

# Bullerkänsligheten hos djur med hereditär hörselnedsättningen studie av anlagsbärarna till stammen "German waltzing guinea pigs". Petra Herrlin & Åsa Skjönsberg 2000

## Sammanfattning

Saknas

## Abstract

It is calculated that about 10% of the population in the world has a hearing loss. The most common reasons for hearing loss in descending order are ageing, noise exposure, and heredity. As a hearing loss may cause stigmatisation and isolation the research around these issues becomes crucial. In the industrialised world, noise has become a large problem. Factors which influence the severity of the hearing loss caused by noise include intensity, duration, and frequency range of the noise. Noise can cause temporary or permanent threshold shifts. In this study, the aim was to find out whether there was a difference in sensitivity to noise between the carriers of the strain "German waltzing guinea pigs" and normal pigmented guinea pigs. The aim was also to find out whether different types of noise exposure lead to temporary or permanent hearing loss and if there was a difference between carriers and normal guinea pigs.

One group consisting of six carriers and six normals was exposed to a pure tone of 2,760 kHz for 20 minutes at a level of 128 dB SPL directly into the ear canal under anesthesia. Another group consisting of the same number of animals was exposed to a narrow-band noise centered around 4 kHz for four hours at a level of 105 dB SPL at the centre frequency, in a free field while being awake. Hearing thresholds were recorded by Auditory Brainstem Response before, immediately after, 24 hours after, and four weeks after the noise exposure. Hearing thresholds were measured at 2, 4, 6, 3, 12,5, and 20 kHz. Student t-test was used as statistical analysis. The study generally showed no significant difference between carriers and normals, neither in thresholds shift nor in time of recovery. Animals in the 128 dB-group generally suffered permanent threshold shifts and animals in the 105 dB-group generally suffered temporary threshold shifts. There were no significant differences between carriers and normals within the groups.