

Williams, Eugene

BURDEN OF PROOF

Hearing loss

When the evidence shows that a worker continued to be placed in a noisy work environment after the date of a given audiogram, the burden shifts to the employer to show by persuasive evidence that the subsequent workplace noise was not injurious to the workers hearing.***In re Eugene Williams, BIIA Dec., 95 3780 (1998)*** [dissent] [*Editor's Note: The burden-shifting requirement set forth by the Board in Williams was reversed by the Washington State Supreme Court in Boeing v. Heidy 147 Wn.2d 78 (2002).*]

OCCUPATIONAL DISEASE (RCW 51.08.140)

Hearing loss

Present methods of differentiating between age-related hearing loss (presbycusis) and noise-related hearing loss are not sufficiently reliable to allow an award for permanent hearing loss to be reduced for presence of presbycusis.***In re Eugene Williams, BIIA Dec., 95 3780 (1998)*** [dissent] [*Editor's Note: The Board's decision finding that the present methods of differentiation between aged-related hearing loss (presbycusis) and noise-related hearing loss as not being sufficiently reliable to allow for permanent hearing loss to be reduced for presence of presbycusis was affirmed by the Washington State Supreme Court in Boeing v. Heidy 147 Wn.2d 78 (2002). See also, In re Larry Wass, BIIA Dec., 01 11201(2002).*]

Schedule of benefits applicable

For claims filed after 1988, the schedule of benefits for an occupational disease is established as of the date the disease requires medical treatment or becomes totally or partially disabling. An individual's hearing loss is deemed to require medical treatment as of the date a person consults with a physician or seeks other means of obtaining relief from his or her hearing loss. An individual's hearing loss is partially disabling when the average loss demonstrated by medically valid audiometric testing exceeds 25dB at the four frequencies specified in the *AMA Guides* and evidence demonstrates that the worker knew of the hearing limitations.***In re Eugene Williams, BIIA Dec., 95 3780 (1998)*** [dissent] [*Editor's Note: The applicable statute is RCW 51.32.180(b). The Board's decision requiring that the worker know of the hearing limitations was overruled in Boeing v. Heidy, 147 Wn 2d 78(2002), In re Larry Wass, BIIA Dec., 01 11201 (2002).*]

Scroll down for order.

**BEFORE THE BOARD OF INDUSTRIAL INSURANCE APPEALS
STATE OF WASHINGTON**

IN RE: EUGENE W. WILLIAMS) DOCKET NO. 95 3780
CLAIM NO. T-869045) DECISION AND ORDER

APPEARANCES:

Claimant, Eugene W. Williams, Pro Se

Self-Insured Employer, Centralia Mining Company, by
Vandeberg, Johnson & Gandra, per
Charles R. Bush

Department of Labor and Industries, by
The Office of the Attorney General, per
Mary V. Wilson and James S. Johnson, Assistants

This is an appeal filed by the self-insured employer, Centralia Mining Company, on June 26, 1995, from an order of the Department of Labor and Industries dated May 15, 1995. The order of May 15, 1995, directed the self-insured employer to accept the claim filed by Eugene W. Williams concerning occupational hearing loss; determined that the covered medical condition was stable; ordered the self-insured employer to pay a permanent partial disability award equal to 32.81 percent for the complete loss of hearing in both ears and to remain responsible for the purchase and maintenance of hearing aids; indicated that the hearing loss formula considered the effects of presbycusis and that the decision was made using the results of an audiogram dated February 24, 1995; determined that occupational hearing loss sustained prior to employment with the self-insured employer could not be segregated; acknowledged that the condition of tinnitus had been factored into the hearing loss formula that was used to ascertain the permanent impairment award; established that the medical condition was stable; and thereupon closed the claim.

REVERSED AND REMANDED.

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2 **PROCEDURAL AND EVIDENTIARY MATTERS**
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4 Pursuant to RCW 51.52.104 and RCW 51.52.106, this matter is before the Board for review
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6 and decision on timely Petitions for Review filed by the self-insured employer and the Department
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8 of Labor and Industries to a Proposed Decision and Order issued on June 30, 1997, in which the
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10 order of the Department of Labor and Industries dated May 15, 1995, was reversed and the matter
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12 remanded to the Department with direction to the self-insured employer to accept the claim filed by
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14 Eugene W. Williams concerning occupational hearing loss; determined that the covered medical
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16 condition is stable; ordered the self-insured employer to pay a permanent partial disability award
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18 equal to 32.81 percent for the complete loss of hearing in both ears, calculated using a schedule of
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20 benefits in effect in 1987, and to remain responsible for the purchase and maintenance of hearing
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22 aids; indicate that the hearing loss formula indirectly considered the effects of presbycusis and that
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24 the decision is made by using the results of an audiogram dated February 24, 1995; determined
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26 that occupational hearing loss sustained prior to employment with the self-insured employer cannot
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28 be segregated; acknowledge that the condition of tinnitus has been factored into the hearing loss
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30 formula that was used to ascertain the permanent impairment award; establish that the medical
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32 opinion is stable; and to thereupon close the claim.
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34 The Board has reviewed the evidentiary rulings in the record of proceedings and finds that
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36 no prejudicial error was committed and the rulings are affirmed.
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38 The self-insured employer's motion for S. Frederick Feller, Board Chair, to recuse himself
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40 from further participation in this appeal is addressed by a separate order attached hereto. The
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42 motion incorporates by reference two affidavits filed in *William McGraw*, Dckt. No. 96 0205, one by
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44 Rebecca D. Craig, dated October 28, 1997, and one by Bernadette M. Pratt, dated October 29,
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46 1997. We direct that a copy of these affidavits be added to the record in this appeal. For the
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purpose of this order, the motion has been denied.

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ISSUES

1. Are the present methods of differentiating between age-related hearing loss and industrially-related hearing loss sufficiently reliable that a disability award may be reduced so as to allocate for the suspected presence of age-related hearing loss?

Answer: No.

2. Is the Department correct in refusing to consider audiograms dated more than 12 months prior to a worker's last exposure to injurious noise?

Answer: No. The choice of a 12-month period is not supported by medical, scientific or administrative evidence.

3. With respect to occupational disease hearing loss claims filed after July 1, 1988, what date should be used to determine the applicable schedule of benefits?

Answer: The date that, when coupled with knowledge on the worker's part, the disease requires medical treatment or becomes partially disabling, whichever occurs first.

DECISION

We begin by noting that the summary of evidence presented by our industrial appeals judge in the Proposed Decision and Order dated June 30, 1997, is both accurate and complete. As such, the evidence will not be restated here other than for purposes of explanation or emphasis. However, by way of providing foundation for our later discussion, it is useful to review certain uncontested matters beginning with that portion of the ear that is damaged by exposure to excessive noise, the inner ear.

The record reflects that the internal ear is a remarkably sensitive structure that includes, among other things, the semicircular canal, the vestibular nerve, the cochlea and the Organ of Corti. The Organ of Corti, found in both the left and right ears, contains some sixteen thousand sensory hair cells, each of which is connected to a particular sensory nerve. When stimulated by

1 sound, the hair cell/sensory nerve emits an appropriate nerve signal that is sent in combination with
2
3 other nerve signals to the brain for interpretation and analysis.
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5 The hair cells are of particular interest in connection with industrially related hearing loss.
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7 Specifically, the medical community has long recognized that prolonged, excessive noise creates
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9 an environment in the ear in which the hair cells cannot sustain life, whether the reason be
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11 mechanical displacement or a simple reduction in blood supply. Several theories have been
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13 proffered. Whatever the reason, the hair cells actually deteriorate, the hairs wither and the cells
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15 die. Once a cell is dead, the area once occupied by the cell is replaced by scar tissue that is
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17 unable to sense sound or transmit nerve signals to the brain. Furthermore, the condition is
18
19 irreversible. Once hair cells are lost, they do not regenerate.
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21 Post-mortem, it is possible to study the internal ear and determine that hair cell population
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23 has diminished, the loss being quite evident on microscopic examination. It is not possible,
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25 however, to always know the precise cause of the loss. In the same fashion that prolonged
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27 exposure to excessive noise causes hair cells to die, so does the process of aging. Unfortunately
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29 for our purposes here, physicians are not able to determine which hair cells die from exposure to
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31 noise and which die from aging. The same part of the ear is affected in each case and the resulting
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33 scar tissue appears the same whether the cause was noise or age. To compound the uncertainty,
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35 individuals do not lose hair cells at the same rate as they age. In a situation that is perhaps
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37 analogous to male baldness, some individuals seem to lose sensory hair cells in their inner ear at a
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39 comparatively young age while other individuals grow quite old with little apparent loss. Everyone
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41 seems to respond a bit differently.
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43 It is also important to recognize that hair cell population may be affected by a host of factors
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45 other than noise or age. The medical community generally recognizes that loss may occur as a
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47 result of disease, infection, fever, medications, drug toxicity, stroke, cardiovascular efficiency, body

1 chemistry and fatigue. Significantly, it is not fully understood how any two of these factors interact
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3 in a given individual at a given age. In sum, determining the cause of hair cell loss in the presence
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5 of multiple potential causes is an extremely difficult task.

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7 At all times relevant to these appeals, the Department of Labor and Industries has rated
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9 hearing loss by using the nationally recognized impairment guide as found in the American Medical
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11 Association's publication, *Guides to the Evaluation of Permanent Impairment*, 4th ed., (AMA
12
13 *Guides*). The *Guides* have been adopted pursuant to the provisions of RCW 51.32.080(2) and
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15 WAC 296-20-01002 . Although there are other guides that could conceivably be used, the AMA
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17 *Guides* have generally been adopted on a nationwide basis to determine hearing impairment.

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19 There are several peculiarities to the AMA *Guides* that need to be recognized. First, even
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21 though the human ear is capable of perceiving sound in the range from 20 hertz (Hz) to 20,000 Hz
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23 (cycles per second), the AMA *Guides* only consider hearing loss at four of the frequencies basic to
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25 speech intelligibility, 500, 1000, 2000 and 3000 Hz. Hearing loss in frequencies above and below
26
27 those discreet levels is not considered, at least for purposes of determining the percentage of
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29 impairment under the AMA *Guides*. Second, the AMA *Guides* do not recognize the presence of
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31 any compensable disability until an individual has experienced an average of more than 25 decibels
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33 (dB) hearing loss across the four frequencies measured. This 25 dB threshold, sometimes referred
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35 to as the "low fence" or the "25 dB fence," is premised on research conducted more than 40 years
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37 ago wherein individuals with hearing loss of 25 dB or less described their hearing as good whereas
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39 individuals having hearing loss greater than 25 dB described their hearing as fair or poor. Following
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41 a period of review, criticism, and analysis, this somewhat subjective threshold has come to be
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43 recognized as the dividing line between normal and abnormal hearing and has been incorporated
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45 into the AMA *Guides*. As an aside, other industrialized countries have different thresholds.

1 The loudness or intensity of sound is measured in decibels. Derived from the average of
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3 18-24 year old males who have no audiological disease, one decibel is generally regarded as the
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5 least intensity of sound at which any given tone can be perceived. It should be recognized that
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7 increasingly intense sound, as measured in decibels, does not proceed on a simple arithmetic
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9 basis. Although a 10 decibel sound is 10 times more intense than a 1 decibel sound (1 power of
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11 10), a 20 decibel sound is 2 powers of 10 greater, or 100 times more intense. A 30 decibel sound
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13 is 1000 times more intense.

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15 An audiogram is a hearing test administered under controlled circumstances and under an
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17 established protocol. It forms the foundation of any estimate of hearing loss. As might be
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19 expected, the failure to follow test protocol can lead to wildly varying results. During an audiogram,
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21 a test subject is asked to listen for low intensity tones that are gradually increased and decreased in
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23 volume until the individual's hearing threshold is established for a given frequency. The faintest
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25 intensity at which an individual is able to perceive a given tone is called the hearing threshold. By
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27 way of example, a person with a hearing threshold of 25 dB at 500 Hz should not be able to
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29 perceive a 24 dB sound produced at the same frequency.

30 31 **Presbycusis**

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33 **Issue No. 1:** Are the present methods of differentiating between
34 age-related hearing loss and industrially-related hearing loss sufficiently
35 reliable that a disability award may be reduced so as to allocate for the
36 suspected presence of age-related hearing loss?
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38 Without question, the bulk of the evidence presented by this appeal relates to the issue of
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40 presbycusis or age-related hearing loss. The self-insured employer has framed the issue in
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42 straightforward terms by arguing that an employer should be responsible for only that portion of
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44 hearing loss that is industrially-related and nothing more. It insists that it should not be required to
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46 compensate a worker for hearing loss that is essentially the result of aging. The employer correctly
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points out that the *AMA Guides* formula for rating hearing impairment does not allocate for

1 presbycusis. Neither do the AMA *Guides* assign causation among two or more possible causes.
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3 Given these perceived limitations, the employer urges that changes be made to the manner in
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5 which the Department determines hearing compensability such that a portion of an older worker's
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7 hearing loss may be recognized to be the result of aging.
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9 The principal evidence supporting the employer's position is found in the testimony given by
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11 Robert A. Dobie, M.D., Daniel L. Johnson, Ph.D., and William Ritchie, M.D. Of these three
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13 witnesses, Dr. Dobie provides a substantial portion of the foundation for the self-insured employer's
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15 case by virtue of being both the author of *Medical-Legal Evaluation of Hearing Loss* and the
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17 architect of a median-based allocation method. Median-based allocation uses epidemiological data
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19 to predict the most likely cause of a person's hearing loss. Specifically, Dr. Dobie employs
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21 information taken from several hearing loss studies, including the International Organization of
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23 Standardization (ISO) 1999 databases,¹ A and B, to predict the estimated hearing loss from various
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25 causes, including age, occupational noise exposure and non-occupational noise exposure.
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27 Database A contains statistical information from individuals who were grouped according to age
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29 and then screened to exclude hearing loss from disease, noise exposure and/or injury. Database B
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31 incorporates survey information that did not involve any screening for hearing loss. By definition,
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33 Dr. Dobie's method is founded on the use of database medians.
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35 Dr. Dobie applies the data in the following fashion: estimated hearing loss caused by age is
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37 divided by the sum of the estimated hearing loss caused by occupational noise plus the estimated
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39 hearing loss caused by aging. The formula is used to compare an individual's hearing loss with the
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41 predicted hearing loss of workers of the same age at a comparable level of noise exposure. It
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43 should be noted that Dr. Dobie considers his method to be primarily useful in situations in which
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46 ¹ Persons regularly exposed to noise can develop hearing loss of varying severity. Due to this hearing loss, their
47 understanding of speech, perception of everyday acoustic signals, or appreciation of music may be impaired. This
International Standard (ISO 1999) presents in statistical terms the relationship between noise exposures and the noise-
induced permanent threshold shift in people of various ages.

1 there is a fundamental lack of objective information in the form of serial audiograms that might
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3 otherwise assist a physician in determining the cause of hearing loss.
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5 Dr. Daniel L. Johnson supports Dr. Dobie. He believes that a median-based allocation
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7 method is an appropriate way of apportioning cause so as to make an equitable determination of
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9 compensation benefits. Dr. Johnson, who served on the committee that eventually created ISO
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11 1999, stated that workers are presently being compensated for the entire amount of hearing loss
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13 whether the loss is industrially-related or not. At the same time, he admitted the primary purpose of
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15 ISO 1999 is to predict the amount of hearing loss in entire populations that are exposed to certain
16
17 levels of noise. Acknowledging that calculations using ISO databases must be couched in terms of
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19 statistical models, he conceded that for a single individual it was not possible to precisely determine
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21 what loss was caused by noise and what was caused by other factors.
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23 Several witnesses testified in opposition to Dr. Dobie's median-based allocation method.
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25 They included Aram Glorig, M.D., Henning von Geirke, Ph.D., Francis Irving Catlin, M.D., David M.
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27 Lipscomb, Ph.D., and Nayak Polissar, Ph.D. Dr. Glorig, who assisted in drafting the hearing loss
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29 formula promulgated by the American Medical Association (AMA), stated there is no scientific fact
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31 that allows any deduction or allocation for presbycusis since the interrelationship between injurious
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33 noise and aging cannot be established. Notwithstanding sections of Exhibit 18, published in 1961,
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35 and Exhibit 19, published in 1981, it is clear Dr. Glorig's ultimate opinion is that it is wrong to
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37 attempt to allocate between noise exposure and presbycusis inasmuch as medical science does
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39 not know how to allocate with any degree of accuracy. It remains unknown whether the relationship
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41 between age-related hearing loss and noise-related hearing loss is additive, interactive or
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43 synergistic. Dr. Glorig noted that in drafting the original AMA formula, the problem of presbycusis
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45 was discussed and eventually resolved with the recognition that there was no known way to deduct
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1 for presbycusis. Allocation for presbycusis was not possible based on current scientific information
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3 and knowledge, particularly at the frequencies encompassed by the AMA formula.
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5 Dr. Francis Catlin, who acted as chairperson for the *AMA Guides* committee that concerned
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7 itself with the ear, nose and throat, essentially agreed. He testified that the American Medical
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9 Association reviewed the subject and decided that no correction for presbycusis was necessary
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11 given the *AMA Guides* formula. He observed that the 25 dB fence, which had been incorporated
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13 into the *AMA Guides* formula, would not be exceeded for reasons of age-related hearing loss until
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15 the age of 75 to 82. Thus, in the vast majority of industrial insurance claims, presbycusis would not
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17 be an issue. As was the case with Dr. Glorig, Dr. Catlin stated his opposition to the practice of
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19 using ISO 1999 to predict any individual's hearing loss.
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21 Dr. Henning von Geirke, who chaired the committee that formulated ISO 1999, further
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23 confirmed Dr. Glorig's opinion. Dr. von Geirke made it abundantly clear that ISO 1999 is based on
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25 statistical data and should not be used to assess the hearing impairment of individual persons.
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27 Statistics cannot accurately predict anything for an individual. ISO 1999 Database B is best used to
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29 estimate the amount of hearing disability in an entire population. By way of adding further
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31 emphasis, Dr. von Geirke testified to having served on a National Institute for Occupational Safety
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33 and Health (NIOSH) committee that considered the matter. The NIOSH committee also concluded
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35 that no correction should be applied to an individual's audiogram because of age.
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37 David M. Lipscomb, Ph.D., a clinical and research audiologist, testified that Dr. Dobie's
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39 methods are flawed for at least two reasons. First, Dr. Dobie ignored the caution that ISO 1999
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41 Database B contains group data. Database B cannot be applied to individuals because a physician
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43 does not know where to enter the table. Second, Dr. Dobie assumed that various hearing loss
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45 causative factors are additive in nature. Dr. Lipscomb insists this is incorrect. The injury factors
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47 impacting hearing are so complex, both physiologically and psychoacoustically, that it is impossible

1 to consider the additive nature of more than one cause of hearing impairment. In any given
2 individual, noise could be a 10 percent contributor to hearing loss and age 90 percent, or noise
3 could be a 90 percent contributor and age 10 percent. We do not know. Given the present state of
4 science and medicine, the foundations for apportioning hearing loss between age and noise are not
5 satisfactorily resolved.
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11 Nayak Polissar, Ph.D., criticized Dr. Dobie's median-based allocation method as being
12 statistically suspect. Dr. Polissar, a biostatistician who designs medical research studies with an
13 eye toward capturing results in a statistically valid fashion, stated that Dr. Dobie inappropriately
14 used data and failed to consider all the different sources of variation and uncertainty. Dr. Polissar
15 noted uncertainty in Dr. Dobie's use of smoothed data, uncertainty with combining percentiles
16 across hearing tones, uncertainty over test-retest variations, and uncertainties over the variation in
17 population data. In the final analysis, Dr. Polissar doubted that opinions based upon Dr. Dobie's
18 median-based allocation method could be rendered on a more probable than not basis.
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27 Mary Burbage, an Adjudicator 5 with the self-insurance section of the Department of Labor
28 and Industries, testified to being responsible for managing appeals of hearing loss claims within the
29 Department. In those instances in which medical evidence demonstrates that a particular
30 non-occupational disease causes hearing impairment, the Department will conceivably segregate
31 that portion of hearing loss as being outside the employer's responsibility, assuming medical
32 evidence is sufficient to support such. Ms. Burbage indicated that the Department does not,
33 however, deduct or segregate for age-related hearing loss under the belief that the 25 dB threshold
34 incorporated in the *AMA Guides* formula takes presbycusis into consideration. We pause to
35 observe that the Department appears to be mistaken in this regard. Although the 25 dB threshold
36 may, as a practical matter, have the effect of taking a deduction for presbycusis, it is clear from the
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1 evidence presented here that the 25 dB threshold and presbycusis have no direct connection with
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3 one another.

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5 We are persuaded that the Department's refusal to accept medical opinions founded upon
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7 Dr. Dobie's median-based allocation method is in keeping with the meaning of RCW 51.32.080(2)
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9 and WAC 296-20-01002. Our reasons are several. First, Dr. Dobie's median-based allocation
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11 method has not been recognized on a national basis as a reliable way to segregate noise-induced
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13 and age-related hearing loss. Second, Dr. Dobie's method takes data from ISO 1999 population
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15 studies and inappropriately applies it to individuals. ISO 1999 states, "[t]his International Standard
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17 is based on statistical data and therefore shall not be used to predict or assess the hearing
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19 impairment or hearing handicap of individual persons." ISO 1999-1990 at 1. Third, the
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21 preponderance of medical evidence supports the conclusion that injury factors impacting hearing
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23 are so complex that it is impossible to consider the additive nature of more than one cause of
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25 hearing impairment. Dr. Dobie's reliance on the principle that multiple causes of hearing loss are
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27 numerically additive is simply not supported by the greater medical community. Given the present
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29 state of medicine, the preponderance of evidence forces the conclusion that the foundations for
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31 apportioning between age and noise are not adequately satisfied. Fourth, Dr. Dobie's
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33 median-based method of allocation appears to be statistically unreliable. We find Dr. Polissar's
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35 criticisms sufficiently persuasive to conclude that Dr. Dobie's method of apportionment cannot
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37 support a medical opinion on a more probable than not basis. Fifth, we find nothing in the Industrial
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39 Insurance Act that either promotes or encourages the theory that a reduction of an individual's
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41 permanent partial disability award may be based upon age. To the contrary, RCW 51.12.010
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43 requires the act to be liberally construed for the purpose of reducing to a minimum the suffering and
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45 economic loss arising from injuries and/or death occurring in the course of employment. In our
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47 view, the requirement of liberal construction argues against taking a deduction for presbycusis

1 given the competing arguments regarding it. Finally, even if it was medically possible to allocate
2 between noise-related and age-related hearing loss, it does not appear that presbycusis, in and of
3 itself, rises to the level of compensability until the age range of 75 to 82. As noted earlier, the AMA
4 *Guides* incorporate a 25 dB fence into the hearing loss formula below which hearing loss is
5 considered non-compensable. The evidence here indicates that age-related hearing loss will not
6 reach the 25 dB threshold of compensability until the age of 75 to 82, thus making the issue of age-
7 related hearing loss moot in the vast majority of cases. Even this assumption, that age-related
8 hearing loss is not a factor until later in life (75 to 82 years of age), is a statistical conclusion that is
9 not descriptive of an individual case. Again, we will not extrapolate from the general to the specific.

18 Audiograms

19 **Issue No. 2:** Is the Department correct in refusing to consider
20 audiograms dated more than 12 months prior to a worker's last
21 exposure to injurious noise?
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23 The next question concerns how to determine a worker's permanent hearing impairment.
24 Permanent impairment is determined by audiograms, which measure the loss of hearing. In order
25 to measure hearing loss it would be ideal to do an audiogram on the day a worker leaves
26 employment. However, few workers are given an audiogram on the day they retire, terminate
27 employment, or are otherwise removed from exposure to excessive noise. In cases involving older
28 workers, it is not uncommon for audiograms to bracket a worker's retirement by periods of a year or
29 more on each side of the date on which employment was terminated. But for the fact that the
30 results of the audiograms are often substantially different, this would not be a problem. However,
31 an audiogram taken a year or two before retirement may show substantially less impairment than
32 an audiogram taken a year or two after retirement.
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34 Our review of the record indicates that for all times relevant to these appeals the Department
35 adhered to a internal rule of practice that disfavored audiograms administered more than 12 months
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1 prior to a worker's last exposure to injurious noise. Mary Burbage, identified in the previous
2 section, testified that audiograms administered more than 12 months prior to a worker's last
3 exposure to injurious noise are rejected because they fail to account for additional hearing damage
4 that occurs between the date of the audiogram and the date the worker is removed from injurious
5 noise. The exceptions to this rule are those instances in which the employer can establish no
6 injurious noise existed during the period subsequent to the audiogram in question.
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13 The self-insured employer argues that the Department's unwritten rule is without substance
14 and is patently arbitrary. It insists there is no medical, scientific or administrative reason for
15 rejecting any particular audiogram and points out that the Department has been unable to identify a
16 statute, code section, or precedent that specifically supports the 12-month rule. The employer
17 further notes the Department has failed to explain why a 12-month standard is preferable to a
18 1-month, 6-month or 18-month standard.
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25 In this instance, the employer is correct. The Department has been unable to articulate why
26 an audiogram administered 11 months prior to removal from injurious noise is acceptable for rating
27 permanent impairment while one administered 13 months prior is not. When subjected to this
28 scrutiny, the choice of 12 months appears to be a decision that is not easily supported. At best, the
29 12-month rule provides the Department with a working rule of thumb that allows for consistency in
30 the administration of claims, whether or not the rule is otherwise supportable.
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37 Given the record here, there appears to be no particular period of time that can be said to be
38 superior over any other. The criticisms brought against a 12-month period apply equally to the
39 selection of any other specified period of time. As such, we are unable to conclude that the
40 Department's choice of a 12-month period is warranted.
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45 With that said, we must also address the concerns of the worker. In doing so, we are unable
46 to conclude that a worker who continues to be exposed to injurious noise through the final day of
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1 his or her employment is fairly compensated for hearing loss when his or her disability award is
2 based on an audiogram administered months or years earlier. In the presence of sufficiently
3 intense sound, we can well imagine a worker suffering permanent hearing loss after only a few
4 days of continuous exposure. Given that fact, we are not prepared to conclude that the final days
5 of a worker's exposure to excessive noise are so insignificant that any resultant hearing loss can be
6 disregarded outright. To do so would be to engage in the same type of assumptions that resulted in
7 the Department's 12-month rule.
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15 The employer argues that a physician may base his or her opinion on an audiogram of any
16 given date. We do not necessarily disagree. A physician's opinion could conceivably be based on
17 an infinite number of chronologically separate and distinct facts. However, in those instances
18 where the evidence shows a worker continued to be placed in a noisy work environment after the
19 date of a given audiogram, we believe the burden appropriately shifts to the employer to show by
20 persuasive evidence that subsequent workplace noise was **not** injurious to the worker's hearing.
21 Where this showing is ignored or omitted, little weight need be given to the physician's opinion. In
22 this instance, we agree with both the Department of Labor and Industries and our industrial appeals
23 judge that the burden appropriately shifts to the employer. The employer controls the workplace
24 environment and is typically the entity responsible for monitoring and addressing work place noise.
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35 We believe that a physician's opinion based on an audiogram administered prior to a
36 worker's removal from excessive noise is an opinion that is logically open to question. We
37 conclude that unless the opinion is supported by persuasive evidence showing further exposure to
38 workplace noise was not injurious to the worker's hearing (i.e., lack of sufficient exposure to noise
39 or availability and utilization of hearing protection), the opinion need not be accorded great weight.
40 For the reasons outlined above, we do not agree that an audiogram administered prior to a worker's
41 removal from excessive noise is a fair expression of a worker's entire industrially-related hearing
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1 loss. This applies whether the audiogram was administered one month or one year prior to the
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3 worker's final injurious exposure. In general, a reliable audiogram taken within a reasonable time
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5 after a worker's removal from injurious noise will normally be given greater weight than one taken
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7 before final injurious exposure.

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9 Finally, the preferred measure of determining a worker's hearing impairment is an
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11 independent, clinically reliable audiogram. Although we do not discount "on-site" or "industrial"
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13 audiograms per se, such audiograms will be carefully scrutinized to determine whether appropriate
14
15 testing protocol was followed. In any case, where the evidence suggests an audiogram was
16
17 administered under inappropriate circumstances, the results will be given little weight, irrespective
18
19 of whether the audiogram is considered "on-site," "industrial" or "clinical."

20 21 22 **Schedule of Benefits**

23
24 **Issue No. 3:** With respect to occupational disease hearing loss claims
25 filed after July 1, 1988, what date should be used to determine the
26 applicable schedule of benefits?
27

28 RCW 51.16.040 states that compensation and benefits provided for occupational diseases
29
30 shall be paid in the same manner as compensation and benefits for industrial injuries. While this
31
32 section is straight forward, it should be noted that an industrial injury is the consequence of a single
33
34 event whereas an occupational disease can be the result of a series of events or the result of
35
36 exposure over a period of time. Choosing a single schedule of benefits for an occupational disease
37
38 requires the selection of a date specific from, often times, numerous possibilities.
39

40 The Department of Labor and Industries and the claimant argue that noise-induced hearing
41
42 loss is not a single disease but is multiple diseases. Accordingly, a separate schedule of benefits
43
44 should be used for each incremental increase in hearing loss to reflect the compensation in effect at
45
46 the time the loss is experienced. While this concept has a certain logic, we are unable to find any
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1 support for it in either the Industrial Insurance Act or accompanying case law. It is an imaginative
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3 proposal that appears to be outside the province of the Board of Industrial Insurance Appeals.
4

5 Our review of the record reveals that all eight of the appeals before us (including the present
6
7 appeal) relate to claims filed after July 1, 1988. RCW 51.32.180(b), as amended by Laws of 1988,
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9 ch. 161, § 6, provides that:

10
11 [F]or claims filed on or after July 1, 1988, the rate of compensation for
12 occupational diseases shall be established as of the date the disease
13 requires medical treatment or becomes totally or partially disabling,
14 whichever occurs first, and without regard to the date of the contraction
15 of the disease or the date of filing the claim.
16

17 WAC 296-14-350(3) essentially reiterates the language of the statute and declares, "[b]enefits shall
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19 be paid in accordance with the schedules in effect at the time the disease required medical
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21 treatment or became totally or partially disabling, whichever occurred first, without regard to the
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23 date of the contraction of the disease or the date of filing the claim."
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25 In a series of appeals involving claims filed before July 1, 1988, we determined that the date
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27 of manifestation of an occupational disease is the particular point in time that determines schedule
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29 of benefits. *In re Charles Jones*, BIIA Dec., 87 2790 (1989); *In re Kenneth Alseth*, BIIA
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31 Dec., 89 2737 (1989); *In re Milton May*, BIIA Dec., 87 4016 (1989); *In re Otto Weil, Dec'd*, BIIA
32
33 Dec., 86 2814 (1987); and, *In re Robert Wilcox*, BIIA Dec., 69,954 (1986). Given the 1988
34
35 amendment to RCW 51.32.180, an obvious question is raised as to whether the 1988 Legislature
36
37 created a new rule for determining schedule of benefits or whether the Legislature was merely
38
39 clarifying what was meant by the "date of manifestation."
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41 We considered this question some years ago. At the time, we specifically concluded that the
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43 1988 Legislature clarified the meaning of date of manifestation by defining it as "the date the
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45 disease requires medical treatment or becomes totally or partially disabling, whichever occurs
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47 first" *In re Kenneth Alseth*, BIIA Dec., 87 2937 (1989). At first blush, it would appear that the

1 matter is long since decided and that the 1988 amendments to RCW 51.32.180 confirm the well
2 established "date of manifestation" rule. However, because *Alseth* involved a claim filed before
3 July 1, 1988, some of the *Alseth* language must be regarded as dicta and is not necessarily
4 controlling in the matter before us now. Given the concerns raised by the parties in this appeal, we
5 pause to consider whether our reasoning in *Alseth* remains valid. In doing so, we begin by
6 analyzing the phrases "the date the disease requires medical treatment" and "partially disabling" as
7 found in RCW 51.32.180(b). We consider the phrase "totally disabling" to be beyond the scope of
8 our consideration.

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17 In the context of industrially-related hearing loss, the phrase "the date the disease requires
18 medical treatment" has created more controversy than might first be apparent. Both the claimant
19 and the Department of Labor and Industries argue that noise-induced hearing loss is a disease for
20 which there is no medical treatment, per se. The "treatment" for noise-induced hearing loss is to
21 simply remove the individual from the offending noise. The Department and the claimant argue
22 there can be no date of first treatment for hearing loss because noise-induced hearing loss does
23 not lend itself to medical treatment in the same sense that other occupational diseases do. Rather,
24 noise-induced hearing loss is a condition that can only be identified, monitored and ameliorated
25 with hearing aids.

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35 The concerns raised by the Department and the claimant are well taken. However, the
36 parties advance a definition of treatment that appears to be unnecessarily narrow. Conceivably,
37 there are many occupational diseases that can neither be cured nor ameliorated by known medical
38 treatment. Potentially, many will only be identified, monitored and improved with medical care. To
39 require the definition of treatment to be limited to those conditions that can be improved by medical
40 care is to focus on the result rather than the process. We decline to accept this limited view. We
41 conclude that an individual's hearing loss is deemed to "require medical treatment" as of the date a

1 person consults with a physician or seeks other means of obtaining relief from his or her hearing
2
3 loss, irrespective of whether or not curative treatment is available in the usual sense.
4

5 The second phrase of RCW 51.32.180 relates to the words "partially disabling." As we
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7 discussed in an earlier portion of this decision, the *AMA Guides* do not recognize the existence of
8
9 any hearing disability until an individual's average hearing loss exceeds 25 dB at the four
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11 frequencies tested. For purposes of establishing a schedule of benefits date, other hearing loss
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13 thresholds could be adopted that might begin with as little as 1 dB of permanent threshold shift,
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15 assuming such a threshold was nationally recognized. To adopt a different standard, however,
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17 would mean that we would create one definition of "partially disabling" to determine the percentage
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19 of permanent partial disability and a second definition to determine the schedule of benefits for
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21 paying the award. We do not believe this is wise. Despite the potential existence of other
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23 standards, we believe logic and consistency require the use of the *AMA Guides* standard for the
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25 purpose of establishing the schedule of benefits date. So that we are clear, we conclude that
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27 hearing loss is disabling within the meaning of RCW 51.32.180 when the average loss exceeds
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29 25 dB across the frequencies specified in the *AMA Guides*. Individuals whose threshold shift
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31 averages 25 dB or less do have some hearing loss, however, their hearing loss will not be
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33 considered "partially disabling" within the meaning of RCW 51.32.180 until it exceeds, on average,
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35 25 dB. This will continue to be the case as long as the *AMA Guides* are the approved standard of
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37 evaluation or until the *Guides* are modified.
38

39 This leads to another and yet more difficult question: Is audiometric evidence sufficient, in
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41 and of itself, to establish the date at which hearing loss becomes disabling? To briefly frame the
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43 problem, audiometric testing, which forms the foundation of measuring hearing loss, is not a matter
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45 that has remained within the exclusive domain of the medical profession. To the contrary,
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47 audiograms are routinely administered by many non-medical retail businesses, including

1 department stores, as well as by employers who administer the tests at the work site, as the record
2 here indicates. The validity of an audiometric test should be established by medical opinion that
3 confirms the reliability of the test in terms of its administration and results. In light of the significant
4 financial impact that flows from the date selected for the schedule of benefits, we can require
5 nothing less than a valid and reliable audiometric test as confirmed by medical testimony.
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11 Although there is no authority directly on point to guide us with regard to the need for
12 medical validation, we can reason by analogy. We note, for example, that WAC 296-20-200(2)
13 requires determinations of total or partial disability be based on medical opinion. Similarly,
14 certification of temporary total disability benefits (time loss compensation) is a decision typically
15 made by medical experts as is the decision as to whether a worker requires further treatment.
16
17 While we recognize there is a qualitative distinction between rating percentage of disability, for
18 example, and deciding whether hearing loss is or is not disabling, we nonetheless see a pattern
19 throughout the Industrial Insurance Act that requires input from medical professionals. This pattern
20 leads us to believe that medical evidence is desirable in determining when an individual's hearing
21 loss has become disabling so as to avoid inadvertent or misinformed decisions. The sensibility of
22 this requirement seems obvious to us. Given that, we conclude that the existence of audiometric
23 evidence is not sufficient by itself to establish a schedule of benefits date. The results of
24 audiometric testing must be confirmed by medical evidence and/or opinion for the results to form
25 the foundation for schedule of benefits.
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39 A valid and reliable audiometric test that shows than an individual's noise-induced hearing
40 loss is partially disabling (greater than 25 dB) would, in the absence of further critical inquiry, seem
41 to establish the date for the schedule of benefits. However, noise-induced hearing loss is a peculiar
42 occupational disease. Occurring over a period of years, there are no dramatic symptoms to alert an
43 individual that hearing loss is progressing. Because it does not cause pain and has no physical
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1 outward signs or symptoms, hearing loss lacks the element of warning common to other medical
2 conditions. Therefore, the nature of hearing loss has the potential to affect workers differently with
3 regard to the partially disabling requirement of RCW 51.32.180(b). Workers with a more obvious
4 condition, such as a skin rash or breathing difficulties, are going to be more readily aware that their
5 work environment is having some adverse effect on them. If these more obvious conditions rise to
6 the level of becoming partially disabling, that fact will be evident to the worker. The worker knows
7 of the condition and can make effective choices about treatment and continued exposure. By
8 comparison, hearing loss can become partially disabling without the worker being alerted to the
9 problem. We cannot imagine a definition of "partially disabling" within the meaning of the statute
10 that would treat workers differently based solely on the nature of the medical condition they may
11 have.

12
13 In order to ensure that the "partially disabling" trigger to start the schedule of benefits for
14 occupational diseases be applied fairly to all workers, we require that there must be a showing that
15 the worker knows of limitations in his or her hearing. Initially individuals may not perceive changes
16 in their hearing because these changes are gradual. The adaptation to these changes in hearing
17 are often intuitive rather than conscious or deliberate. Eventually a person will know of hearing
18 limitations because of interactions with other people or because the circumstances of daily living
19 will inexorably force the person to confront the problem. This is more than a mere suspicion of a
20 problem, but a knowledge that the capacity to hear is not what it once was. Until a person reaches
21 this point they are not in a similar position with those who have more obvious occupational
22 diseases. When a worker has knowledge of the condition he or she can finally make decisions
23 regarding treatment and continued exposure.

24
25 In the early history of workplace audiometric testing, results were not always or consistently
26 made available to the worker. Assuming that such a test were valid, as we have defined it here,

1 and assuming that the worker was unaware of the results of such a test, it would be patently unfair
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3 to utilize the date of such a test to trigger the schedule of benefits. What we require is that there be
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5 a showing that the worker also has knowledge of limitations in his or her hearing before a schedule
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7 of benefits can be determined. Thus, two elements are required to establish the date for the
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9 schedule of benefits. There must be a medically valid audiometric test showing that the worker's
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11 hearing loss is greater than 25 dB and evidence that the worker knew that he or she had hearing
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13 limitations. The date of the schedule of benefits is triggered when both of these elements have
14
15 been met.

16
17 We restate and expand on our reasons for requiring knowledge as follows: **First**, the 25 dB
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19 threshold at which hearing loss is deemed to be disabling is a somewhat arbitrary threshold. Other
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21 industrialized nations use other thresholds. An individual is unable to subjectively determine the
22
23 precise 25 dB point at which hearing loss becomes disabling. No individual is likely to know when
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25 his or her hearing shifts from an average of 25 dB to an average of 26 dB. In the absence of
26
27 specific information about an audiometric test showing a threshold shift, we will not impose the risk
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29 of economic loss upon a worker without the worker at least knowing of hearing limitations. **Second**,
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31 we see a compelling interest in protecting the worker from experiencing further hearing loss. By
32
33 requiring the element of knowledge in determining a schedule of benefits, the worker reaches a
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35 point when he or she can make decisions about seeking medical assistance and mitigating further
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37 loss. **Third**, it is not common in our system of jurisprudence to impose a risk of loss on someone
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39 who is in a position of ignorance. We will not impose a schedule of benefits on an individual who
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41 may be unaware that he or she has any limitation in hearing. **Fourth**, the knowledge element is
42
43 consistent with the Department's regulations. Specifically, employers are required in WAC 296-62-
44
45 09027(8)(c) to advise their employees in writing, within 21 days of the existence of a standard
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47 threshold shift, as determined by audiometric testing.

1 In summary, RCW 51.32.180(b) presents two possibilities that potentially serve to trigger a
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3 schedule of benefits date. The first possibility is the date that a worker's industrially related hearing
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5 loss requires medical treatment which, as we have indicated earlier, means the date a worker
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7 consults with a physician for the purpose of obtaining relief or the date a worker obtains hearing
8
9 aids.

10
11 The second possibility for triggering a schedule of benefits date is the date that a worker's
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13 industrially related hearing loss becomes partially disabling. For the condition to be considered
14
15 partially disabling within the meaning of RCW 51.32.180(b), two elements must be established.
16
17 First, there must be medically valid (reliable) audiometric evidence showing the worker's hearing
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19 loss exceeds, on average, the 25 dB threshold discussed in the *AMA Guides*. Second, there must
20
21 be a showing as to the date the claimant had knowledge of limitations to his or her hearing. Proof
22
23 of the worker's knowledge can be by any persuasive evidence. These two elements establish
24
25 "partially disabling" within the meaning of RCW 51.32.180(b) with respect to triggering a schedule
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27 of benefits date.

28
29 In conclusion, we believe that the 1988 amendments to RCW 51.32.180 incorporate our
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31 long-standing rule that a disease or disability is not manifest unless it is evident, in some fashion, to
32
33 the worker. To do otherwise would be to encourage the practice of establishing a benefits date
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35 before the time that a disease is evident to the worker. Recognizing that proof of knowledge can be
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37 established by any persuasive evidence, we require that a worker have knowledge of limitations to
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39 his or her hearing before a schedule of benefits can be established in occupational disease hearing
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41 loss cases.

42 43 **SUMMARY** 44

45
46 Given the foregoing, we now turn our attention to the specifics of Mr. Williams' case to
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answer two key questions necessary for the resolution of his particular appeal. First, what is the

1 appropriate date to use in establishing his schedule of benefits? Second, what audiometric and
2
3 medical evidence should be used to rate his permanent partial disability?
4

5 With respect to establishing a schedule of benefits, the record is clear that Mr. Williams
6
7 obtained hearing aids in 1987. We believe that the act of obtaining hearing aids constitutes
8
9 "medical treatment" within the meaning of RCW 51.32.180(b). Thus, it appears that Mr. Williams'
10
11 schedule of benefits should be that which was in effect in 1987.
12

13 However, because RCW 51.32.180(b) presents two possibilities for triggering a schedule of
14
15 benefits date, we must also ask if Mr. Williams' hearing was partially disabling prior to 1987. If there
16
17 is reliable audiometric evidence supported by medical opinion showing that Mr. Williams' hearing
18
19 loss averaged more than 25 dB at the four frequencies identified in the *AMA Guides*, then the use
20
21 of an earlier date would be appropriate, assuming there is a persuasive showing that Mr. Williams
22
23 had knowledge of limitations to his hearing prior to 1987.
24

25 Dr. William Richie testified that Mr. Williams had experienced 4.24 percent binaural hearing
26
27 loss (more than 25 dB hearing loss) as long ago as 1976, based on the results of an audiogram
28
29 taken at the job site that year. That evidence, taken with Mr. Williams' testimony that he had some
30
31 difficulty hearing in 1976, suggests that 1976 may be the appropriate schedule of benefits date.
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33 Unfortunately, as we examine the evidence in more detail we see that the job site audiograms, first
34
35 taken in 1976 and then followed on a fairly regular basis beginning in 1986, do not appear to be
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37 reliable, especially the earliest of these. Dr. Richie testified that he knew nothing of the
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39 circumstances under which the industrial audiograms were performed. Furthermore, he did not
40
41 know if the audiograms were performed within 14 hours of Mr. Williams being exposed to injurious
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43 noise, a possibility that could have caused a temporary threshold shift of up to 10 dB. An inflated
44
45 temporary threshold shift would have the effect of triggering a schedule of benefits date much
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47 earlier than it might otherwise be triggered. Given the unequivocal, opposing testimony from

1 Dr. Duckert that the early work site audiograms should not be relied upon, we find the evidence to
2
3 be insufficiently persuasive to trigger a schedule of benefits date prior to 1987, the year that
4
5 Mr. Williams obtained hearing aids. Thus, we have in this case a situation where the worker may
6
7 have known of limitations in his hearing for some time, but there was no reliable audiometric testing
8
9 to confirm that it had become disabling, exceeding 25 dB until much later. Restated, the date of
10
11 treatment in 1987, when Mr. Williams acquired hearing aids, is the appropriate date to use in
12
13 establishing a schedule of benefits.

14
15 With respect to determining the extent of Mr. Williams' permanent partial disability, at least
16
17 two reasonable choices are presented here, one on each side of Mr. Williams' retirement on
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19 October 31, 1990. The first choice relates to audiometric and medical opinions from an April 24,
20
21 1990 audiogram. The second relates to an audiogram taken May 15, 1995. Comparing the two,
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23 we believe the audiogram taken April 24, 1990, most accurately reflects Mr. Williams' industrially
24
25 related permanent partial disability. Our reasons are several.

26
27 On April 28, 1989, Mr. Williams underwent audiometric testing that indicated his hearing loss
28
29 was equal to 20.94 percent binaural hearing impairment. This test was approximately 18 months
30
31 prior to retirement. On April 24, 1990, approximately six months prior to retirement, Mr. Williams
32
33 had another audiogram that established his binaural hearing impairment at 21.56 percent.
34
35 Mr. Williams then retired October 31, 1990, thus ending his exposure to workplace noise. The
36
37 audiograms of 1989 and 1990 show a reasonably consistent, gradually increasing, loss of hearing.
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39 Given this gradual increase, Dr. Richie opined that Mr. Williams had experienced 22 percent
40
41 binaural hearing impairment as of the date he retired.

42
43 As we indicated earlier in this decision, in a case such as this in which a worker continues to
44
45 be placed in a noisy work environment after the date of a given audiogram, herein April 28, 1990,
46
47 the burden shifts to the employer to show by persuasive evidence that subsequent workplace noise

1 was not injurious to the worker's hearing. Here, the persuasive evidence required of the employer
2 comes from the worker himself. Mr. Williams testified that by the late 1980s he was wearing
3 hearing protection. He was wearing hearing protection regularly inasmuch as the employer had
4 become strict about it at some point in the 1980s. Given that Mr. Williams appeared to be using
5 hearing protection in the six months prior to his retirement, it does not seem likely that he would
6 have suffered an additional 11-12 percent hearing loss in the last six months of his employment as
7 is suggested by the 1995 audiogram used by the Department of Labor and Industries in rating
8 Mr. Williams' permanent partial disability. On balance, the April 24, 1990 audiogram and supporting
9 medical opinion is the most persuasive evidence with respect to determining the extent of
10 Mr. Williams' permanent industrially related hearing loss. As of his retirement in October 1990,
11 Mr. Williams' industrially related hearing loss was equal to 22 percent binaural impairment. No
12 deduction is to be made for the suspected presence of presbycusis.
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FINDINGS OF FACT

1. On May 8, 1995, the claimant, Eugene W. Williams, filed an application for benefits with the Department of Labor and Industries alleging occupational hearing loss in both ears during the course of his employment with Centralia Mining Company (latest Department order lists the employer as Pacific Power & Light Company).

On May 15, 1995, the Department issued an order directing the self-insured employer to accept the claim for occupational hearing loss, ordered the self-insured employer to pay a permanent partial disability award equal to 32.81 percent for complete loss of hearing in both ears and to remain responsible for the purchase and maintenance of hearing aids; indicated that the hearing loss formula considered the effects of presbycusis and the decision was made using the results of an audiogram dated February 24, 1995; determined that occupational hearing loss sustained prior to employment with the self-insured employer could not be segregated out; acknowledged that the condition of tinnitus had been factored into the hearing loss formula that was used to ascertain the permanent impairment award; established that the medical condition was stable; and thereupon closed the claim.

1 On June 26, 1995, a Notice of Appeal was filed with the Board of
2 Industrial Insurance Appeals by the self-insured employer regarding the
3 Department order of May 15, 1995.
4

5 On July 20, 1995, the Board issued an order granting the appeal,
6 assigned Docket No. 95 3780, and directed that further proceedings be
7 conducted on the merits.
8

9 2. Eugene W. Williams, born on October 4, 1925, is presently 72 years old.
10 Mr. Williams was hired by WIDCO/Centralia Mining Company in October
11 of 1973 and retired on October 31, 1990. During his period of
12 employment, his primary duties were operating bulldozers and scrapers
13 that subjected him to high levels of noise.
14

15 3. During the initial years of employment, the self-insured employer did not
16 strictly enforce policies concerning the use of noise attenuation devices.
17 On March 1, 1976, an "on-site" audiogram was performed upon
18 Mr. Williams and the results established a 4.06 percent binaural hearing
19 impairment when calculated pursuant to the American Medical
20 Association (AMA), *Guides to the Evaluation of Permanent Impairment*,
21 4th ed. At that time, Mr. Williams was aware of hearing problems that
22 had not existed at the time of his employment in October 1973. The
23 self-insured employer enforced a hearing program in the early 1980s
24 and annual on-site audiograms were administered from 1986 to 1990 in
25 soundproof facilities during Mr. Williams' shift. There is no evidence that
26 Mr. Williams was informed of the audiogram results when they were
27 administered or was subsequently advised by any medical expert who
28 interpreted any of the test results into a compensable permanent partial
29 disability.
30

31 4. Mr. Williams experienced more serious hearing problems in 1984/1985
32 and noted a slight improvement in his hearing, which improved after
33 evenings and week-ends away from his work environment. Thereafter,
34 his hearing worsened and he acquired hearing aids in 1987. On that
35 date, his hearing handicap was evident to him, he had knowledge of his
36 hearing loss condition, that it was causing some potential disability,
37 and/or required further medical treatment.
38

39 5. Mr. Williams' employment duties, operating bulldozers and scrapers, at
40 WIDCO/Centralia Mining Company from 1973 to 1990, naturally and
41 proximately resulted in injurious exposure from occupational noise that
42 caused a permanent impairment. As of May 15, 1995, the date of the
43 order under appeal, Mr. Williams' permanent impairment is best
44 described as 22.00 percent of complete binaural hearing loss.
45

46 6. As of May 15, 1995, Mr. Williams' hearing loss condition, proximately
47 caused by exposure to injurious noise during his employment with

1 Centralia Mining Company, was fixed and stable and not in need of
2 further treatment.

- 3
- 4 7. The American Medical Association (AMA) formula has been generally
5 adopted on a nationwide basis to determine an individual's hearing loss.
6 Since the Washington workers' compensation system utilizes that
7 formula, there can be no permanent partial disability award unless the
8 total binaural hearing loss exceeds the level of 25 decibels (dB), known
9 as the "threshold" fence. The median age group will not experience a
10 hearing handicap/disability (hearing loss exceeding 25 dB) as a result of
11 age-related hearing loss until the approximate age of 75 to 82 years.
- 12
- 13 8. As of the date of this decision, physicians are not able to determine
14 aging's contribution to an individual's hearing loss on a more probable
15 than not medical basis.
- 16
- 17 9. The claimant's binaural hearing loss rating, based on an audiogram of
18 April 28, 1990, was 21.56 percent complete binaural hearing loss as
19 calculated pursuant to the AMA, *Guides to the Evaluation of Permanent*
20 *Impairment*, 4th ed.
- 21
- 22 10. As of May 15, 1995, as a direct and proximate result of his industrial
23 exposure to noise during his working career, culminating on October 31,
24 1990, the claimant sustained permanent binaural hearing loss equal to
25 22 percent of the complete loss of hearing in both ears and requires the
26 use of hearing aids. This takes into account the additional hearing loss
27 the claimant suffered from the time of the April 28, 1990 audiogram to
28 the date of retirement, October 31, 1990.
- 29
- 30 11. In calculating the claimant's monetary award for permanent partial
31 disability, as reflected in the Department order of May 15, 1995, the
32 Department of Labor and Industries used the schedule of benefits in
33 effect on October 1, 1990.

34 CONCLUSIONS OF LAW

- 35
- 36
- 37 1. The self-insured employer's Notice of Appeal filed with the Board of
38 Industrial Insurance Appeals on June 26, 1995, was timely filed within
39 the meaning of RCW 51.52.060 and WAC 263-12-060.
- 40
- 41 2. The Board of Industrial Insurance Appeals has jurisdiction over the
42 parties and the subject matter to this appeal.
- 43
- 44 3. As of May 15, 1995, the claimant, Eugene W. Williams, suffered
45 permanent occupational hearing loss of 22 percent of the complete loss
46 of hearing in both ears, as defined in RCW 51.32.080. The date upon
47 which the claimant was aware and had knowledge that he had a partial
disability or required medical treatment for that condition was in 1987.

- 1
2 4. The claimant's hearing loss arose naturally and proximately out of
3 distinctive conditions of employment with Centralia Mining Company as
4 an operator of bulldozers and scrapers, and his last injurious exposure
5 to noise occurred during the course of his employment with Centralia
6 Mining Company and constitutes a compensable occupational disease
7 within the meaning of RCW 51.08.140.
8
- 9 5. The appropriate schedule of benefits for Mr. Williams' permanent partial
10 disability is that which was in effect in 1987.
- 11
12 6. Washington law does not permit a reduction in a worker's permanent
13 partial disability benefits to account for aging's contribution to hearing
14 loss.
15
- 16 7. The Department order dated May 15, 1995, that directed the
17 self-insured employer to accept the claim filed by Eugene W. Williams
18 concerning occupational hearing loss; determined that the covered
19 medical condition was stable; ordered the self-insured employer to pay a
20 permanent partial disability award equal to 32.81 percent for complete
21 loss of hearing in both ears, and to remain responsible for the purchase
22 and maintenance of hearing aids; indicated that the hearing loss formula
23 considered the effects of presbycusis, and that the decision was made
24 using the results of an audiogram dated February 24, 1995; determined
25 that occupational hearing loss sustained prior to employment with the
26 self-insured employer could not be segregated out; acknowledged that
27 the conditions of tinnitus have been factored into the hearing loss
28 formula that was used to ascertain the permanent impairment award;
29 established that the medical condition was stable and applied a
30 schedule of benefits in effect on October 1, 1990; is incorrect and is
31 reversed. The matter is remanded to the Department with directions to
32 the self-insured employer to accept the claim filed by Eugene W.
33 Williams concerning occupational hearing loss; determine that the
34 covered medical condition is stable; order the self-insured employer to
35 pay a permanent partial disability award equal to 22 percent for
36 complete loss of hearing in both ears, calculated using a schedule of
37 benefits in effect in 1987, and to remain responsible for the purchase
38 and maintenance of hearing aids; indicate that the hearing loss formula
39 indirectly considered the effects of presbycusis and that the decision is
40 made using the results of an audiogram dated April 28, 1990; determine
41 that occupational hearing loss sustained prior to employment with the
42 self-insured employer cannot be segregated; acknowledge that the
43 condition of tinnitus has been factored into the hearing loss formula that
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47

1 was used to ascertain the permanent impairment award; establish that
2 the medical condition is stable; and to thereupon close the claim.

3
4 It is so ORDERED.

5
6 Dated this 2nd day of March, 1998.

7
8 BOARD OF INDUSTRIAL INSURANCE APPEALS

9
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12 _____
13 S. FREDERICK FELLER Chairperson

14
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16 _____
17 FRANK E. FENNERTY, JR. Member

1 **DISSENT**

2
3 I strongly disagree with the majority's analysis and legal conclusions on the issues of the
4 employer's responsibility for permanent partial disability and the appropriate schedule of benefits on
5 hearing loss claims. On the issue of determining which audiogram should be used to determine
6 permanent partial disability, I agree in part and disagree in part.
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11 **EXTENT OF PERMANENT PARTIAL DISABILITY**

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13
14 The statement of the first issue as presented by the majority is not accurate. The issue is
15 simply whether the formula used by the Department to calculate Mr. Williams' permanent partial
16 disability award for hearing loss should only consider the effects of occupational noise exposure.
17
18 And if so, on a more probable than not basis, what portion of Mr. Williams' hearing loss as of
19 May 15, 1995, was occupationally related?
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21
22

23
24 In addition, the majority's reference to the "suspected presence" of age-related hearing loss
25 in this case indicates a collective indifference to a fundamental, uncontested medical fact that forms
26 a cornerstone of the employer's grievance. All of the medical experts agree that a portion of
27 Mr. Williams' hearing loss **is** age-related. We are dealing with the actual presence of age-related
28 hearing loss, not a "suspected" presence.
29
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33
34 Under the Industrial Insurance Act, a worker is only entitled to compensation for conditions
35 that are proximately caused by employment. RCW 51.32.180; RCW 51.08.140; *Dennis v.*
36 *Department of Labor & Indus.*, 109 Wn.2d 476 (1987). For workers' compensation purposes,
37
38 physicians are routinely requested to provide opinions on the conditions and permanent impairment
39 proximately caused by the industrial injury or the occupational disease. In occupational hearing
40 loss claims the Department utilizes the American Medical Association's *Guides to the Evaluation of*
41 *Permanent Impairment*, 4th ed., (AMA Guides) to determine the extent of permanent impairment.
42
43 While the Department has historically allocated other causes of hearing loss from the permanent
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47

1 partial disability award, they do not allocate for presbycusis. The employer brings this appeal in
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3 response to the Department's refusal to separate out that portion of the award attributable to
4
5 age-related hearing loss.

6
7 The testimony reflects that the Department's policy of awarding permanent partial disability
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9 for occupational hearing loss was based on a mistaken belief that the 25 decibel (dB) threshold, in
10
11 effect, allocated any age-related hearing loss suffered by the claimant. The testimony also shows
12
13 that the purpose of the *AMA Guides* is to provide physicians with guidelines for rating total
14
15 impairment from all causes. They do not include specific guidelines to assist physicians in
16
17 determining the **cause** of impairment or more importantly, methods for determining the proportion
18
19 of impairment when more than one cause is evident. However, the *AMA Guides* do provide general
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21 guidelines to physicians for making causation decisions and stress the importance of acquiring,
22
23 reviewing and analyzing records dating from the onset of the condition, including the results of
24
25 occupational or environmental surveys and test results.

26
27 The cause of a disability or specific condition can only be reached after evaluating the
28
29 individual's medical and work history with other pertinent medical information that exists in that
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31 individual's case. A physician must use a deductive process that is neither an exact science nor a
32
33 mathematical formula. For occupational hearing loss claims, the *AMA Guides* do not supplant the
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35 need for the physician to determine the cause of the hearing loss. Medical opinion must relate the
36
37 condition to employment on a more probable than not basis. *Stampas v. Department of Labor &*
38
39 *Indus.*, 38 Wn.2d 48 (1951).

40
41 Several nationally recognized medical witnesses testified for the Department and the
42
43 employer on the issue of hearing loss and allocation. There was universal agreement that the
44
45 25 dB low fence **is not** included in the *AMA Guides* formula as a means of adjusting for age-related
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47

1 hearing loss. Furthermore, the formula **does not** adjust for age-related hearing loss. Lastly, the
2
3 AMA *Guides* do not prohibit an allocation or adjustment for age-related hearing loss.
4

5 Upon failing to demonstrate that the AMA formula adjusts for presbycusis either directly or
6
7 indirectly, the Department then seeks to justify its position by saying that it is not scientifically and
8
9 medically possible to differentiate presbycusis from noise-induced hearing loss. The majority,
10
11 seizing upon this claim of medical and scientific impossibility, declares that the "greater medical
12
13 community" is unable to allocate for presbycusis on a more probable than not basis. Rather than
14
15 showing medical and scientific impossibility, this record shows that for many years there has been
16
17 an ongoing debate among physicians specializing in hearing disorders about how to allocate
18
19 age-related hearing loss. This record clearly provides a reasonable methodology for apportionment
20
21 of causes, disputing the notion of impossibility.
22

23 I am concerned with the way the majority has ignored Dr. Robert Dobie's credentials and
24
25 testimony. Dr. Dobie is a world renowned expert in otology, with extensive involvement in national
26
27 hearing loss developments with the AMA and the American Academy of Otolaryngology. His
28
29 credentials are unimpeachable. The majority narrowly focuses on Dr. Dobie's proposed allocation
30
31 method as a "median-based allocation method." The import of his testimony goes beyond that
32
33 acknowledged by the majority. Dr. Dobie's testimony describes the clinical process used by
34
35 otolaryngologists for determining causation of hearing loss. He emphasizes the importance of a
36
37 physician's experience, knowledge and judgment in evaluating all of the available information and
38
39 deciding which information has the most qualitative value and relevancy to the patient. He stresses
40
41 that the evaluation of hearing loss for causation and allocation is, optimally, based on quality noise
42
43 exposure data and a series of audiograms taken over a period of years that allow the physician to
44
45 compare patterns and trends. This comparison allows the physician to evaluate the reliability of the
46
47 test results, the frequencies in which the loss has occurred, and the rate of loss in order to

1 determine probable causes. An asymmetrical pattern may indicate causes other than noise or
2
3 aging.

4
5 Dr. Dobie testified that epidemiological data is useful to physicians in making judgments
6
7 about causation in "doubtful" cases where very little information about an individual is available. He
8
9 cautions that his median-based allocation method should be used only by an informed physician.
10
11 He notes the difference between the level of scientific certainty required when conducting research
12
13 and the level of certainty required in making day-to-day clinical decisions. His appreciation for the
14
15 differences in these standards accounts for his ability to set forth a useful method of apportionment
16
17 between noise-induced and age-related hearing loss. He is aware that this method cannot provide
18
19 a precise percentage allocation, but that for compensation purposes on "doubtful individual cases,"
20
21 it can be used to offer an opinion on work related and age-related hearing loss **on a more**
22
23 **probable than not basis.**

24
25 I find it baffling that the Board majority insists that hearing loss is so unique from other types
26
27 of permanent partial disability that it is appropriate for the Department to ignore a medically
28
29 accepted method for segregating unrelated causes of hearing loss. This record clearly
30
31 demonstrates that there is a medically acceptable method. Although not a precise mathematical
32
33 method of allocation, it is nonetheless used by treating otolaryngologists in Washington's medical
34
35 community. While some physicians do not agree, others use it and believe it to be reasonably
36
37 accurate on a more probable than not basis.

38
39 The majority concludes that Dr. Glorig's ultimate opinion is that it is wrong to allocate
40
41 because there is no scientific degree of accuracy. In fact, Dr. Glorig specifically recognized that the
42
43 issue of determining presbycusis allocation is a "legal" problem rather than a scientific one. The
44
45 majority fails to appreciate the distinction between the standard of scientific certainty used in
46
47 medical studies and the standard of legal probability. By focusing on the statistical/mathematical

1 and scientific criticisms of the Dr. Dobie's specific allocation method, the Board misses the point of
2
3 a median based allocation method completely. The method is not intended to arrive at a calculation
4
5 on apportionment with absolute scientific and statistical accuracy. This has never been the
6
7 standard for medical testimony in workers' compensation cases. The goal is to provide the
8
9 physician with an additional resource that, when used in conjunction with their medical expertise
10
11 and clinical judgment, allows them to provide an opinion that meets the **legal** standard of proof in
12
13 workers' compensation cases. Neither the Department nor the Board should dictate to physicians
14
15 as to how they arrive at medical judgments or opinions. To do so has the potential of conflicting
16
17 with one of the basic tenets of workers' compensation--sure and certain relief for the worker.

18
19 In claims for conditions other than hearing loss, while the physician may be asked to explain
20
21 the basis for their opinion, their underlying knowledge and medical assumptions are not laid open to
22
23 scientific scrutiny. Other types of workers' compensation cases rely on physicians and their
24
25 expertise. The same standard should be applied in hearing loss cases.

26 27 28 **AUDIOGRAMS**

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30 I agree that the Department failed to substantiate any medical, legal or scientific basis for its
31
32 policy of considering only audiograms performed within the 12 months prior to a worker's last
33
34 injurious exposure. However, after the correct resolution of that litigated issue, I disagree with the
35
36 majority's ensuing discussion and direction that purports to "address the concerns of the worker."
37
38 The majority provides the Department and self-insured employers with specific guidance about
39
40 what will be required by this Board and what information should be given the most consideration in
41
42 making decisions as to which audiogram best represents the extent of permanent disability caused
43
44 by employment. The majority's direction may sound reasonable, but they fail to recognize the
45
46 countless fact patterns encountered by claims adjudicators in the thousands of hearing loss claims
47
48 filed through the workers' compensation system. Adjudicators must consider and weigh many

1 variables in any given case. Administrative decisions about which audiogram to use to determine
2 extent of permanent impairment are ultimately based on medical opinions. The majority's direction
3 is no more legally or medically supportable than the Department's policy. By substituting one
4 formulaic attempt at claims administration for another, this Board exceeds its legislative mandate
5 that limits its authority to adjudicating final orders of the Department.
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10
11 The majority cautions the Department to require employers to show that workplace noise
12 encountered after a pre-retirement audiogram was not injurious to the worker. While I believe the
13 Department or self-insured employer should have the physician consider all information about
14 injurious noise exposure post dating an audiogram, I disagree that there is an appropriate legal
15 burden placed on employers to prove the extent of a worker's disability. The law clearly places the
16 burden upon those persons claiming benefits under the Act to be held to strict proof of their right to
17 receive benefits. *Olympia Brewing Co. v. Department of Labor & Indus.*, 34 Wn.2d 498 (1949).
18 The majority is simply incorrect, as a matter of law, to direct the Department to modify the injured
19 worker's burden of proof.
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29 SCHEDULE OF BENEFITS

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31 There is no statutory basis for the majority's conclusion that hearing loss must be evident to
32 the worker to meet the statute's requirement that it be "partially disabling." The Legislature did not
33 seem to think the worker's knowledge of the disabling condition was a requirement for determining
34 the rate of compensation when they added the following amendment to RCW 51.32.180(b) in 1988:
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36
37
38

39 [F]or claims filed on or after July 1, 1988 the rate of compensation for
40 occupational diseases shall be established **as of the date the disease**
41 **requires medical treatment or becomes totally or partially**
42 **disabling, whichever occurs first and without regard to the date of**
43 **the contraction of the disease or the date of filing the claim.**
44

45 (Emphasis added).
46
47

1 The statute is abundantly clear. There is no requirement of notice or knowledge on the part of the
2
3 worker to trigger which schedule of benefits to use. If the Legislature had intended for knowledge
4
5 to be one of the required considerations in determining the schedule for occupational disease
6
7 claims, they would have included it specifically, as they did in setting the statute of limitations for
8
9 filing an occupational disease claim. RCW 51.08.055. In fact, while the Legislature could have
10
11 linked the rate of compensation to the filing of a claim, RCW 51.32.180 specifically requires that we
12
13 are **not** to do that. By incorporating the knowledge requirement and by using a worker's decision to
14
15 seek treatment as the basis for inferring knowledge, the majority turns the either/or requirement into
16
17 an "and" requirement, such that the employer must show that the worker's condition was partially
18
19 disabling **and** that the worker sought treatment. This is directly contrary to the plain language in the
20
21 statute that we are to consider "whichever occurs first."

22
23 The majority calls the 25 dB threshold "somewhat arbitrary." The reasons other
24
25 industrialized nations use different thresholds is explained in the ISO 1999 standard. Use of the
26
27 25 dB threshold is not arbitrary. The majority also focuses on the limited frequencies recorded in
28
29 the *AMA Guides* formula. The testimony from medical experts who took part in deciding to use the
30
31 25 dB threshold as part of the *AMA Guides* formula, unequivocally states that the threshold is the
32
33 recognized level at which a person usually begins to experience a functional impairment as a result
34
35 of hearing loss. This is the level at which speech intelligibility and conversation are impaired. The
36
37 determination of when a hearing loss condition is partially disabling is a medical one, made on the
38
39 basis of audiometric testing.

40
41 It is frustrating to see the majority needlessly inject "worker knowledge" into the schedule of
42
43 benefits analysis. While the majority apparently believes they are protecting workers from future
44
45 injurious noise exposure by encouraging employers to share audiometric results, our adopted
46
47 occupational safety and health regulations already require that the worker be informed of the

1 existence of a standard threshold shift. WAC 296-62-09027(8)(c). The majority would have us
2
3 probe the memory of the worker in order to determine a date they first became aware of their
4
5 hearing loss. This is not an objective, fair or precise standard for determining which schedule of
6
7 benefits to use. The majority's stated cause has no relationship to the schedule of benefits the
8
9 Legislature has directed us to use. There is no ambiguity in the existing statutory construction that
10
11 justifies such a quasi-judicial amendment.

12 CONCLUSION

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15 As noted above, RCW 51.32.180(b) is clear: to establish the schedule of benefits date, it is
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17 necessary only to look to the date an occupational disease requires medical treatment or becomes
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19 totally or partially disabling, whichever occurs first. The preponderance of the medical evidence,
20
21 read in conjunction with Mr. Williams' testimony, establishes, without question, that Mr. Williams
22
23 had a partially disabling hearing loss in 1976, not 1987, as determined by the majority.

24
25 In order to reach its conclusion that the 1987 schedule of benefits should apply, the majority
26
27 first determined that the 1976 job site audiogram was "unreliable." However, Dr. Ritchie testified
28
29 that Mr. Williams had a 4.06 percent loss in 1976, based on not only the 1976 job site audiogram,
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31 but based upon his expert opinion, taking into consideration not only the 1976 audiogram, but also
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33 serial audiograms performed in 1986, 1987, 1988, 1989, and 1990. Although Dr. Duckert testified
34
35 that the earlier industrial audiograms were "unreliable," there is no competent evidence that the
36
37 audiograms were unreliable, and in fact, Dr. Duckert himself had no personal knowledge of the
38
39 manner in which the audiograms were performed. In fact, Mr. Williams' recollection was that when
40
41 being tested, there was very little outside noise apparent to him, that it was "pretty quiet," and that
42
43 the van used for testing was soundproof.

44
45 The majority's determination that the 1987 schedule of benefits should apply in Mr. Williams'
46
47 case demonstrates the mischief inherent in the analysis that requires both knowledge and "reliable"

1 audiometric testing to set the schedule of benefits. Mr. Williams' candor in his testimony that he
2 was having difficulties with his hearing as early as 1976 only serves to buttress Dr. Ritchie's opinion
3 that the 1976 audiogram, which demonstrated measurable hearing loss, was reliable.
4
5

6 AGE-RELATED HEARING LOSS

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9 By determining Mr. Williams' 22 percent hearing impairment is entirely related to industrial
10 noise, the majority is granting benefits to Mr. Williams in excess of what is required by the Industrial
11 Insurance Act.
12
13

14
15 In Mr. Williams' case, Dr. Ritchie did not, in fact, use Dr. Dobie's median-based method.
16 Rather, he used serial audiograms and his clinical evaluation to establish a foundation that he
17 testified serves as a reasonable basis for allocating Mr. Williams' hearing loss between age-related
18 and noise-induced. A preponderance of the medical evidence dictates that only 14 to 15 percent of
19 Mr. Williams' total hearing loss is caused by noise exposure. It is patently unfair to make the self-
20 insured employer responsible for the entire 22 percent binaural hearing loss.
21
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23
24
25 Dr. Thomas and Dr. Ritchie determined that the noise-induced hearing loss Mr. Williams
26 suffered was between 14 and 15 percent. Drs. Randolph, Thomas, and Ritchie all testified that not
27 all of Mr. Williams' hearing loss was caused by occupational noise, and although Dr. Duckert
28 refused to allocate Mr. Williams' hearing loss according to different causes, he admitted that not all
29 of Mr. Williams' hearing loss was caused by occupational exposure.
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37 In summary, I would reverse and remand this matter to the Department with instructions to
38 issue an order closing the claim with direction to the self-insured employer to pay Mr. Williams a
39 permanent partial disability award equal to 15 percent binaural hearing impairment; find that an
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additional 7 percent binaural hearing impairment is not industrially related; and pay Mr. Williams according to the schedule of benefits in effect in 1976, based on the October 1990 audiogram.

Dated this 2nd day of March, 1998.

BOARD OF INDUSTRIAL INSURANCE APPEALS

JUDITH E. SCHURKE Member