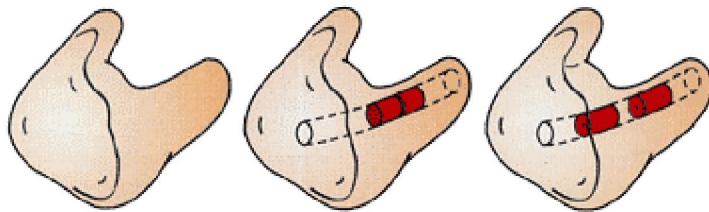


## Hearing protection molds

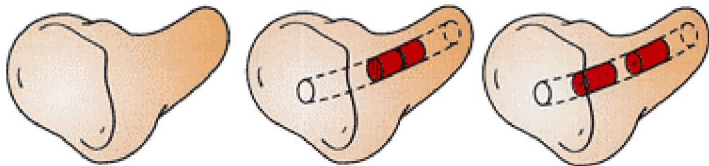
Madison Audiology offers custom **Sound Defenders**, molded from ear impressions. They are available in Synth-a-Flex (vinyl) or M-2000 (soft silicone), and can be ordered as solid plugs or with Double-Damped vents for differing requirements. Easy-to-insert canal-shell models are also available. The information that follows includes the attenuation data and noise reduction ratings (NRRs) of tested products. Attenuation tests have been performed according to the American National Standards Institute (ANSI) Specifications S3.19-1974.

Notice that fairly predictable control over the level of attenuation of low frequencies can be obtained through the use of various damper values. Dampers used in pairs offers smooth curves and controlled attenuation well into the mid-frequencies.

### Full shell sound defenders:



### Canal shell sound defenders:



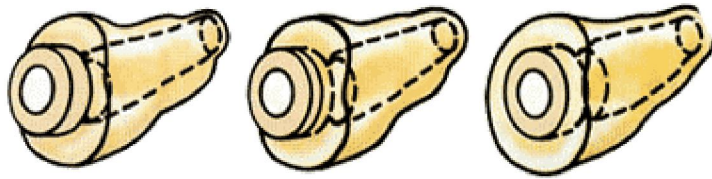
### Double-Damped Model "B" Sound Defenders:



**Double-Damped Model "B" Sound Defenders** contain a matched pair of exclusive Microsonic-designed dampers, and are available in this single value. These HPDs are

easier to keep clean and functional than the Model "A", due to the differences in damper design. Model "B" offers additional attenuation, as well.

**ER-9, ER-15 and ER-25 Musicians Earplugs** attenuate musical sound levels with a minimum change of tone quality. Because the attenuation is essentially flat across the entire sound spectrum, the fidelity of the original sound is preserved and the world doesn't sound muffled. Where sound levels regularly exceed 105 dB, the ER-25 is generally recommended, as there is 10 dB more attenuation than is the ER-15.



Recommended for musicians, sound crews, recording engineers, night club employees, and individuals who experience post-noise-exposure tinnitus, the ER-9, ER-15 and ER-25 are installed in custom-manufactured molds. They require an impression past the second canal bend and a diameter large enough to accommodate a 4mm bore. A short impression can result in unwanted occlusion effect.



**Recommended earplugs for musicians:** Musicians practice and perform in a variety of different settings and they are exposed to high levels of sound, sometimes for long periods. They require different amounts of protection depending on the sound levels they encounter during rehearsals and performances.

Acoustic trauma and sustained exposure to noise are serious causes of hearing loss. Loud sounds can and do damage hearing, with the damage often undetected until it is too late. The list below gives examples of sound levels.

<b>dB LEVEL</b>	<b>EXAMPLES</b>
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, quiet office, moderate rainfall
60	Dishwasher, sewing machine, normal conversation
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.
<b>THE FOLLOWING NOISES CAN BE DANGEROUS UNDER SUSTAINED EXPOSURE</b>	
90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane taking off
180	Rocket launching pad

**You can find detailed information**