

Filed Dec 18, 1959
11: am

STATE OF WISCONSIN)
DEPT. OF INDUSTRIAL COMMISSION) ss.

IND 80.25

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Helen E. Gill, Secretary of the Industrial Commission, and custodian of the official records of said commission, do hereby certify that the annexed rule Ind 80.25 Loss of hearing; determination was amended by the Industrial Commission on December 9, 1959.

I further certify that said copy has been compared by me with the original on file in this commission and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the department at the Capitol, in the city of Madison, this 17th day of December, A. D., 1959.


Secretary

Pursuant to authority vested in the Industrial Commission by Sec 101.01 - 101.29 Wisconsin Statutes, the Industrial Commission on December 9, 1959 voted to amend order Ind 80.25 Loss of hearing; determination as it relates to workmen's compensation claims.

The rule as amended is as follows:

Ind 80.25 Loss of hearing; determination. The commission as a matter of policy adopts the report of the medical subcommittee of the advisory committee on workmen's compensation legislation of the industrial commission, dated April 5, 1954, for determination of loss of hearing in workmen's compensation cases, with amendments ~~effective January 1, 1960~~, adopted upon the recommendations of the subcommittee on noise of the committee on conservation of hearing of the American Academy of Ophthalmology and Otolaryngology.

Such report as amended is as follows:

I. Under what circumstances does noise constitute a hazard to hearing:

a. Question: What frequency and intensity?

Answer: The committee members stressed the importance of both intensity and frequencies in evaluating the noise problem. It was pointed out and pretty well agreed that no definite level could be set for hazardous noise intensity at this time. Furthermore, it was noted that most answers to this question in the literature were in the form of qualified statements. In addition to the pressure levels, the type (frequency) and the length of exposure as well as individual susceptibility must be considered. In general it was agreed that sound below an intensity of 90 decibels as measured on the C scale of an approved sound level meter would not be harmful to workers' hearing regardless of the length of exposure. It is the energy per octave band that determines the hazardous noise level.

b. Question: How can noise best be measured?

Answer: The measurement of noise is primarily the function of acoustical engineers and properly trained personnel. Noise should be scientifically measured by properly trained individuals using approved calibrated instruments, which at the present time include sound level meters, octave band analyzers (see I. a.) and oscilloscopes, the latter particularly for impact type noises.

II. How can hearing loss be measured?

a. Question: What type of test is best?

Answer: Discussion followed as to what was meant by "hearing loss." It was pointed out that losses of hearing ability for high frequency tones (4000 and above) could be observed in many audiograms. However, it was unanimously agreed by the members of the committee that such high frequency losses do not constitute any disability for hearing ordinary conversational voice, and it was felt that hearing loss as used in this discussion should be confined to losses occurring in the frequencies ordinarily used for speech conversation. It was recognized by members of the committee that testing the individual by means of speech audiometry (for consonants and vowels) would most directly reveal the hearing ability of the individual for ordinary speech. At the present time, however, numerous problems present themselves in the routine performance of these tests. For example: speech audiometers, while available, as yet are neither standardized nor routinely found in otologists' offices. Language problems make these tests difficult in many instances. National authoritative bodies such as the Council on Physical Medicine of the American Medical

Association and the American Academy of Ophthalmology and Otolaryngology have not as yet published a list of approved speech audiometers or accepted methods for their use in determining hearing disability. Until such time as their recommendations are officially published, it is agreed that pure-tone air conduction audiometric tests be used for evaluating hearing acuity. It was recommended that the readings of the three frequencies of 500, 1,000 and 2,000 cycles per second be used in computing loss of hearing, but that in the performance of the pure-tone air conduction audiogram, all frequencies between 250 and 8,000 cycles per second on the audiometer be used for diagnostic purposes.

b. Question: What formula is most suitable?

Answer: It was pointed out that the findings of pure-tone air conduction audiometry are used for computing percentage loss of hearing by the American Medical Association Method of 1947, (Reference: Journal of the American Medical Association, February 9, 1947), the O.8 Method of Fletcher or its modification or the Fowler Method. All of these methods have met with objections. The committee agreed that no consideration should be given for losses in frequencies below 500 cycles per second or above 2,000 cycles per second. Furthermore, it was felt that losses averaging 15 decibels or less in the frequencies between 500 and 2,000 cycles per second do not constitute any practical hearing disability. A table for evaluating hearing disability based upon average readings of the frequencies 500, 1,000, 2,000 of pure-tone air conduction tests has been formulated and is hereby attached.

III. How long must one be removed from a noisy environment before a final estimate of hearing loss can be made?

What is the greatest percentage of improvement which can be expected after removal?

Answer: It was agreed that there is a certain amount of recovery of hearing ability which may be expected after removing an individual from a prolonged exposure to a noisy environment. Just how much recovery will take place will depend on the number of years of exposure, the degree of hearing loss and individual susceptibility.

The members of the committee subscribe in principle to the statement of policy of the subcommittee of the Academy of Ophthalmology and Otolaryngology which is as follows:

"Hearing loss produced by prolonged exposure to loud noise may be considered permanent if it still persists after the individual has been removed from the noise environment for a period of six months."

Therefore, those individuals who have removed themselves for six months or longer from their noisy working areas can have a final determination made of their hearing status. Those individuals who continue to work in noisy environments should have the audiometric and hearing evaluations made after a 48-hour removal from the noisy areas and where several examinations are made under similar conditions at closely spaced intervals the best audiometric record should be used in computing the hearing status of the individual. In addition, five decibels should be deducted from the average decibel ratings of the 500, 1,000 and 2,000 frequencies to allow for the "recovery factor." This result shall be the final permanent loss as of the time of such examinations and deductions.

IV. What cases of occupational loss of hearing can be improved by hearing aids and to what extent?

Answer: The improvement resulting from the use of a hearing aid in these cases is too variable to warrant its consideration as a corrective factor. Many of these individuals cannot wear a hearing aid with any degree of satisfaction. Any benefit which might be obtained in any individual case from the use of a hearing aid should not be considered in arriving at a percentage of hearing loss or disability.

V. Which test is most suitable for pre-employment examinations? What formula is recommended (as to frequencies and intensities)?

Answer: The use of the pure-tone air conduction audiometer is recommended for recording the hearing acuity of workers in pre-employment examinations. The audiometer should be one accepted and approved by the Council on Physical Medicine of the American Medical Association. The audiometer should be routinely and periodically calibrated. The pre-employment record should include a satisfactory history and physical examination as it may pertain to the hearing status and must include the pure-tone air conduction audiometric record. Otological examinations and evaluations should be made where indicated. All frequencies between 250 and 8,000 cycles per second found on the audiometer should be recorded.

VI. Is treatment of any value in reduction of the hearing loss due to noise?

Answer: The hearing loss resulting from industrial noise exposure cannot be improved by any known medical or surgical treatment.

VII. In general, what examinations can and should be made to determine the nature of loss, i.e., whether due to noise or to other cause?

Answer: By history, physical examination, otological and audiometric examinations.

HEARING DISABILITY TABLE

Average Decibel Loss	Per Cent of Compensable Hearing Loss	Average Decibel Loss	Per Cent of Compensable Hearing Loss
16	1.5	50	52.5
17	3.	51	54.
18	4.5	52	55.5
19	6.	53	57.
20	7.5	54	58.5
21	9.	55	60.
22	10.5	56	61.5
23	12.	57	63.
24	13.5	58	64.5

25 -----	15.	59 -----	66.
26 -----	16.5	60 -----	67.5
27 -----	18.	61 -----	69.
28 -----	19.5	62 -----	70.5
29 -----	21.	63 -----	72.
30 -----	22.5	64 -----	73.5
31 -----	24.	65 -----	75.
32 -----	25.5	66 -----	76.5
33 -----	27.	67 -----	78.
34 -----	28.5	68 -----	79.5
35 -----	30.	69 -----	81.
36 -----	31.5	70 -----	82.5
37 -----	33.	71 -----	84.
38 -----	34.5	72 -----	85.5
39 -----	36.	73 -----	87.
40 -----	37.5	74 -----	88.5
41 -----	39.	75 -----	90.
42 -----	40.5	76 -----	91.5
43 -----	42.	77 -----	93.
44 -----	43.5	78 -----	94.5
45 -----	45.	79 -----	96.
46 -----	46.5	80 -----	97.5
47 -----	48.	81 -----	99.
48 -----	49.5	82-100 -----	100.
49 -----	51.		

Members of the medical advisory committee wish to emphasize that the above recommendation and test procedures cannot be regarded as final. The present answers and conclusions are based upon the "best" scientific information available at this time. Revisions will be required from time to time as additional knowledge accumulates and better technical methods and instruments are developed.

Members of Medical Subcommittee:

Mark J. Bach, M.D., Chairman
Meyer S. Fox, M.D.
Frank G. Treskow, M.D.
Paul J. Whitaker, M.D.
Charles R. Taborsky, M.D.

April 5, 1954

The new order shall become effective on the 1st day of the month following its publication in the administrative code as provided in Sec 227.

INDUSTRIAL COMMISSION OF WISCONSIN



Helen E. Gill, Secretary