

# Important Points about Children, Toys and Hearing

Research on hearing conservation in schools has shown a great need for the development of education for school age children and their parents on the dangers of loud sounds.. Chermack and Peters-McCarthy (1991) indicated that in a sample of elementary school students, 43% listened to a personal stereo or TV at a loud volume routinely<sup>1</sup>. Blair, Hardegree, & Benson (1996) found that 97% of their sample of third graders (N=273) had been exposed to hazardous sound levels<sup>2</sup>. Given a professional mandate for protection and prevention, audiologists have a major role to play in initiating, leading and supporting efforts to address this need. The noisy toys awareness campaign is one such effort, through which we hope to educate and inform the public, in particular parents and families, about the importance of conservation of children's hearing, and the preventive and protective work of audiologists. It requires and is deserving of our collective support.

Under the Hazardous Product Act, toys that emit levels exceeding 100 dB are banned in Canada. This is a strict requirement and we are supportive of this legislation. However, under the existing guidelines, methods for measuring the sound level from toys do not always ensure that the child receives no more than 100 dB of exposure. Measurements are made at a set distance from the sound source, generally about arm's length. Of course, children do not play with toys in such a restrictive manner. A truck which is acceptably loud at arm's length may be excessively loud if a child brings the truck up to their face. Another toy might be used as a telephone or a pistol, depending upon the situation and direction of the child's play, and if placed next to the ear and discharged may emit sound far louder for the child than intended. The physical properties of sound dictate that the closer one is to sound, the louder it is, and toys are no exception. Because they have smaller ears, children's hearing is more vulnerable to noise than adults. NSHSC's pilot study has demonstrated that while toys meet the guidelines in the Hazardous Product Act, sound levels from many toys can exceed 120 dB near the ear. Industry

standards for adults working around noise recommend no repeated exposure to sounds above 115 dB!

*Key points that Audiologists can make are as follows:*

1. Toys are regulated by the Hazardous Products Act under Health Canada. Toys that emit levels exceeding 100 dB are banned. Health Canada follows very strict guidelines and we applaud their efforts.
2. Some toys may have the potential to harm hearing if they are activated at or near a child's ear. The loudest we have tested is a squeaky toy that can measure up to 121 dB!
3. The harm may come via very subtle damage to the hair cells or tinnitus.
4. Noise damage is 100% preventable. Helpful hint – if a noise is so loud that you have to raise your voice above that noise, it may be considered loud and hearing protection is necessary.
5. We are not telling parents NOT to buy toys – we are following our mandate to provide the public with a preventative message during this busy time of year.
6. There are suggestions on what parents/caregivers can do to avoid potential noise damage (i.e., reduce time spent with noisy toys, supervise young children when playing with noisy toys, cover the speaker with tape, turn down the volume (stereos, headsets).

**We want the public to think “ear protection” when they hear a loud sound – just like we think bicycle helmets when someone mentions riding a bike/skateboard.**

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<sup>1</sup> Chermak & Peters (1991). The effectiveness of an educational hearing conservation program for elementary school children. *Lang Speech Hearing Services in Schools*, 22, 308-312.

<sup>2</sup> Blair, Hardegree & Benson. (1996). Necessity and effectiveness of a hearing conservation program for elementary students. *J Educational Audiology*, 4, 12-16.