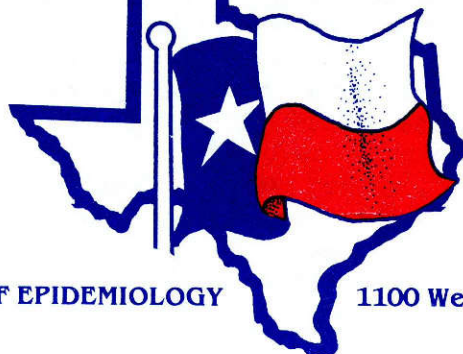


Texas Preventable Disease NEWS



contents:

Complexities of Occupational Disease

BUREAU OF EPIDEMIOLOGY

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COMPLEXITIES OF OCCUPATIONAL DISEASE

"There is nothing new under the sun." This quotation from the Bible, Ecclesiastes 1:9, is used to introduce what is believed to be the oldest known occupational disease--anthrax. The earliest description is found in the book of Genesis--the fifth plague which killed all of the Egyptians' cattle. Several early Greek writers also described it, but the best description comes from Virgil, the Roman agricultural writer, who described cases of anthrax in animals as well as in humans. This description comes from Virgil's Georgics:

And now they died by whole companies, and the corpses
Rotting with vile decay lay piled in the very sheep-folds,
Till men had learnt to put them in pits, covered with earth.
The hide was no good, and no man
Could cleanse the carcase in water or burn it up with fire;
You could not even shear the fleece, it was so corroded
With foul pus, or work that rotten wool in the loom:
But if you were so foolhardy as to wear the hideous garment,
Inflamed pustules and a noxious-smelling sweat appeared
All over your limbs: not long then
Before the fiery curse ate up your tettered frame.¹

The broadening of workers' compensation (WC) to include occupational diseases has been attributed to the crusading work of Dr. Alice Hamilton in the first quarter of the 20th Century,² to national publicity connected with the Gauley Bridge disaster of the early 1930s,³ and to the pressure for compensation of numerous cases of dust-induced disease, particularly silicosis, during the Depression.⁴ Some state WC jurisdictions developed lists or schedules of occupational diseases which they recognized.⁵ Other state WC jurisdictions were more liberal and approved a broad definition type of disease coverage which tracked the original definition of "arising in and out of the course of employment."

As occupational disease definitions developed and evolved under the various WC jurisdictions, there were many variations and interpretations. However, several elements were consistent across all jurisdictions. If a disabling illness or disease, such as an infection, develops due to a work-related injury, it would be compensable. Secondly, if an accident injures a worker, and the injury involves a disease, such as welder's flash burn, it would be compensable. Thirdly, diseases that are peculiar or particular to some line of work would be compensable. And lastly, claims based on disability due to ordinary diseases of life would be denied.⁵

In Texas, the Industrial Accident Board uses the following definition framed by the Legislature:

"... Whenever the term 'Occupational Disease' is used in the Workmen's

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Compensation Laws of this State, such term shall be construed to mean any disease arising out of and in the course of employment which causes damage or harm to the physical structure of the body and such other diseases or infections as naturally result therefrom. An 'Occupational Disease' shall also include damage or harm to the physical structure of the body occurring as the result of repetitious physical traumatic activities extending over a period of time and arising in the course of employment; provided, that the date of the cumulative injury shall be the date disability was caused thereby. Ordinary diseases of life to which the general public is exposed outside of the employment shall not be compensable, except where such diseases follow as an incident to an 'Occupational Disease' or 'Injury' as defined in this section.¹⁹

Difficulties have arisen in legal interpretations of the definition of occupational disease and also from conflicting medical testimony regarding causation.

The non-specificity of occupational diseases and attendant problems in distinguishing them from non-occupational diseases is illustrated in Table 1. Long latency periods seen in occupational cancers and chronic occupational diseases such as dust diseases of the lungs ensure that the cause(s) and places of exposure will be obscured. Research into multifactorial causation of occupational diseases would not occur except with interaction of two or more agents including those in the working environment and those inherent in the individual.

The implication of stress, especially job stress, in the causation or aggravation of some cardiovascular, gastrointestinal, and neuropsychiatric diseases has opened a fertile field for plaintiff's attorneys under workers' compensation. It has been said that a clever lawyer can make any disease occupational by claiming work-related precipitation, exacerbation, or prolongation. And what job is not associated with some stress? Using this type of reasoning, many WC jurisdictions have regarded heart attacks occurring in firemen and policemen as fully occupational.

Another problem with the definition of occupational diseases arises from epidemiologic studies which show an excess of a particular disease associated with certain occupational exposures. For example, there was little problem with awarding compensation for the rare cancer, mesothelioma, associated with asbestos exposure, but for bronchogenic carcinoma, which shows up as an excess among smoking and non-smoking asbestos workers, there has been much opposition from industry and insurance carriers. In this case, the employer becomes liable for all cases of this cancer in his workforce, even though many of them would be expected to develop the cancer whether they worked or not.

A popular legislative solution for compensating occupational diseases utilizes the rebuttable presumption. When Congress passed the Black Lung Benefits Act, there was a rebuttable presumption that any pulmonary impairment in an underground coal miner who had worked a minimum number of years is related to underground mining. It was the employer's responsibility to produce evidence to the contrary; otherwise the award would be made. This would have been a workable solution had not Congress then

eliminated the requirement for a positive chest X-ray for the diagnosis of coal workers' pneumoconiosis (CWP). The one-billion-dollar-a-year price tag for black lung benefits compensates for a number of pulmonary diseases in addition to CWP, including chronic bronchitis and chronic obstructive pulmonary disease from smoking.¹

There have been several commendable attempts to define the criteria for work-relatedness of diseases. The simplest is that developed at the University of Texas Medical School at Houston. The criteria are as follows:

1. Symptoms compatible with suspected exposure
2. Compatibility with diagnostic physical signs
3. Similar problems in fellow workers
4. Complaints temporally related to work
5. Known exposure to suspected agent(s)
6. Confirmatory industrial hygiene data
7. Laboratory confirmation
8. Lack of obvious non-occupational cause
9. Biologic plausibility
10. Epidemiologic evidence

The Guide to the Work-Relatedness of Disease, published in revised edition in 1979 by the National Institute for Occupational Safety and Health (NIOSH), describes a method for collecting, organizing, and appraising medical, occupational, and other evidence in determining the probable work relatedness of a given disease. Examples of the method are given for fourteen disease-producing agents.⁸ Also worthy of mention is the method developed by Bernacki for determining the occupational relatedness of a noncausally defined disease,⁹ and the 1980 US Department of Labor publication, An Interim Report to Congress on Occupational Diseases.

Surprisingly, very little reliable data are available on the magnitude and severity of occupational diseases. Early estimates from NIOSH were that 390,000 new cases of occupational disease occur annually and that as many as 100,000 deaths occur each year as a result of occupational disease.¹⁰ These estimates have generated considerable discussion.⁵ It would now appear that the death estimate is too high by at least one order of magnitude. According to statistics collected annually by the Bureau of Labor Statistics, occupational illness accounts for 2% to 3% of the total occupational injuries and illnesses reported. Skin diseases or disorders account for the majority of the occupational illnesses, about 40%.

Other statistics are available from a large interview survey conducted by the US Department of Labor in 1972 and 1974. This can be summarized as follows:

Almost two million workers reported that they were severely or partially disabled from an occupation-related disease. Approximately 700,000 of these occupational disease victims suffer long-term total disability. The 1.2 million workers partially disabled from an occupational disease were either temporarily out of the labor force because of their disability or limited in the kind and/or amount of work they could perform. These data include chronic cases of totally disabling byssinosis and asbestosis, as well as partially disabling conditions, such as varicose veins, arthritis, and ulcers. The major disabling conditions reported by workers as being related to their jobs include: back and spinal conditions (34%), heart and circulatory illnesses (26%), respiratory conditions (13%), mental illnesses (9%), and digestive conditions (8%).¹¹

The above represent problems perceived by those workers who were surveyed, and many of these conditions would not be recognized by the medical profession as occupational.

Although fault is not supposed to be considered in workers' compensation, it most certainly is a factor in employer rejection of occupational disease claims in which life style or diseases of aging play a role and over which the employer has little or no control. One solution to this problem would be to treat workers' compensation for occupational diseases differently, using guidelines based on: 1) assessment of impairment/disability, 2) attribution of risk, and 3) apportionment of award. It would be necessary to develop various formulae that could be applied to individual cases, but once these were accepted, the award of compensation would be greatly

simplified. This would be in keeping with the suggestion that workers share some responsibility for disease prevention, especially where life styles are involved, but we should continue to hold the employer responsible for those occupational disease risk factors which he can and should prevent. Our primary interest should be in prevention, and the workers' compensation system should have built-in incentives to make prevention more attractive, both for employers and employees.

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Table 1.
Disease mimicry (non-specificity of occupational disease).

<u>Occupational Diseases</u>	<u>Examples of Similar Non-Occupational Diseases</u>
metal fume fever	influenza
lead poisoning	constipation appendicitis
carbon tetrachloride poisoning	hepatitis
manganese poisoning	Parkinsonism
progressive massive fibrosis	tuberculosis
chronic beryllium disease	sarcoidosis
isocyanate sensitivity	asthma
leptophos peripheral neuropathy	diabetes multiple sclerosis
byssinosis	asthma COPD
carbon disulfide poisoning	schizophrenia
methyl bromide poisoning	depression paranoia
cadmium pneumonitis	pneumonia
Kepone poisoning	memory loss neurasthenia

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