

## Musicians and Hearing Disorders

J. de Laat

Dept. Audiology, Leiden University Medical Center

Exposure to excessive noise causes hearing damage. Employers are obligated to take measures against noise-induced deafness. Research done by Kähäri shows 75% of professional musicians suffer from hearing problems, such as hearing loss, tinnitus, hyperacusis, distortion of sound and diplacusis. It seems that the amount of decibels at which music is played, has generally increased in the last decades. This is the most probable cause of the growing number of hearing disorders, also leading to musicians' inability to work. In The Netherlands these hearing disorders are gradually being acknowledged. In November 2002 agreements were made between government, employers (boards of symphony orchestras) and employees (musicians) to solve this problem. Methods of solution involve facilitating information concerning hearing disorders, providing screening, prevention, hearing protection, and rehabilitation of hearing impairment. In 2005 research was done testing the hearing capacity of 259 members of three major symphony orchestras in Amsterdam, The Hague and Arnhem. New methods were employed with the intention to gain more insight into individual sensitivity with respect to hearing damage. In this study we combined results of questionnaires with tone and speech audiometry in quiet and in noise (with auditory filtering), tinnitus analysis, loudness scaling and oto-acoustic emission measurements. The results of this study show that a musician's hearing suffers from too much and too loud music. The tone audiometry does not show a large deviation, however there are many different complaints, like tinnitus and hyperacusis, which are of greater significance.

Literatur: 1.1. Kähäri K, Axelsson A, Hellstrom. PA, Zachau G. Hearing assessment of classical orchestra musicians. *Scand.Audiol.* 2001 30(1):13-23. 1.2. Kähäri K, Zachau G, Eklöf M, Sandsjö L, Möller C. Assessment of hearing and hearing disorders in rock/jazz musicians. *Int.J.Audiol.* 2003 42(5): 279-288. 2. Jansen, EJM Helleman, HW Dreschler, WA De Laat, JAPM. Noise induced hearing loss and other hearing complaints among musicians of symphony orchestras. *Int Arch Occup Environ Health* (2009) 82:153-64.

