Oticon | Amigo

Do Your Students With Auditory Deficits Achieve Their Educational Goals?

Amigo FM from Oticon Can Improve Your Students' Achievement

oticon PEDIATRICS

Children with auditory deficits are academically at risk!

"The **prevalence of hearing loss** in **school age children** is between **11% and 15%**" [1]

"Children who are **hard of hearing** will find it much more difficult than children who have normal hearing to **learn vocabulary, grammar, word order, idiomatic expressions and other aspects of verbal communication."** [2]

" The estimated **prevalence of central auditory processing disorders** in children is **2-3%.**" [3]

"It is reasonable to assume that **children with hearing loss are at risk for expending greater effort** listening in typical classroom environments **than their peers with normal hearing."** [4]

"The number of **children with disabilities**, ages 6-21 **served in the public schools under the Individuals with Disabilities Act (IDEA) Part B in 2000, 01 school year was 5,775,772.** (in 50 States, DC and PR) Of these children, 70,767 (1.2%) received services for hearing." [5]

"Research has also demonstrated that many children with normal hearing (e.g., **children with learning, reading, language, attention and/or auditory processing** disorders) also experience **difficulties understanding speech** in typical classroom environments." [6]

1. Niskar, A.S., et.al. (1998). Prevalence of hearing loss among children 6 to 19 years of age: The third national health and nutrition examination survey. JAMA, 279 (14), pp. 1071-1075.

2. National Information Center for Children and Youth with Disability (2004, January) Deafness and hearing Loss (Pub. No. FS3) Washington, DC:

3. Chermak, G. & Musiek, F. (1997). Central auditory processing disorders: New perspectives. San Diego: Singular Publishing Group.

4. Hicks, C. B., & Tharpe, A. M. (2002). Listening effort and fatigue in school-age children with and without hearing loss. JSHR, 45, 573- 584.

5. US Department of Education. (2002). To assure the free appropriate education of all Americans. Twenty-fourth annual report to Congress on the I Implementation for the Individuals With Disabilities Education Act.

6. Crandell, C., Smaldino, J., & Flexer, C. (1995). Sound field FM amplification: Theory and practical applications. San Diego: Singular Press.

Who is at Risk?

- Children with sensorineural hearing loss
- Children with conductive hearing loss
- Children with minimal and unilateral hearing loss
- Children with auditory processing disorders

Classrooms are challenging listening environments!

Children educated in noisy classroom conditions perceive speech less clearly, have greater difficulties with auditory discrimination, and have lower reading scores.[7]

Students are listening in less than ideal conditions. Administrators and teachers underestimate the effect of the acoustic environment in k-12 classrooms. Because children have limited vocabulary and immature language skills they cannot use context to reconstruct what their ears have missed.

The teacher's voice must be heard above the obstacles of noise and distance from the student. Otherwise classroom performance, speech perception, ability to attend and overall behavior can be affected.

- Acoustic signals degrade with distance
- Integrity of the speech signal is compromised by background noise and reverberation typical of classrooms
- Children with auditory disorders are at greater risk for speech perception difficulties under adverse listening conditions[8]

7. Blumsack, J. T., & Anderson, K. L. (2004). Back to school! 13 facts revisited. The Hearing. Review, 11(10), 14, 16, 62-64.
8. Anderson, K.L. (2009). Determining Need and Benefit of FM Use: Measurement of Outcomes. Presented at WI Speech & Hearing Association annual conference.

What do FM systems do for children with auditory deficits in the classroom?

The use of FM in the classroom allows the child to hear the teacher's voice at an appropriate and constant intensity level regardless of the distance between the child and the teacher.

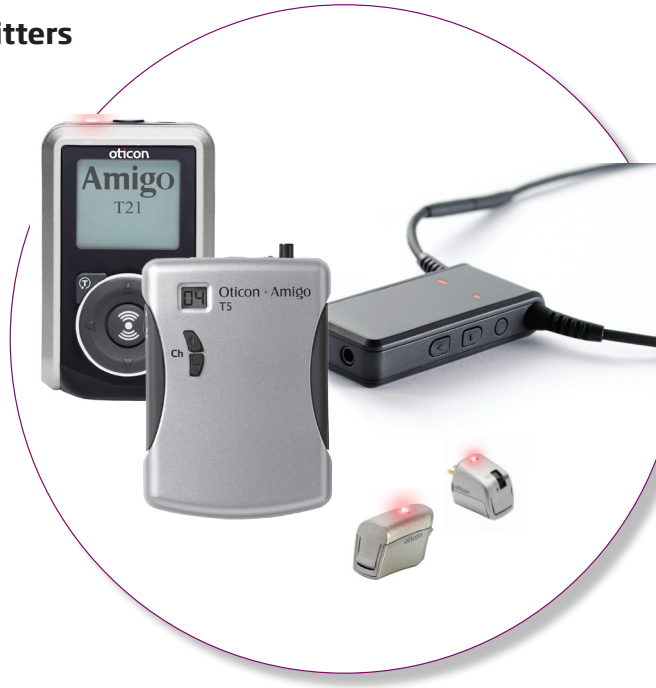
FM systems allow the teacher's voice to be heard more prominently than typical and ongoing background noise in the classroom (papers, chairs scraping, whispering, pencils being sharpened, feet shuffling, HVAC, hallway noise) even when the background noise is closer to the child than the teacher's voice.

Who benefits from FM?

- Students with hearing loss, students with cochlear implants, students demonstrating auditory/learning deficits; in the mainstream or in self-contained classes
- Teachers – assistive technology that's intuitve, easy to use and reliable
- Special Ed Directors – compliance for IEP and 504 plans

Introducing Amigo FM by Oticon – FM made friendly

A family of FM products consisting of a variety of transmitters for the teacher and receiver choices for the student



- **Easy to use**–so teachers can spend their time educating
- **Durable design**–holds up with daily classroom use
- **Flexible**– open approach provides compatibility with most FM systems
- **Unique LED on receivers and transmitters**, confirming the FM connection and assures teachers of product performance
- **Portable programming and diagnostic functions**; no computers or cables needed
- Dedicated to providing an **optimal speech signal**
- **Economical solutions** without compromising benefits

Why Oticon Pediatrics should be your PREFERRED SOURCE for child-friendly hearing care

Oticon is a leading manufacturer of high performance hearing solutions with with a longstanding reputation for excellent product quality and reliability.

- Provides a full line of personal FM devices through the Amigo FM family of products
- Only manufacturer to offer a complete family of hearing instruments designed exclusively for children– Oticon Safari
- All account managers in the field are experienced audiologists and knowledgeable about schools' needs
- Responsive and dedicated FM Customer Service team is available for inquiries, quotes and troubleshooting assistance 9am-7pm Eastern time.
- Effective training and support materials available as in-person presentations, in print and on the web

Oticon Pediatrics provides products, services and support to professionals, families and children. Our mission is, ***Making it easier to help children with hearing loss achieve their full potential.***

Advanced, Flexible Choices:
Amigo FM for Students with Hearing Instruments and Cochlear Implants

How It Works:

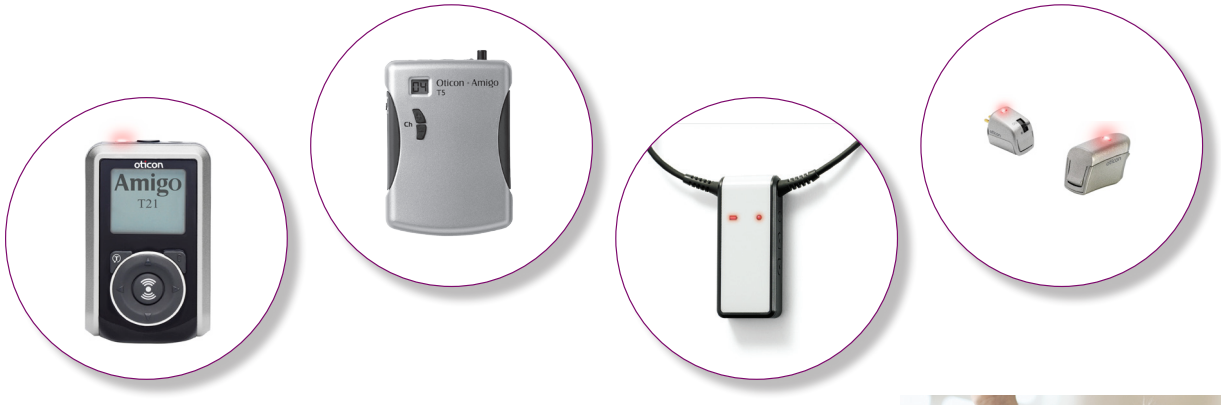
Amigo FM transmitter (T20, T5): Flexible, body-worn transmitters that broadcast the teacher's voice to an FM receiver

–AND–

Amigo Arc FM receiver: Stylish, lightweight neckloop receiver that delivers the teacher's voice to the child's hearing aid or cochlear implant

–OR–

Amigo FM receiver (R2, R12): Small ear-level receivers that attach directly to the child's hearing aids



Studies have shown that students with varying degrees of hearing loss experience significant listening difficulties in the classroom and Hearing Assistive Technology are necessary for educational success.

Crandell, C., Smaldino, J., & Flexer, C. (1995). Sound field FM amplification: Theory and practical applications. San Diego:Singular Press.

Affordable and Reliable Solutions: Amigo FM for Students with Auditory Processing Disorders

How It Works:

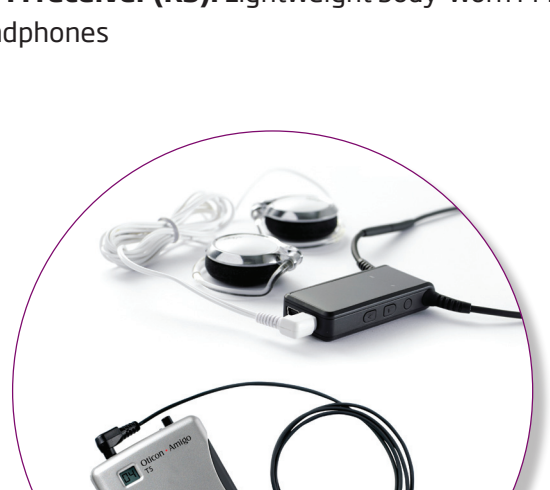
Amigo FM transmitter (T5): Flexible, body-worn transmitters that broadcast the teacher's voice to an FM receiver

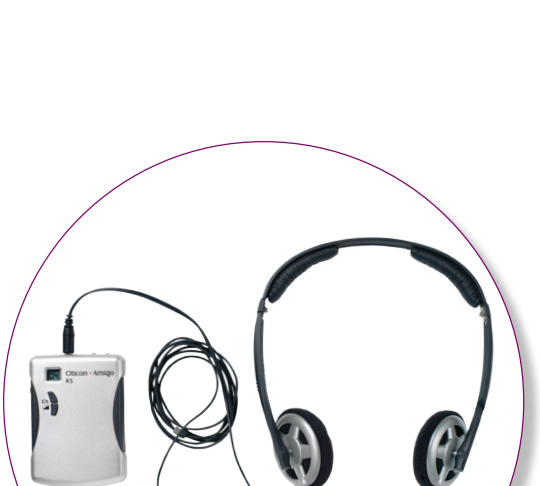
–AND–

Amigo Arc FM receiver: Small neckloop receiver with auxiliary port for headphone connection

–OR–

Amigo FM receiver (R5): Lightweight body-worn FM receiver used with headphones





"Children with APD showed greater speech-perception advantage with FM technology."

Johnston, K.N., John, A.B., Kreisman, N.V., Hall, J.W. 3rd, & Crandell, C. (2009). Multiple benefits of personal FM system use by children with auditory processing disorder (APD). Int J Audiol.;48(6):371-83.

People First

People First is our promise
to empower people
to communicate freely,
interact naturally and
participate actively

child friendly hearing care

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