Hillcrest Hearing News©

A newsletter for our patients, their families and friends

Winter 2011

You and Your Hearing Aids: Clarity and Comfort

Old-fashioned hearing aids were simple devices, such as the "ear trumpet," that simply made sounds louder. Although these devices were helpful, they were bulky and were only effective for people with milder hearing loss.

The first *electrical* hearing aids, introduced in the early 1900s, were a dramatic breakthrough. Electrical hearing aids use a *microphone* to pick up sound and convert it into electrical energy, an *amplifier* to increase the signal, a *small speaker* to convert the energy back into sound and a *power source* (battery).

Sound could now be amplified much louder, and people with more severe losses could be helped. However, these devices were still large and heavy—the batteries alone weighed more than a pound—and sounds were still simply made louder.

The modern hearing aid

The modern hearing aid is much smaller and lighter, and can be more powerful than the hearing aids of just a few years ago. More importantly, today's 21st century digital hearing aids do much more than simply make sounds louder. Modern hearing aids use a *microprocessor*—basically a miniature computer—to process or "shape" the sound into a pattern that is most useful for the hearing aid user.

The goal is to make important sounds audible, maximize speech recognition, and keep sound in a comfortable range.

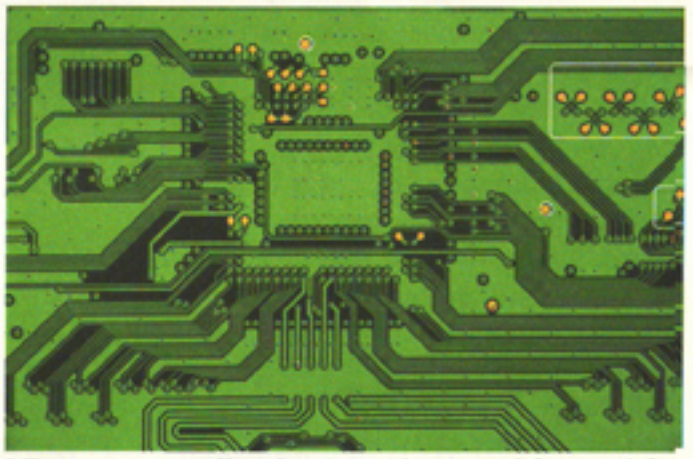
Traditional hearing aid components have also improved dramatically. Microphones and speakers are about 1/10 the size and have significantly less distortion than those of years ago, amplifiers are more efficient and more powerful, and batteries, which now run on air, have about twice the battery life of even 10 years ago. (On the other hand, batteries are smaller, and hearing aids use more battery power to run their advanced features, so hearing aid batteries still generally last only from one to two weeks.)

In addition to technological advances, improvements in manufacturing and design have cut hearing aid repairs to about half what they were ten years ago, mostly through improved protection against moisture, wax and dust.

Comfort and clarity

Thanks to these advances, hearing aids can be programmed to amplify soft sounds, while not amplifying loud sounds at all. Low-pitch sounds can be ignored, while high-pitch sounds can be amplified a great deal, depending on the person's hearing pattern.

Hearing aids can also pick up more sound from the front and less sound from behind, to improve speech understanding in noisy settings. Many hearing aids can even distinguish between speech and noise.



Microprocessors allow hearing aids to amplify sound for the most effective audibility, speech clarity and comfort.

The goal is to shape the amplified sound into a pattern that makes important sounds audible, maximizes speech recognition, and keeps sound in a comfortable range. Still, it's important to remember that hearing aids change *sound*, not how our ear works. And no hearing aid can slow down the speech of people who talk too fast, or add clarity to the speech of people who mumble or have an accent.

Of course, even 21st century digital hearing aids, with sound processing, directionality, noise suppression and loudness control, don't *cure* hearing loss. Instead, today's digital hearing aids minimize the effects of hearing loss by allowing you to use your hearing as effectively as possible—and that's a huge improvement over both the old-fashioned ear trumpet and the hearing aids of just a few years ago.

Check Your Smoke Alarm

The typical smoke alarm produces a high-pitched tone, which is the pitch where most people with hearing loss have the greatest hearing loss. The Fire Protection Research Foundation found that the typical smoke alarm failed to wake up almost half of participants with hearing loss.

Some people with hearing loss use a strobe light alerting device, but these were also found to be ineffective. However, a pillow vibrator device woke up more than **80%** of participants. The most effective alerting signal is a loud, low-pitched sound, which woke more than **92%** of listeners.

These more effective smoke alarms include the **Lifetone Bedside Fire Alarm and Clock**, the **Loudenlow Smoke Detector**, and the **Silent Call,** a smoke alarm system that transmits an alerting signal to a pillow vibrator (which wakes up about 80% of users).

This smoke alarm produces a loud, low-frequency alerting sound and a flashing light.
(Photo courtesy of Oaktree Products)

Our recommendations:

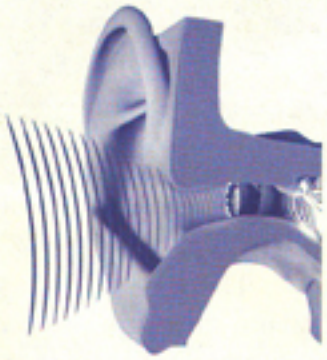
1. **Test your smoke alarm.** Can you hear it without your hearing aids? Would you be alerted while asleep?
2. **Don't depend on a strobe light device.**
3. **Purchase a bed or pillow shaker alarm,** or a device that produces the more effective low-pitched sound (such as the Lifetone or Louden alarms).

Please call our office for more information.

A Golf Story

Three men, each with untreated hearing loss, finished their round of golf.
The first one said, "*Windy, isn't it?*"
"*No,*" the second man replied, "*It's Thursday.*"
That's when the third man chimed in, "*So am I. Let's get a beer.*"

Good News



The Lyric®

We want to extend our sincere appreciation and thanks to you, our patients for the confidence and trust you have placed in us by allowing us to serve your hearing healthcare needs. We also want to extend our thanks to those people and companies who through their donations of hearing aids and monies supported ***Allen Massie and Dr. William Turner's*** October medical mission trip to Peru. Over 650 patients were seen in the clinic and over 150 hearing aids were fit!

New for the coming year, is the introduction of ***Lyric®,*** the world's first and only 100% invisible, extended wear hearing device. This unit is worn 24 hours a day, seven days a week, for months at a time. It uses the ear's natural anatomy to minimize background nose and provide clear and natural sound quality. We will begin fittings in January only in the Centerville office. Call the Centerville office for more information or to schedule an appointment.

Best wishes for happiness and health in this new year!

Sincerely,

The Audiologists, Dispensers and Staff of Hillcrest Hearing Aids & Balance Center

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We now accept used hearing aid batteries for recycling.

Teen Hearing Loss May Be Increasing

Two large studies of hearing involving several thousand adolescents between 12 and 19 years old found a significant increase in hearing loss between 1988-1994 and 2005-2006. The earlier study found that about 15% of teens had some degree of hearing loss. That number increased to just over 19% in the 2005-2006 study.

Most cases were mild hearing loss, but even mild hearing loss can have significant effects on performance in school. Mild hearing loss in younger children can interfere with speech and language development.

Although the studies did not examine possible causes, noise exposure may be one of the culprits. Almost $^{2}/_{3}$ of the cases of hearing loss were high-frequency loss, which is consistent with loss due to noise exposure.

Is it their iPods?

Personal music devices such as iPods have become very popular, and we've become used to seeing teenagers (and adults) with earbuds in their ears. But loud music, whether it's Mozart or rap, can damage hearing. It's painless and it's cumulative, year after year. Add an occasional rock concert and exposure to other noise such as motorcycles and lawnmowers, and permanent hearing loss can occur.

Unfortunately, there are usually no warning signs that noise exposure has caused hearing loss until considerable damage has occurred. Sometimes, however, there *are* warning signs—a ringing in the ears, or a temporary dull sense of hearing.

The best way to deal with hearing loss is to prevent it, so here are some suggestions for people who love their iPods:

- **Lower the volume.** If someone has to speak louder than normal for you to hear them over the music, it's probably too loud.
- **Use sound-isolating earphones** that go *over* the ear instead of earbuds (that go *into* the ear). Earbuds increase the volume by 6 to 9 dB because of the tighter fit.
- **Limit the time** you listen to personal music devices.
- **Use earplugs** when exposed to loud sounds such as lawnmowers and rock concerts.