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## **Turn ‘em Down or Turn ‘em Off: A Parent’s Guide to Safe Portable Music Device Use.**

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Do you know how loud that music is your child is listening to? Did you know it could be loud enough to permanently damage their hearing? At peak volume, iPods, MP3 players, and other personal ear-level devices can reach 110 to 120 dB, which approach the level of a live rock concert. Granted, few people actually listen to music at a painfully loud level, but, indisputably, most listen louder than what is necessary. And yes, many personal devices now have a volume cap parents can set and lock, but the issue these days is more than just the volume level. The longer, rechargeable battery life and greater music storage capacity people have grown to love and expect is also what encourages and allows these people to listen longer and not give their ears a chance to recover. It is the combination of high intensity and long duration that creates risky conditions for early hearing loss. Physician studies have reported younger and younger patients with signs of early hearing loss.

Remember when your parents repeatedly yelled “turn that music down!”? Well, with this generation that is plugged in 24/7, parents aren’t yelling that stuff anymore because parents can’t tell how loud the music actually is. Not to mention we’re also seeing a very different level of use than we did in the past. Listening via portable music players has become more of a full-day listening experience as opposed to just when you’re jogging. Many adults and children are using these devices not just to enjoy music, but also to block out ambient noise on buses, in cars, on the street, in restaurants, etc. They tend to crank up the volume to compensate for the surrounding noise and don’t even realize they may be causing damage to their ears. This accumulated noise damage may take years before it causes noticeable hearing problems, but by then it’s too late.

Hearing is a complex process. Tiny hair cells in the inner ear amplify sound vibrations and convert them into signals the brain can interpret/understand. Exposure to excessively loud sounds damages these delicate hair cells and their ability to transfer sound to the brain, which causes noise-induced hearing loss. The effects can be temporary, like after a single concert, and hair cells can recover. However, constant repeated exposure can weaken and eventually kill hair cells, causing permanent hearing loss. Children’s ears are even more sensitive than adults because their ears are so much smaller and sounds entering the ear canal become louder because they are generated in a smaller space. So basically again, the longer and louder you listen, the greater the potential for lasting damage.

But there IS good news, for the kids anyway...use of these devices does not need to be eliminated to protect their hearing (although the potential loss of whatever device is certainly a great incentive for kids to follow our directions!). Several studies over the years have determined that is relatively safe to listen to a portable music player set to no higher than 60% of its potential maximum volume for one hour a day (not for hours at a time). If listeners are willing to turn the volume down even further, they can increase the amount of time they can safely listen. One informal rule of thumb is if you have to remove the headset, or turn the volume down to hear people talking to you, it’s too loud. Concern over the risk of hearing loss also has companies such as Shure, Etymotic Research, Bose, Sony and Panasonic producing headset styles that aim to block out background noise so you can hear the music better at lower volumes. These products can be pricey, but worth it. And for all you techy parents out there, there is uHear, a sound app for the iPhone and iPod Touch that enables you to test your own hearing sensitivity.

Remember, turning down the music today will ensure your children will be able to hear the music in the future.

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