health agency to undertake the entire program. Instead, NIOSH turned to the private sector of medicine for help.

In 1969, only a few American physicians were familiar with coal workers' pneumoconiosis, despite the prevalence of mining in this country. Even fewer understood the International Labor Office Classification of Chest Radiographs, which the new law specified for use. The miners were suspicious of the intentions of the mine operators and their plans for providing the needed chest X-ray examinations. In short, everything needed doing immediately.

Under a series of contracts, the task force developed programs in three areas.

1. Setting standards for physicians and facilities to participate in the surveillance programs established under the law.
2. Developing new and innovative teaching methods to acquaint radiologists and other physicians with the radiologic manifestations of CWP and the use of the ILO classification system.
3. Developing a climate of cooperation between NIOSH and other federal agencies and interested physician groups in several appropriate disciplines.

The task force was built upon the five radiologists who made up the Public Health Service panel. They were Drs. Eugene P. Pendergrass, George Jacobson, Russell H. Morgan, Benjamin Felson and Leonard Bristol. Drs. Felson and Bristol

remain active. To this core, the ACR added other radiologists, chest physicians, physicists, pathologists, radiographers and epidemiologists to provide expertise and liaison. Dr. Edgar L. Dessen became the chairman and remains so. Several other members of the task force have served during the entire span of its existence. They include Drs. Jerome Wiot, E. Nicholas Sargent, and Jerome Kleinerman who are active in this conference.

STANDARD SETTING

The task force served as a panel of experts to advise NIOSH on the development of criteria for physicians and for facilities.

The A and B reader system was devised to assure that physician participants are skilled in chest radiographic interpretation. Physicians from several disciplines routinely interpret chest radiographs in this country. Thus, NIOSH could not rely entirely upon a single specialty certification.

The A reader qualification is necessary to supervise an approved facility and to make primary interpretations for the program. It is attained by most physicians through attendance at one of the seminars offered for NIOSH by the task force.

The B reader status is achieved by sitting and passing a six hour examination involving 125 chest radiographs. The radiographs must be scored correctly using the current version of the ILO system. More than 500 American physicians and perhaps 50 from other countries have become B readers. This provides a reservoir of talent for federal programs, for industrial programs and, increasingly, for litigation of disability claims. The B reader test was devised by Dr. Russell Morgan and validated by the task force.

The task force also advised NIOSH about technical standards for facilities. The difficult task of detecting early signs of CWP is made almost impossible by poor quality radiography. Standards for film, equipment and personnel were recommended and adopted. The task force developed measuring programs, designed phantoms, tested film-screen combinations and processing systems and devised training sessions for radiographers and physicists. These efforts involved other public health agencies, state radiation programs and leading manufacturers of film and equipment.

The criteria for radiographic quality which originated with these efforts have become a standard part of the education of radiologists and radiographers and a basic element in the marketing of X-ray imaging systems.

PHYSICIAN EDUCATION

At the beginning of the program, NIOSH had an obligation to interest private physicians in becoming part of a demanding radiologic process so that the mandated examinations would be available to miners in the many communities throughout some 20 of our 50 states. The task force organized a series of teaching programs.

The most innovative of these was the viewbox seminar which will be demonstrated at the end of this conference and offered for the 29th time this weekend. The method involves a test-teach-test sequence in which each participant works with his own set of radiographs and is required to make decisions on each case, using the ILO system to record his conclusions.

For several years, the task force presented seminars at the American Medical Association conferences on occupational health. It conducted one seminar specifically for academic radiologists, pulmonologists and radiographers and provided each attendee with a set of teaching materials devised by the task force.

In addition, the task force has offered seminars for radiographers, for industrial and union physicians, for administrative law judges who decide most compensation claims, for attorneys who contest such claims and for other public health groups. Two syllabi on radiographic technique remain in general usage.

When asbestos related disease emerged as a significant public health problem, the task force worked with NIOSH and the National Cancer Institute to develop a teaching module and monograph on asbestos related disease. The package contained radiographs, micrographs, clinical and statistical data and a historic summary of the problem. The modules were placed in the audio-visual centers of every American medical and osteopathic school. Hundreds of copies of the monograph were sold to individual physicians.

Articles in the scientific literature have described the task force's efforts and results.

LIAISON

From its beginning, a major effort of the task force was to involve other medical disciplines, allied health scientists, public health agencies and the manufacturing and supplier community in coordinated efforts to support NIOSH and other federal programs.

With the approval of NIOSH, the task force has provided advice and monitoring to the coal miner compensation programs of the Social Security Administration and the Department of Labor. It has advised the Navy Department, the State Department and the Food and Drug Administration. It built

working relationships with the American College of Chest Physicians, the American Occupational Medical Association, the American Medical Association, the American Osteopathic College of Radiology, the American Society of Radiologic Technologists, the College of American Pathologists and other groups.

When interest was expressed in revising the ILO system, the task force, supported by NIOSH, organized the international committees and efforts which led to the 1980 version which is in world-wide use today. The ACR Institute is the designated supplier of standard radiograph sets to ILO.

The U.S. Congress amended the Coal Mine Health and Safety Act in 1972 and again in 1977 to broaden benefits and ease qualification requirements. On both occasions, the task force provided expert testimony about medical and technical aspects of the proposed legislation.

When the U.S. was suggested as a possible site for this seventh International Conference on the Pneumoconioses, the task force supported NIOSH by developing the feasibility study and a general plan for the meeting. Members of the task force have served on the committees for the meeting. The seminar demonstration on Friday and the full seminar were planned for the convenience of conference attendees.

SUMMARY

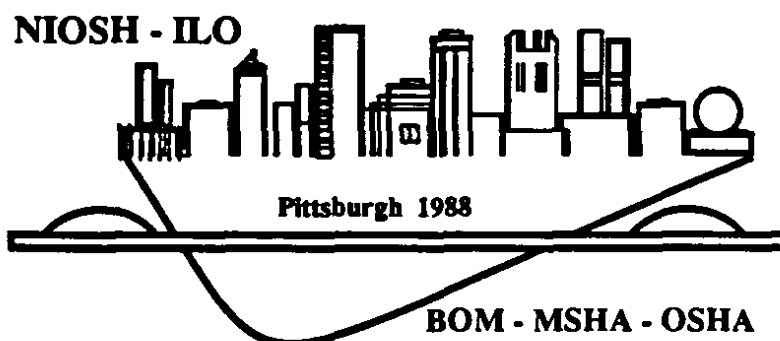
For nearly two decades, the task force has provided a broad base of support to NIOSH and through its good graces to other public and professional channels dealing with the radiologic definition of dust retention diseases. From a situation in 1969, in which Americans were far behind other nations dealing with CWP, task force efforts have been crucial to the development of national programs for miner and other worker surveillance, to physician education, to quality assurance efforts and for liaison between public sector agencies and professional medical and allied health societies. The task force is currently in the first year of its fifth contract with NIOSH.

REFERENCES

1. Bristol, Leonard J., M.D., Felson, Benjamin, M.D., Jacobson, George, M.D., Lainhart, William S., M.D., Linton, Otha W., MSJ, Lainhart, William S., M.D., and Pendergrass, Eugene P., M.D.: The Black Lung conferences...a Teaching Innovation. *Medical Radiography and Photography*. Vol. 47, No. 2, pp. 44-48 (1971).
2. Bristol, Leonard J., M.D., Dessen, Edgar L., M.D., Felson, Benjamin, M.D., Linton, Otha W., MSJ, Morgan, W.K.C., M.D., Pendergrass, Eugene P., M.D., and Reger, Robert B., Ph.D.: Observations on the Results of Multiple Readings of Chest Films in Coal Miners' Pneumoconiosis. *Radiology*. October Vol. 108, pp. 19-23 (1973).
3. Felson, Benjamin, M.D., Harrington, Robert W., Ph.D., Jacobson, George, M.D., Linton, Otha W., MSJ, and Pendergrass, Eugene P., M.D.: A New Teaching Method for Radiologists. *Radiology*. July (1975).
4. Linton, Otha W., MSJ, Properzio, William S., Ph.D., and Steele, James P., M.D.: Guest Editorial; Quality Assurance, An Idea Whose Time Has Come. *American Journal of Roentgenology*. November (1979).

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