

## Cellular Phone Use and Hearing Technology

Approximately 6 million people in the United States are hearing aid users, according to the American Academy of Audiology.<sup>1</sup> Many of these hearing aid users have interest in benefiting from the convenience of cellular phone use, which currently provides on-the-go communication for 90 million users in the United States.<sup>2</sup>

### The Root of Incompatibility

When a digital wireless telephone comes near a hearing aid, interference often occurs, rendering the phone unusable to a person wearing a hearing device. A buzzing or humming sound can result as radio waves create an electromagnetic field around the phone's antenna,<sup>3</sup> often making speech inaudible. Analog wireless telephones do not cause such interference, but this technology is considered to be obsolete.

Some digital wireless telephones may be compatible with some hearing aids; but users seem to report varied responses to sound clarity, making it difficult to determine which aids are compatible with which phones. In addition, not all digital carriers use the same digital transmission technology,<sup>4</sup> so what works for a friend may not work for you, depending on your specific telephone, carrier, and the nature of your hearing loss.

The small size of many modern cell phones



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may cause difficulty for a person with a hearing impairment, due to the location of the mouthpiece in relation to the path of the speaker's voice stream.

### Solutions for Better Cell Phone Use

There are a number of solutions that can help reduce the effects of these difficulties. A phone with a flip antenna may provide more distance between the hearing aid and antenna, which could help eliminate interference.<sup>2</sup>

Hearing-aid compatible (HAC) accessories also have proven to be helpful. Neckloops and HAC headsets couple to the hearing aid using telecoil technology, which also allows for greater distance to reduce interference.

In addition, phone guards are available to shield cell phone users against radiation emitted by the phones.<sup>2</sup>

### Who Can Help

Individuals with a hearing impairment should speak to their audiologist about hearing aids that would be most compatible with cellular phones. Hearing aids with built-in shielding and t-coils may work best. Smaller, custom canal aids may produce less interference than behind-the-ear aids. Be sure to discuss your hearing impairment with your cellular service provider and explore the adaptability of the phones to various accessories.

Many organizations, including the Cellular Telecommunications Industry Association and the American National Standards Institute, have been advocating for the compatibility of wireless telephones and hearing aids, as well as cellular phones and teletypewriters. x

### References

1. Help for Hearing Loss. (2002). Cell Phones. Accessed via [http://www.hearinglossweb.com/Technology/Telephone/CellPhones/cell\\_phones.htm](http://www.hearinglossweb.com/Technology/Telephone/CellPhones/cell_phones.htm).
2. Kozma-Spytek, L. Digital Wireless Telephones and Hearing Aids: Are They Compatible Yet? Self Help for Hard of Hearing People. Accessed via [www.shhh.org/journal/featart.cfm?pf=1](http://www.shhh.org/journal/featart.cfm?pf=1).
3. Batista, E. FCC Listens to Hearing Impaired. (2000). Accessed via <http://www.wired.com/news/technology/0,1282,40711,00.html>.
4. Allen, P. Finding the Right Cell Phone. Hearing, Speech and Deafness Center. Accessed via <http://www.hsdc.org/defaultRe.htm>.

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### For More Information

Self Help for Hard of Hearing People  
[www.shhh.org](http://www.shhh.org)

Help for Hearing Loss  
[www.hearinglossweb.com](http://www.hearinglossweb.com)

The Hearing and Speech Center  
[www.hearingcenter.com](http://www.hearingcenter.com)

Federal Communications Commission  
[www.fcc.gov](http://www.fcc.gov)