

# Pediatric clinical recommendations

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## Use of wireless accessories for children with AB cochlear implants

A child is not always able to overcome the demands of challenging listening environments, even with the latest hearing aids or cochlear implants (CI). It's critical that children hear well in every environment they encounter for development of good listening and language skills.

Children, like adults, are confronted with a whole host of challenging listening situations; however, children, unlike adults, are still developing language and learning skills. Although children with cochlear implants need to listen with their implant alone to learn to recognize sounds in their environment, wireless communication accessories are useful for improved speech understanding. A Roger system is beneficial, when there is a lot of noise or when the child is not within close enough range to the speaker to hear effectively.

Children need to listen and understand one or more speakers in noisy places, over the phone, and from TV or other audio devices. In these situations, the young CI recipient may benefit from wireless accessories in order to obtain this auditory information easily and clearly. With today's high performing wireless technology, children of all ages and their families and friends can enjoy connecting and communicating even in the most difficult listening situations.

Considerations for the introduction of wireless communication accessories depend on various family and child-specific factors. Each child's needs will be different and change as he or she grows older, and not all devices are recommended for all children at all ages. Here you will find some recommendations for appropriate times to introduce wireless technology.

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### Roger technology

Using a Roger system provides a significant increase in speech understanding in high levels of noise over traditional FM, Dynamic FM, or the CI alone.<sup>1,2</sup>

This wireless remote microphone technology may be of benefit even very early on in a child's journey to hearing, as

young children use the sounds that they hear in order to develop the foundations of speech and language.

It is appropriate to use Roger on a situation-specific basis. For example, a family may not need to use Roger when they are alone with their infant/toddler in their quiet living room, but should consider it when there is background noise or they are not in close proximity to each other. These situations may include when they are traveling in the car, shopping at a grocery store, walking outside, dining in a restaurant, etc.

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### Roger™ microphones

With the variety of Roger microphones and receivers available, there is a Roger solution well suited for each family. Professionals working with children and families should consider the unique needs of each individual child prior to selecting a transmitter and should provide counseling on appropriate use.

#### Roger Touchscreen Mic or Roger inspiro

For school use, the Roger Touchscreen Mic is the recommended solution. This is a versatile microphone that teachers can wear for classroom instruction yet also place it on the table for small group activities so peers can also be heard.



Roger Touchscreen Mic

In classes where both Roger and FM are used, the Roger inspiro is recommended. Both Roger classroom microphones can be used with classroom audio distribution systems, and are fully compatible with Roger Dynamic SoundField.



Roger inspiro

### Roger Clip-On Mic

The Roger Clip-On Mic, worn on a shirt, is a small and lightweight microphone. Perfect for parents and family members, multiple Roger Clip-On Mics can be used together, allowing a child to hear each person clearly, as well as learn to listen to multiple talkers.



Roger Clip-On Mic

### Roger Pen

For older children, the Roger Pen is a discreet and versatile microphone that is useful in a variety of situations. The older CI recipient has control over how the device is positioned, can connect it to other audio sources, and use it as a Bluetooth connection to a cell phone.



Roger Pen

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## Roger receivers

With the design-integrated **Roger 17** receiver, Advanced Bionics Naida CI recipients have access to a sleek onboard receiver. This is the most discreet and simplest option, particularly for younger Roger users.



Roger 17

The universal **Roger X** receiver can be used with most other cochlear implant processors.



Roger X

**Roger MyLink** may also be used for older children using a T-coil program on the processor. It is not recommended for very young children to use any neck loop type of device. For those children old enough to wear a neck loop, Phonak offers two different lengths.



Roger MyLink

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## Wireless accessories

With advances in technology, children today are connecting and learning with a wider variety of resources than in previous years. Many schools, for instance, are moving towards electronic textbooks and requiring students to use tablets. Phonak wireless accessories allow children with hearing loss to have access to the same information and methods for learning and communicating.

### Phonak ComPilot

This wireless streamer, worn around the neck, allows the cochlear implant recipient to access a multitude of Bluetooth products, including MP3 players and cell phones. The ComPilot provides audio input to the child binaurally (for bilateral CI recipients) and bimodally (for Phonak hearing aid users) and makes connecting to the world easy. A few companion wireless devices can be used in combination with the ComPilot for a complete solution. Streaming devices with a neck loop, such as the ComPilot, are recommended only for children who can handle the device and can understand its multiple uses. The ComPilot can also be used as an interface for the Roger X receiver.



Phonak ComPilot

### Phonak TVLink II

This convenient, small Bluetooth device can be paired with the ComPilot to listen to a clear audio signal from the TV. The TV signal is streamed wirelessly to the CI recipient via the ComPilot.



Phonak TVLink II

### Phonak RemoteMic

This wireless companion microphone allows CI recipients to listen to one-on-one conversations in quiet or low-level noise, as well as over distance. This accessory must be used with the ComPilot, so it should only be used by children who are old enough to handle both devices. It is also not recommended for school use.

Optimal listening and understanding in a classroom require both a directional teacher microphone and transmitter (such as the **Roger Touchscreen Mic** or **Roger inspiro**) that provide adaptive gain in the receiver to adjust for the changing level of noise during the school day.



Phonak RemoteMic

### Phonak DECT Phone

This cordless phone looks like a regular phone and can be used by family members with normal hearing. However, thanks to the DECT Phone's wireless streaming capabilities, a CI recipient can hold the phone up to one ear and take the calls binaurally or bimodally without outside interference.



Phonak DECT Phone

### Phonak EasyCall

This is a new wireless adaptor for both iPhone and Android smartphones that allows CI recipients to hold the mobile phone up to one ear and take calls binaurally or bimodally, similar to the DECT Phone.



Phonak EasyCall

## Summary of recommended wireless accessories by age group

	Roger at pre-school / school	Roger at home	At home wireless accessories
Infants and toddlers	Roger Touchscreen Mic Roger inspiro	Roger Clip-On Mic	Phonak DECT Phone Phonak EasyCall
School-aged children	Roger Touchscreen Mic Roger inspiro	Roger Clip-On Mic Roger Pen	Phonak ComPilot Phonak TVLink II Phonak DECT Phone Phonak EasyCall
Teens	Roger Touchscreen Mic Roger Pen Roger inspiro	Roger Clip-On Mic Roger Pen	Phonak ComPilot Phonak TVLink II Phonak DECT Phone Phonak EasyCall Phonak RemoteMic

## References

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Wolfe, J et al. (2013). Evaluation of speech recognition of cochlear implant recipients using a personal digital adaptive radio frequency system. *Journal of the American Academy of Audiology*/Volume 24, Number 8.

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