

Hearing aids and mobile phones

Digital mobile phones are becoming more and more popular as a means of communication. However people with hearing aids or cochlear implants may experience a loud interfering noise when using a digital mobile phone or when one is used nearby.

What causes the interference?

The interference is caused by the radio signals (RF) generated by the digital mobile phone. It can be a buzzing sound that makes speech hard to understand. In severe cases, it can make the phone unusable.

Those with a T-switch (telecoil) in their hearing aid may experience an additional form of interference referred to as "baseband, magnetic interference," which originates from the cell phone's electronics (e.g., backlighting, display, keypad, battery and circuit board). Baseband magnetic interference can add to any RF-interference experienced by the hearing aid user.

How much you are affected by interference from a mobile phone depends on:

- the type of mobile phone-GSM (Global System for Mobiles) or CDMA (Code Division Multiple Access);
- your hearing device's immunity to RF and baseband interference;
- the distance between the hearing device and the mobile phone; and
- your personal tolerance to noise.

The difference between GSM and CDMA

The degree of interference to hearing devices is likely to be greater when a digital GSM mobile phone is used. CDMA mobile phone technology is more suitable for use with most hearing aids or other hearing devices. Most hearing aid wearers who can use a standard telephone should be able to use a CDMA phone.

All new Telecom mobiles (027 numbers) are CDMA, while the existing 025 network uses an analogue system which does not cause the same degree of interference. Vodafone is still largely a digital GSM network.

However, you should be aware that CDMA phones may also cause interference in some situations.

Are there situations where interference is better or worse?

Interference is worse where mobile reception is poor. Make sure there is good coverage from the network you choose in the area where you will use your mobile phone the most.

Does the style of mobile phone chosen make a difference?

The design of the handset may make a difference. Look for a style that maximises the distance between phone's antenna and your hearing aid. The "flip up" or "clam shell" style of mobile, where the section where you listen (the speaker) flips up in from the main body of the phone generally increases the distance between the hearing aid and the antenna and other components that may potentially cause interference. For telecoil users, it also provides physical distance between the cell phone electronics (another potential source of interference) and the hearing aid. The greater the distance between the hearing aid and these electronics, the less potential there is for interference experienced by the hearing aid wearer.

Does the type of hearing aid affect the level of interference?

Those people with In-the-ear (ITEs) or completely-in-the-canal (CICs) hearing aids generally experience less interference than those with behind-the-ear (BTEs) instruments, and digital hearing aids are generally more immune to interference than older, analogue hearing aids. Some new hearing aids have significantly higher levels of immunity and so cause less interference. If you are having a hearing device fitted and know you want to use a mobile phone, discuss your requirements with your audiologist.

How can I reduce interference?

The further the mobile phone is from the hearing aid, the less the interference. If you find interference is a problem with an existing phone try using with the hands -free kit that comes with most mobile phones. This consists of ear pieces (either in the ear, or behind the ear) and a microphone, which allows you to wear you mobile on your belt or carry it in a bag - well away from your hearing device.

Special headsets and neck loops have also been developed to work the T-switch in hearing aids and can be used with some mobiles and regular phones.

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Things to consider when purchasing a mobile phone

- CDMA phones generally cause less interference. Would the CDMA network (at present only Telecom) provide you with the services you need?
- What is the reception like where you plan to use your phone? Interference will be worse where reception is poor.
- Ask people who use mobile phones and have hearing aids about their experience and what they recommend

- Shop around for a mobile phone provider who can advise you on the most suitable mobile and accessories. Try and find an outlet which allows you to test the phone before purchase. It may be better to visit a shop which specialises in mobile phones than a store where phones are just part of a much larger product range.
- If you can test the phone before purchase make sure the batteries are fully charged (interference may not occur if the battery output is low) and try and test it where there is poor reception e.g. in the middle of a building.
- Advise the shop assistant that you have a hearing aid, and make sure that you can return the phone and receive a full refund if you experience interference, or if it is incompatible with accessories you wish to use. (You will need to pay for any calls you made while using the phone).
- When selecting a phone, look for a style that maximises the distance between phone's antenna and your hearing aid. "Flip up" style phones generally have their antenna in the base section.
- Make sure any phone you is compatible with other accessories you may wish to use such as a hands free kit, or specialised headsets.

Other things to consider when purchasing a mobile phone

Is it easy to use?

- Are the buttons easy for you to press?
- Can you use any other controls easily?
- Can you hold the mobile phone comfortably?
- Is the equipment a suitable weight - not too light or too heavy?
- Is the display screen big enough for you to read what is on it?

Check for volume level and speech clarity as well as interference.

What pricing option is suitable for you?

Both Telecom and Vodafone offer a variety of pricing plans to suit the differing communication needs of their customers. Decide when and how you are most likely to use your mobile and choose an option that suits your needs best.