NOISE INDUCED HEARING LOSS (NIHL) REGULATIONS – CODE OF PRACTICE FOR MEDICAL SURVEILLANCE

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employment & labour

Department:
Employment and Labour
REPUBLIC OF SOUTH AFRICA

INTRODUCTION

The Minister's Advisory Council for Occupational Health and Safety gave approval for the establishment of a Technical Committee (TC) to review the Noise-Induced Hearing Loss (NIHL) Regulations of 2003.

The TC includes members of organised labour, organised business, specialists in the field of occupational health and safety and the Department of Employment and Labour.

LEGAL STATUS OF COP

Due to the complex nature of medical surveillance with regard to assessing employees' exposure to occupational noise and the resultant effects, a decision was taken by the TC to produce a Code of Practice (COP) for Medical Surveillance for NIHL.

The COP facilitates a proactive approach, that incorporates all requirements of medical surveillance, particularly audiometric testing, and places it into one document.

This Code of Practice will be incorporated into the NIHL Regulations through Regulation 15 of Regulations.

OBJECTIVE OF THE COP

The objective of the COP is to assist employers with the development and implementation of a medical surveillance programme for employees exposed to noise in the workplace.

SCOPE

The scope of the Code of Practice for Medical Surveillance will be aligned with the scope of application of the NIHL Regulations.

- **Any employer or self employed person in any workplace under their control, where persons are exposed to continuous or impulse noise at or above the applicable noise action level**

  - at or above 82dB(A) – 8 hour rating level –continuous noise
  - at or above 135dB(C) – peak noise level – impulse noise

MEDICAL SURVEILLANCE

Reg 8 of NIHL Regs:

- **An employer must establish, maintain and document a system of medical surveillance**

- **The medical surveillance must be a planned, ongoing programme of audiometric testing, including: baseline, entry, initial, periodic and exit audiometry.**

- **The medical surveillance programme must be implemented under the guidance of an occupational medicine practitioner (OMP).**

AUDIOMETRIC TESTING

- **Audiometric testing must be conducted on all employees exposed to:**
  1. **noise at or above the noise action level where there is**
     - **concomitant exposure to ototoxic chemical agents and/or**
     - **whole body vibration; or**

  2. **noise at or above the noise-rating limit.**

     - **85dB (A) for continuous noise**
     - **137 dB (C) for impulse noise**

- **The audiometric testing may include; baseline, entry, initial, periodic and exit audiometry.**

- **Audiometric testing must be conducted by a competent person: audiometric testing, as defined in the Noise-Induced Hearing Loss Regulations.**

Baseline audiometry

- **The baseline audiometric test must be conducted before or within 30-days of deployment or entry into an environment where there is potential exposure to noise.**

- **A baseline audiometric test is a once-off test that must be conducted on every employee who is deployed or enters into an environment where there is potential exposure to noise for the first time in their work-life span.**

- **The baseline audiometric test, must establish:**

  a) a baseline PLH, which will serve as a reference against which all future PLH shifts will be compared; and
  b) the audiometric zero for the purpose of calculating STS, against which all future STS will be compared.

An employee employed before the promulgation of the Noise-Induced Hearing Loss Regulations of 202X, will require a baseline audiometric test to establish:

- the audiometric zero against which all future STS will be compared.

The baseline audiometric test, must be conducted within 24-months of the promulgation of the Noise-Induced Hearing Loss Regulations of 202X.

The baseline audiometric test must comply with the following:

Reliability criteria:

As referenced in SANS 10083, consists of:

- **otoscopic examination (clause 14);**
- **audiometric history (clause 14);**
- **correct test environment (clause 14); and**
- **use of reliable equipment with regards to type, maintenance and calibrations (clauses 15 and 16).**

Validity criteria:

As referenced in Instruction 171, Supplement 171 and SANS 10083, consists of:

- **two audiograms done;**
  - **on the same day;**
  - **the same setting; and**
  - **two different sittings;**
- **must be conducted after at least 16-hours free from any noise exposure without the use of HPDs;**
- **the hearing thresholds in the two audiograms for each ear, at any frequency from 0.5 kHz to the 4 kHz must not differ by not more than 10 decibels;**

NB: Once a valid baseline audiometric test has been established, the audiogram with the lowest PLH will be regarded as the baseline for that employee.

Where a screening audiometric test is unable to establish a valid baseline audiometric test, the screening test must be repeated after another interval of 16-hours free from exposure to noise (without the use of HPD).

If the repeat screening test is still unable to establish a valid baseline audiometric test, the employee must be referred to an audiologist to establish a valid baseline audiometric test

This process must be completed, as far as is reasonably practicable, within the 30-day deadline.

Where a valid baseline audiometric test has not been established or is not available for the period 1 May 2001 to 16 November 2003 or for employees deployed into an environment with potential exposure to noise after November 2003, the baseline PLH (reference PLH) will be considered to be 0%.

Failure to establish an audiometric zero within 24 months from the promulgation of the NIHL Regulations the audiometric zero for each ear to be considered as 0 (zero)

Any employee who starts work in a noise zone during this 24-months period will require a baseline audiometric test, which will establish:

- **baseline PLH shift; and**
- **audiometric zero.**

Entry Audiometric Test

An entry audiometric test must be conducted on every employee previously exposed to noise, who is deployed or enters a new environment with potential exposure to noise. The employer must use the entry audiometric test to establish:

- **PLH shifts from baseline;**
- **STS comparison against audiometric zero;**
- **Preventive interventions and reporting and**
- **The need for referral for diagnostic audiology.**

The entry audiometric test must comply with the following:

Reliability criteria:

As referenced in SANS 10083, consists of:

- **otoscopic examination (clause 14);**
- **audiometric history (clause 14);**
- **correct test environment (clause 14); and**
- **use of reliable equipment with regards to type, maintenance and calibrations (clauses 15 and 16).**

Validity criteria:

As referenced in SANS 10083, an entry audiometric test must meet the following validity criteria:

- **consist of one audiogram;**
- **must be conducted after at least 16-hours free from any noise exposure without the use of HPDs;**
- **must be conducted before or within 30-days of deployment or entry into an environment where there is potential exposure to noise.**

Initial Audiometric Test

An initial audiometric test must be conducted on every employee exposed to noise, where there is no valid baseline and/or valid entry audiometric test.

The initial audiometric test must establish:

- **PLH shifts from baseline;**
- **STS comparison against audiometric zero;**
- **preventive interventions and reporting and**
- **the need for referral for diagnostic audiology**

Must comply with Reliability and Validity criteria as for Entry audiometry

Periodic Audiometry

A periodic audiometric test must be conducted on every employee exposed to noise.

The periodic audiometric test must be conducted:

a) every 12-months for exposures;

i) at or above 82 dBA with concomitant exposure to ototoxic chemical agents and/or whole body vibration;

ii) at or above 85 dBA but less than 105 dBA;

b) every 6-months for exposures at or above 105 dBA;

c) at more frequent intervals if recommended by the OHP based on clinical evidence.

Must comply with Reliability and Validity criteria as for an Initial audiometry test

Provided that the correct wearing of HPDs, that complies with the relevant parts of SANS 1541, while performing work in a noise zone prior to the audiometric test, must be deemed as meeting the 16 hour period free from noise exposure.

Diagnostic audiology

A diagnostic audiometric test must be conducted on all employees exposed to noise, where:

a) screening audiometry identifies a PLH shift greater than 10% from baseline; and

b) the hearing loss pattern suggests NIHL.

Must comply with Reliability and Validity criteria as set out in the code

a) is conducted by an audiologist or ENT Specialist;

b) consist of two audiometric tests,

c) be conducted after a period of at least 24-hours free from any noise exposure without the use of HPDs;

d) be conducted on the same day;

e) the two diagnostic audiometric tests do not differ by more than 10 dB at any frequency used to determine the PLH.

Exit Audiometry

An exit audiometric test must be conducted on every employee who was exposed to noise, on termination of employment.

The exit audiometric test must be conducted before or within 7-days of date of termination of employment.

Should an audiometric test, conducted within 6-months prior to date of termination of employment, that audiometric test can be considered as fulfilling the requirements for an exit audiometric test.

The exit audiometric test must establish:

- **a) PLH shifts from baseline;**
- **b) STS comparison against audiometric zero;**
- **c) the need for reporting; and**
- **d) the need for referral for diagnostic audiology.**

Must comply with Reliability and Validity criteria set out in the code

Action Criteria and Reporting - STS

Where a STS of 10dB to 25dB, in one or both ears is reached

- **the case must be referred to an OMP for review**
- **the STS must be reported to the employer and health and safety committee and/or the health and safety representative;**
- **an investigation must be conducted by the employer to determine;**
  i) the reasons for the STS shift, including pathologies; and
  ii) the effectiveness of the hierarchy of controls, including HPDs;
- **the employer must retrain the employee in terms of regulation 4 of the Noise-Induced Hearing Loss Regulations;**
- **the frequency of subsequent periodic audiometric tests must follow an OMP recommendation.**

Where a STS of 25dB or more is reached, in addition to above actions

- **the employee must be referred for diagnostic audiology;**

- **where diagnostic audiology confirms a STS of 25dB or more, the OMP must report the STS to the Chief Inspector of the Department of Employment and Labour.**

Action Criteria and Reporting - PLH

Where screening audiometry identifies a PLH shift of 10% or more from baseline,

- **the case must be referred to the OMP for review and case management;**
- **the employee must be referred for diagnostic audiology on the recommendation of the OMP;**

Where diagnostic audiology confirms a PLH shift of 10% or more from baseline, with a NIHL pattern:

a) the case must be reported to:

i) the employer; and

ii) the Chief Inspector of the Department of Employment and Labour;

b) the employer must report the case to the Compensation Commissioner;

c) the employer must conduct an investigation to determine;

i) the reasons for the PLH shift, and

ii) the effectiveness of the hierarchy of controls, including HPDs;

d) the frequency of subsequent periodic audiometric tests must follow an OMP recommendation.

the date of the diagnostic audiometric test confirming a shift in PLH from baseline that exceeds 10%, must be regarded as the date of diagnosis of compensable NIHL.

The employer must keep a record of the following:

- **all audiometric tests conducted;**
- **all documents relating to reliability and validity criteria; and**
- **investigation into STS and PLH shifts.**

The employer must ensure that:

- **where reasonably practicable and relevant, a new employee provides a copy of their baseline audiometric test.**
- **an employee is provided with a copy of baseline audiometric test and exit audiometric test upon termination of employment; and**

Thank You…

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