8. HEARING LOSS - TRAUMATIC

7. ASSESSMENT OF PERCENTAGE DISABILITY ARISING FROM HEARING LOSS

In order to standardise the assessment of hearing loss the following internationally accepted calculation of hearing loss will be used by the Commissioner in assessing hearing loss disabilities.

The Act specifies that total loss of hearing is 50% of loss of total bodily ability i.e. 50% P.D.

An Audiogram test must be taken and a copy of the resulting hearing levels contained in the file for verification.

Note that an Audiogram is not an infallible means of testing and there are opportunities on the less sophisticated test equipment, and when operated by less qualified operators for the person being tested to cheat.

In all cases where there is a serious hearing disability and cases of doubt, the worker must be referred for specialist testing.

When referring such patients it is imperative that a full working history accompany the request.

Special attention should be paid to the following points.

1. Any diseases or sickness of the ear suffered by the worker. Any diseases which might have affected the hearing, e.g. measles.

2. Any exposure to sudden loud noises - such as explosions.

3. Any exposure to continuous loud noise - the source of that noise, and type of sound that it makes (i.e. frequency).

4. The length of time that the worker is exposed to continuous loud noise. The working history.

5. Whether ear protection has been provided. Over what period and if worn by the worker. Type of ear protection.

6. The age of the worker. Note that there is a natural loss of hearing ability which accompanies advancing years.

A copy of this history must be contained in the worker's claim file.

For the purposes of calculating a % disability the following frequency levels are used - 500, 1000, 2000, 3000. If the 3000 level has not been taken then an average between the 2000 and 4000 must be used.

The hearing level must be taken for each ear as in the following examples:

(a)	RIGHT EAR		LEFT EAR
	15	500 Hz	30
	25	1000 Hz	45
	45	2000 Hz	60
	55	3000 Hz	85
	140		220

(b)	RIGHT EAR		LEFT EAR
	80	500 Hz	75
	90	1000 Hz	80
	100	2000 Hz	90
	100	3000 Hz	95
	370		340

The resulting totals for each ear are applied to the following table and the percentage disability is obtained for each ear. Note the initials DSHL stand for "Decibel Sum of the Hearing Threshold Levels".

MONAURAL HEARING IMPAIRMENT (%)

DSHL+	%	DSHL	%	DSHL	%
100	0.0	190	33.8	285	69.3
105	1.9	195	35.6	290	71.2
110	3.8	200	37.5	295	73.1
115	5.6	205	39.4	300	75.0
120	7.5	210	41.2	305	76.9
125	9.4	215	43.1	310	78.8
130	11.2	220	45.0	315	80.6
135	13.1	225	46.9	320	82.5
140	15.0	230	48.9	325	84.4
145	16.9	235	50.6	330	86.2
150	18.8	240	52.5	335	88.1
155	20.6	245	54.4	340	90.0
160	22.5	250	56.2	345	90.9
165	24.4	255	58.1	350	93.8
170	26.2	260	60.0	355	95.6
175	28.1	265	61.9	360	97.5
180	30.0	270	63.8	365	99.4
185	31.9	275	65.6	368	100.0
		280	67.5	or greater	

* Audiometers are calibrated to ANSI-1969 standard reference levels
+ Decibel sum of the hearing threshold levels at 500, 1000, 2000 and 3000 Hz.

Having obtained the percentage for each ear, the percentage of the better ear is multiplied by 5 and the resultant figure is added to the percentage of the poorer ear, and the total obtained divided by 12. This will give the percentage hearing loss compared to the whole body and is the percentage disability applicable to Zimbabwe, where total loss of hearing is assessed at 50%.

The formula is:

$$\text{BINAURAL HEARING IMPAIRMENT OF THE WHOLE PERSON} = \frac{5 \times \text{Percentage impairment of better ear} + \text{Total percentage impairment of poorer ear}}{12}$$

Percentage obtained for total P.D. is to be rounded off.

It will be noted that some audiometry tests miss out the 3000 Hz level. When this happens then an average between 2000 and 4000 Hz should be estimated.

Example (a) Rt. Ear DSHL = 140 = 15% hearing impairment

Lt. Ear DSHL = 220 = 45% hearing impairment

5 x 15 = 75 (Best ear) + 45 (Worst ear) = 120/12 = 10%

Example (b) Rt. Ear DSHL = 370 = 100% hearing impairment (note use of maximum)

5 x 90 = 450 (Best ear) + 100 (Worst ear) = 550/12 = 45.83% = 46% (rounded off)