

The Principles Of Occupational Medical Practice
With Particular Reference To Diagnosis Of
Work-Related Illness And The Competence Of
Medical Experts In This Specialty.

Hilton C. Lewinsohn, MB.BCh., FCCP., MFOM, DIH..

Assistant Corporate Medical Director,
Union Carbide Corporation
Old Ridgebury Road
Danbury, CT. 06817

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Introduction:

It is always an interesting experience to have a pause and speculate on the impact which the specialist practice of occupational medicine has on the community. The physician working in industry is perceived in different ways by colleagues in the medical profession, by employers, by employees, by lawyers, by the news media and, I daresay, by the Members of the National Academy of Arbitrators. In this brief talk I will attempt to define the main features of occupational health practice, identify the leading roles and unravel the plot as best I can! The title of my presentation as it appears on your program suggests mystery, intrigue and conflict, so I hope you won't mind if I exercise my rights of free speech and present to you what I think would be good for you to hear! I do not pretend that differences of opinion do not arise when medical men from various sectors of the profession are called upon to advise on matters of diagnosis, especially when the waters are muddied by the agitations of employer-employee disagreements, but I know that once the money matters at the root of the trouble have been settled the medical problems seem to fade away into a harmonious compromise.

In this discussion I am limiting my remarks to illness rather than to injuries.

The material which I am going to present is not original except in that I have re-arranged sections of published literature for the convenience of presentation to you. The reference sources for my talk, or rather "reading", are "A Guide to the Work-Relatedness of Disease" edited by Marilyn K. Hutchinson, MD, and published by NIOSH (DHEW (NIOSH) Publication No. 77-123). I quote verbatim from the first seven chapters of this publication. In addition to this publication, I also used two publications by the American Medical Association, namely:

- (i) "Guide to Diagnosis of Occupational Illness", prepared in 1966 by the former AMA Committee on Occupational Toxicology. Reprinted from the Journal of the American Medical Association (1966) 196:297-298.
- (ii) "Guiding Principles of Medical Examinations in Industry", Revised 1973.

I apologize for blatantly plagiarizing these publications, but it seemed to me that they covered the ground most adequately and very authoritatively, and I would, therefore, not have to re-invent the wheel!

The attribution of an injury to a specific workplace event is difficult to deny because of the nature of the evidence usually available. In contrast with traumatic injury a cause-effect relationship between disease and an agent in the workplace may not be clear. Occupational disease may be slow to develop. Occupational diseases in themselves are not biologically unique and their symptoms and signs may not be distinguishable from those of diseases associated with "natural causes" or due to the aging process, or with the effects of personal abuse such as smoking, alcohol usage or drug habituation. Occupational diseases defy diagnosis more often than those of nonoccupational origin. The medical practice of most physicians is within an area of readily accessible knowledge; in contrast, most physicians are unfamiliar with the potential hazards of the environment in

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which their patients work. Most medical school curricula devote little or no time to diseases of occupations and I know from personal experience that I received no preparation whatever from my medical teachers for my eventual chosen career in occupational medicine. Occupational disease cases are rarely discussed at hospital staff conferences. Few physicians read the journals or textbooks which cover the subject and it is, therefore, not surprising that most of my colleagues in medical practice do not know how to evaluate the effects of an occupational exposure to toxic substances and hazardous materials.

Definitions:

An occupational disease is one arising out of and in the course of employment; a causal relationship must be established between the worker's illness and the occupational exposure.

Exposure consists of three components; namely, character, intensity, and duration.

In general, a disease is occupational if:

- (1) the medical findings of disease are compatible with the effects of a disease-producing agent or agents to which the person has been exposed;
- (2) there exists in the person's occupational environment (past or present) exposure to an agent or agents sufficient to have caused the disease; and
- (3) the weight of evidence supports that the disease is of occupational rather than non-occupational origin.

Unfortunately, there is no infallible method enabling an unarguable decision to be made as to whether an observed effect is occupational in origin. Diagnostic methods are basically the same whether a disease is occupational or nonoccupational in origin. Where there is a clear-cut documentation of a dose-response relationship between an illness and a specific agent, the evidence is not likely to be contested. In many instances, however, it may be difficult to decide on cause and effect. Physicians should recognize that there are cases of occupational disease with long latent periods between time of exposure and the appearance of symptoms, such as those involving radiation, tumor-or cancer-producing agents, silicosis and other lung diseases, and those in which multiple causality may be a factor, such as leukemia or cardiac disease. Honest differences of medical opinion are common, especially where there are gaps in the knowledge relating to workplace conditions and exposures. Considerable professional judgement is required in these circumstances.

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Medical Programs in Industry:

The purpose of a health service in industry is to provide a program of positive health maintenance for employees. An important element of such a program is the supervision of the health status of the individual through examination, counselling, and assistance in proper job placement. Medical examinations of employees are designed to permit assignment of work compatible with the physical and mental ability of individuals and to help them maintain their health.

Correct placement of people, having taken into account the variations in physical demands required by different jobs, and the safety and health limitations involved when certain disabilities are detected, can result in improved job performance and satisfaction, decreased likelihood of injury, less hazard to the health and safety of others, lessened chance of aggravation of disorders, and possibly, a longer productive life span for the employee.

The objectives of medical examinations in industry are:

- (1) To determine the suitability of people to perform their appointed tasks without being a hazard to themselves or others;
- (2) To assist individuals in the maintenance or improvement of their health;
- (3) To detect the effects of harmful working conditions and advise corrective measures; and
- (4) To establish a record of the condition of the individual at the time of each examination.

The emphasis should be on the placement of people according to their abilities and not simply selection of the physically perfect and rejection of all others. Unjust or questionable exclusion from work, through improper application of the findings upon examination, is against the public welfare and contrary to sound occupational medical principles.

The occupational medical practitioner should maintain the same physician-patient relationship with the employee as other physicians in general practice, but needs also to develop a special relationship with the employer which allows intervention at the interface between the individual and the work without jeopardising the role of the provider of health care. Both employer and employee should feel that their interests are represented with integrity. The physician must have first hand knowledge from personal observation of the workplace and the jobs in it of the recognized hazards to which employees may be potentially exposed. Information on the physical demands, working conditions, and accident and health hazards of each job classification helps in properly selected job placement.

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The principle steps in the diagnosis of occupational illnesses consist of:

- (1) The occupational history. The physician should make every effort to determine conclusively what the person actually is exposed to day by day and what exposures were experienced in the past. Job titles may be deceiving and enquiries should establish what the precise nature of the job is. Exposure to hazardous materials may occur off the job at home or elsewhere and the physician should always ask about hobbies and other work projects.
- (2) It is important to determine the specific substances used or handled, the intensity and duration of exposure, the protective equipment used or worn by the individual, and the engineering controls employed.
- (3) The physician should familiarize himself or herself with the Threshold Limit Values which are in use for determining whether over-exposure to various substances has occurred. The results of industrial hygiene sampling require careful, knowledgeable, interpretation to determine whether exposures actually exceed Permissible Exposure Limits.
- (4) The presence or absence of similar local effects or signs or symptoms, or disease in fellow workers sharing essentially the same environment may be significant.
- (5) Clinical Evaluation: This portion of the diagnostic work-up will obviously vary with the type of illness, but should include at least the following:
 1. routine examination of all physiological systems
 - head and neck
 - eyes, ears, nose and throat
 - endocrine
 - genitourinary
 - musculoskeletal
 - neurological
 - respiratory
 - cardiovascular
 - gastrointestinal
 2. observation and evaluation of behavior related to emotional status
 3. specific examination for health effects of suspected or possible disease agents (seek competent medical consultation)
 4. comparison of date of onset of symptoms with occupational history
 5. evaluation of results of any past biological or medical monitoring (blood, urine, other sample analysis) and previous physical examinations

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6. evaluation of laboratory tests: routine (complete blood count, blood chemistry profile, urinalysis) and specific tests for suspected disease agents (e.g., blood or urine test for specific agent, chest or other X-rays, liver tests, pulmonary function tests)

The Medical Expert Opinion:

Non-medical persons require assistance in evaluating the information which is presented in support of both sides in cases where the medical facts are in dispute. Physicians are usually able to testify on medical conditions and laboratory and other tests; industrial hygienists are best qualified to provide testimony on exposure data. Before accepting at face value what these witnesses have to say, the person adjudicating the case should verify the qualifications of those testifying and the basis of the testimony, that is, the importance attributed to various areas of the information reviewed, and the conclusions that were drawn.

The phrase "competent medical person" is frequently used. What does it mean when dealing with occupational diseases? Who is a competent person? Board certification (other than in occupational medicine) and academic status do not in themselves confer expertise in occupational diseases. An expert in a specific medical field is not necessarily medically competent to render clinical judgement on an entire case, but only on that portion which is within his or her area of expertise. No rigid rules for judging competency can be defined. The following guidelines are offered to assist in considering who might qualify as a competent medical person.

A competent medical person is:

1. a physician, judged competent in one of the several disciplines of medicine, and
2. specially trained in the particular expertise required for the testimony to be presented. In determining occupational causation of disease, such expertise would include intimate knowledge of the work environment.

For compensation purposes, a medical specialist--such as an internist, pathologist, surgeon, specialist in chest diseases, or an occupational health physician--is usually a competent medical person, but not in all instances.

For example, in a compensation case involving a question of occupational lung disease, the chest specialist can certainly use his or her expertise to diagnose a chest condition. But unless such a specialist is familiar with the work history and exposure of the employee, and has the background to coordinate and evaluate toxicological, epidemiological, and industrial hygiene information in terms of the medical condition, that specialist should not be considered competent to render an expert opinion regarding the occupational origin of the disease condition.

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Generally, an occupational health physician is a competent medical person. Occasionally, however, the physician's particular work experience does not include an understanding of the exposure issues involved, such as carcinogenic factors. In the examples given, two physicians may be required to provide the expert opinion.

It is important for the medically competent person to maintain impartiality and to have an understanding of labor and industry. Almost all persons, medical and otherwise, who testify in compensation cases have some degree of bias. This does not invalidate their testimony. However, the examiner should consider the extent, nature, and effect, if any, of expert bias in arriving at his decision.

It is the duty and responsibility of a compensation hearing officer, lawyer, or any interested person to be aware of the requirements for medical competency in order to assure sound decisions. The following should be considered in judging medical competence:

1. Is the physician certified in Occupational Medicine by the American Board of Preventive Medicine?
2. Is the medical expert's specialty directly related to the type of disease in question (cardiologist for heart disease; pulmonary specialist for lung disease, etc.?)
3. Does the physician have industrial experience? In what industries? Does this include experience in diagnosing the disease in question?
4. What is the expert's formal training in occupational medicine?

Exceptions: Although the competent medical person is a physician, there are some instances when the physician's testimony will be supplemented by testimony from a dentist, anatomist, toxicologist, occupational health nurse, or industrial hygienist concerning special health issues in their area of expertise. In such circumstances, these professionals are considered "competent experts" for the purposes of the particular adjudicatory proceedings. The testimony of such nonphysicians should not be permitted to be substituted for the medical testimony of a physician. In addition, the qualifications of such individuals should be ascertained as is done in qualifying any expert in any court case.

Conclusion:

This has been an interesting exercise for me to undertake. Although I have been working in the industrial setting for nearly twenty years, I have never been involved with any cases requiring arbitration. Having briefed you on what the criteria are for the selection of a "medically competent person" I feel that it would be only just and fair to examine briefly what the essential

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characteristics of a "Competent Arbitrator" should be! According to an analysis by John Smith Herrick in "The Arbitration Journal", June 1982, Vol. 37, pages 18-21, the average age of an arbitrator is 58 years, the youngest responding to the questionnaire being 27 years old and the oldest 85. By far the greatest number of arbitrators are males. It is interesting to note that multiple academic degrees are common among arbitrators. There were 13 respondents who indicated no college degree, although one claimed to have graduated from the "school of hard knocks." The single most commonly claimed level of education was Ph.D. Law education was in the main distinguishable. About one fourth of the responders are full-time arbitrators. Herrick states that it is commonly assumed that the parties, unions and companies, prefer experienced arbitrators for the handling of disputes.

In summarizing the data collected, it would appear that you are a very heterogenous group. I do not propose to belabour the point!

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