DECISION NO. 313/96

Hearing loss (asymmetrical); Medical opinion (hearing loss) (asymmetrical).

The worker, a miner, appealed a decision of the Hearings Officer denying entitlement for hearing loss.

The worker's hearing loss was asymmetrical. There was conflicting opinion from experts as to whether the worker's hearing loss was caused by noise exposure. None of the opinions gave reasons. However, the Panel considered other medical information that suggested that workplace noise does produce asymmetrical hearing loss in a significant number of cases. The Panel concluded that, in the absence of other medical explanation for the asymmetrical hearing loss, the hearing loss was probably the result of noise exposure. This could be due to susceptibility or to actual differences in the noise levels in each ear.

The appeal was allowed. [7 pages]

PANEL: Faubert; Jackson; Howes
DATE: 15/07/96
This appeal was heard in Sudbury on April 26, 1996, by a Tribunal Panel consisting of:

M.J. Faubert: Vice-Chair,
G.K. Howes: Member representative of employers,
F. Jackson: Member representative of workers.

THE APPEAL PROCEEDINGS

The worker appeals the September 15, 1992, decision of WCB Hearings Officer R. Berrey, which denied the worker entitlement to compensation and health care benefits for noise-induced hearing loss, on the basis that the worker’s hearing loss disability was not the result of his exposure to noise in his employment.

The worker attended the hearing and was represented by K. Conley, compensation officer, U.S.W.A. Local #6500. The employer was represented by G. Hughes, claims administrator.

THE EVIDENCE

The Panel considered the Case Description and an Addendum to the Case Description, which were entered as Exhibits at the hearing. The Panel also considered evidence of noise levels in mines, as well as evidence concerning the use of hearing protection, submitted by Mr. Conley. The worker gave evidence under oath. Mr. Conley and Mr. Hughes made submissions.

THE NATURE OF THE CASE

The Panel must determine whether the worker’s hearing loss is the result of exposure to noise in his employment as a miner.

THE PANEL’S REASONS

This 48-year-old worker began his employment as a miner with the accident employer in February 1966. He was 21 years of age at the time he began this employment. He informed the Panel that he had previously been employed for two years as a mail clerk, and before that, for approximately 12 months as a cement worker in construction.

There is no dispute in this case that the worker has been exposed to hazardous noise in his employment as a miner. He has always worked underground as a “bonus miner”, working continuously each day with the exception of a lunch break. He has worked in a small-track drift, as well as a “cut and fill” area for approximately 20 years. He indicated that a typical workday would consist of drilling, blasting and building a stage. He would work with three other workers, three of the workers would be operating a drill, and the other worker operating a scoop tram. The worker recalled that he used a jack leg drill in his employment.
According to evidence submitted by Mr. Conley, the worker would have been exposed to noise from jack leg drills ranging from 118-122 dBs, and noise from a scoop tram varying from 85-115 dBs. The worker testified that he wore hearing protection, consisting initially of wax ear plugs. Beginning in the 1970’s, he has also worn ear-muffs in addition to his ear plugs. Because of his safety glasses, he indicated that there would not be a “perfect” seal with his ear muffs.

In approximately 1979, the worker filed a claim with the Workers’ Compensation Board for entitlement to benefits for noise-induced hearing loss. At that time, the Board recognized the worker’s exposure to hazardous noise, but found that he did not have sufficient hearing loss to warrant the allowance of his claim. In 1983, the worker contacted the Board again, at which time his claim was reviewed and allowed for medical aid only, on the basis that he had insufficient deafness to warrant the allowance of a permanent disability award.

The worker submitted a further audiogram to the Board in 1988, at which time the Board’s Claims Adjudicator requested an opinion with respect to whether the worker had entitlement to benefits for hearing loss. At that point, the Board received a medical opinion from its senior ENT consultant to the effect that the worker’s hearing loss was not due to exposure to noise. The issue of whether the worker’s level of hearing loss was sufficient to warrant a permanent disability award did not arise, and we have considered this appeal on the assumption that the worker has satisfied the Board’s guidelines in that respect.

The nature of the worker’s hearing loss has been assessed by audiologists on several occasions. In Appendix A, we set out the results of the worker’s audiograms, which were conducted on six different occasions. These audiograms indicate that the worker’s hearing loss is asymmetrical, with the loss being greater on the left side than the right side. It was this asymmetrical nature of the worker’s hearing loss that led the Board to conclude that it did not result from exposure to noise in his employment.

At the request of the Workers’ Compensation Board, the worker was assessed by otolaryngologist Dr. P. Alberti. Under Dr. Alberti’s supervision, the worker underwent hearing tests, cortical audiometry and brain stem audiometry. The audiogram results dated January 5, 1987, arise out of the worker’s assessments by Dr. Alberti. In his January 5, 1987, report, Dr. Alberti wrote:

His hearing loss is, I think, accurately quantified on the accompanying audiogram. I cannot entirely explain the asymmetry between the ears, but tend to accept it as entirely due to noise.

After receiving Dr. Alberti’s opinion, the worker’s file was reviewed by the Board’s Senior ENT Consultant, Dr. W.S. Goodman. Dr. Goodman wrote:

In 1987 you referred worker to Dr. Alberti who recognized the asymmetry but seemed to take no notice of previous audiograms. I just cannot understand how he can state in his letter of 5 Jan. 87 accept the hearing loss as entirely due to noise.

This is just not so.
The facts of the case, in my opinion, is exactly the reverse i.e. none of his hearing loss is due to noise.

Now WCB has accepted entitlement for health care benefits in this claim. As the claim has been reopened in the belief that the further loss may be due to noise exposure.

The honest thing to do is to reverse the decision. However no further review is clinically indicated.

The Hearings Officer obtained another opinion from the Board’s Senior Ear, Nose and Throat Consultant, Dr. G.E.D. Snell. In his June 25, 1992, report, Dr. Snell noted the difference of opinion between “two senior consultants, namely Drs. Goodman and Alberti.” Dr. Snell wrote:

In 1987 Dr. Alberti noticed an asymmetry of sensorineural loss, but did not seem to take any consideration of the fact that this had been a consistent pattern dating back to previous audiograms. Dr. Goodman in his review suggested that none of the hearing loss was due to noise and that no further review was indicated. Certainly, a review of the audiograms show a rather unusual pattern and the main difference was that he had a low tone hearing loss in the left ear which was persistent. The hearing loss is most unusual and probably not noise-induced hearing loss. I would be inclined, therefore, to agree with the opinion of Dr. Goodman in this regard.

The Panel interprets Dr. Snell’s opinion to mean that there are two unusual features to the worker’s audiogram. First, there is a low tone hearing loss in the left ear which was persistent, and second, there was an asymmetrical pattern to the worker’s hearing loss. Dr. Snell is unclear about the significance of the “consistent pattern” of the worker’s asymmetrical hearing loss, and its significance is not apparent from the evidence, since the worker’s hearing loss has developed since the beginning of his employment with the employer.

With respect to the asymmetrical nature of the worker’s hearing loss, the Panel is left to consider the conflicting opinions of noted specialists in the field. Dr. Goodman offered no explanation for his conclusion that asymmetrical hearing loss could not be the result of noise exposure. Dr. Snell merely reiterated Dr. Goodman’s view. Similarly, Dr. Alberti has not offered any basis for his opinion. However, the Panel was provided with additional information which would suggest that there is some support for the theory that exposure to noise can result in asymmetrical hearing loss.

We reviewed general information concerning the characteristics of noise-induced hearing loss, contained in a discussion paper prepared by the Tribunal’s Assessor, otolaryngologist Dr. D.P. Bryce. According to Dr. Bryce, exposure to noise can result in sensorineural hearing loss which has a characteristic pattern. He wrote, “audiograms classical for a noise-induced etiology show normal or near-normal low frequency hearing and a typical hearing loss in the range 2-4 kHz with, in the earlier audiograms, a recovery in the higher frequencies resulting the typical ‘noise-notch’.”
Dr. Bryce noted that although hearing loss usually reduces bilaterally at the same rate, it is possible for ears responding to the same noise to deteriorate at slightly different rates. In his opinion, audiograms which are consistent and within five decibels of each other are considered symmetric. Dr. Bryce wrote:

Asymmetrical hearing losses are usually investigated for other lesions. There are a good number of individuals with hearing loss in both ears, with hearing slightly worse on one side than the other, where no cause for asymmetric noise exposure or an asymmetric sensibility to noise was found for the cause of the asymmetry. For example, people who shoot guns from the right shoulder without adequate hearing protection develop a hearing loss of the ear nearest the muzzle, i.e. left ear. It is well known that in the mining industry in Ontario with certain types of jackleg drills, the left ear is more exposed to noise than the right and there may be an asymmetry.

We were also provided with a paper prepared by Dr. Alberti and his colleagues [P.W. Alberti, F. Symons, and M.L. Hyde. Occupational Hearing Loss: The Significance of Asymmetrical Hearing Thresholds. Acta Otolaryngol 87, 255-263], in which the authors review 1,873 patients referred by the Ontario Workers’ Compensation Board for assessment. The authors wrote:

Unilateral or asymmetric sensorineural hearing loss has relatively serious connotations in otology, for it may be the first sign of a variety of cochlear - or possibly more important - retrocochlear disorders such as acoustic neuroma, posterior fossa meningioma, etc.

After assessing all of the patients, Dr. Alberti noted that in a number of cases, asymmetrical hearing loss was present for which no other cause could be detected. The authors wrote:

Thus out of almost 2,000 patients referred because of presumed NIHL, more than 5% had a significant asymmetry in hearing thresholds which was nevertheless wholly attributed to workplace noise.

They also wrote:

We conclude that workplace noise does in fact produce asymmetrical hearing loss in a significant percentage of patients and that its presence should not disqualify them from pension award.

A similar conclusion was reached in another study of 1,461 audiometric records of claims for noise-induced hearing loss with the British Columbia Workers’ Compensation Board [B.Y. Chung, G.N. Willson, R.P. Gannon, Lateral Differences in Susceptibility to Noise Damage (Audiology 22: 199-205) 1983]. The authors of this study describe a 2 kHz asymmetry, in which the lateral difference at 2 kHz was 20 dBs or more. We note that this fits the pattern of the worker’s hearing loss, in that the difference in his hearing loss at 2 kHz is much greater than 20 dBs. The authors reviewed 69 cases with a two kilohertz asymmetry, and in those cases, 82.6% had worse hearing thresholds in the left ear at that level. The authors wrote:
Since both the left and the right audiograms of these 69 cases all showed high frequency sloping hearing loss, often with a notch at the 3-6 kHz level, and all of them had a significant amount of occupational noise exposure, it is believed that the asymmetry at two kilohertz represents a lateral difference in susceptibility to noise damage.

The results of these studies suggest to the Panel that there is a reasonable basis for Dr. Alberti’s conclusion that in the absence of other medical explanations for the worker’s asymmetrical hearing loss, this loss is probably due to his exposure to noise in his employment. This may be due to susceptibility, (as suggested by Chung et al), or due to actual differences in noise levels in the operation of the jackleg drill (as suggested by Dr. Bryce). Alternatively, it could be the combined effect of these factors.

In these circumstances, we prefer the opinion of Dr. Alberti to those of the Board Consultants Dr. Snell and Dr. Goodman, who could find no relationship to the worker’s exposure to noise in his employment. Accordingly, we accept that the worker has sustained hearing loss due to exposure to noise in his employment, and he is entitled to benefits as a result.

The employer has suggested that there is evidence of hearing loss which predates the worker’s employment. However, the evidence on this point is not persuasive. In Appendix B, we have set out the results of a pre-employment hearing test carried out on the worker on September 9, 1966. These tests provide no results for hearing tests at 2 kHz, and disclose no hearing loss at 3 kHz at the time the worker began his employment. They do confirm a minor degree of hearing loss in both ears in the lower frequencies, greater on the left side. However, noting Dr. Bryce’s opinion that the effects of noise-induced hearing loss are likely to be felt at the 2-4 kHz range, the significance of this pre-employment audiogram is unclear. The fact that the results have consistently worsened over time cannot be viewed as a reason for disallowing this worker’s claim.
THE DECISION

The worker’s appeal is allowed. The worker is entitled to benefits for noise-induced hearing loss which resulted from his exposure to noise in his employment as a miner. The Board shall determine the worker’s entitlement to benefit as a result of this decision.

DATED: July 15, 1996

SIGNED: M.J. Faubert, G.K. Howes, F. Jackson
**APPENDIX A**

**Audiogram Results**

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**APPENDIX B**

**Pre-Employment Hearing Test (September 9, 1966)**

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