



# Consultation Chat #6



North Dakota School for the Deaf/Resource Center for the Deaf and Hard of Hearing  
Parent-Infant and School Age Outreach Department

## Listening and Visual Fatigue

THIS IS A REMINDER:

*Children who are deaf or hard of hearing need to pay more attention to access information. It takes a lot of energy and concentration to listen, lipread, and follow a sign conversation. With more screen time and less direct auditory and visual access: it needs to be kept in mind that listening and visual fatigue may impact the child's attention and concentration. The following information is taken from Karen Anderson's article "Listening Effort and Fatigue."*

### **Listening Effort and Fatigue** by Karen Anderson, PhD.

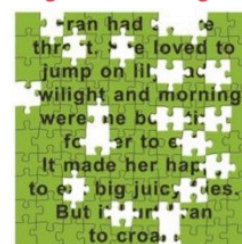


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65% of young children's days are spent listening for learning. This *listening* is more than the passive act of hearing. It relates to the auditory functions of the brain and the ability for the ear and brain to work together to perceive, discriminate, and process auditory information. A hearing aid only provides an increase in sound volume; it does NOT provide children with normal hearing or the processes that accompany normal hearing. In order for children with hearing loss to understand the subtle nuances of spoken speech and language, they must exert much more "listening energy" than their peers. As a result, children who expend so much of their energy "trying to listen" will often experience greater levels of fatigue.

When children are listening, they are also being asked to process and comprehend what they are hearing. Even for someone with normal hearing, this can be tiring. For a child with hearing loss it can be absolutely exhausting. It is suggested that expending so much listening effort can interfere with the processing, and thereby understanding, of auditory information.

#### Fragmented Hearing



Karen Anderson

Audiology researcher, Ben Hornsby (2012) writes that "both anecdotal and formal research suggest that the need for increased concentration and attention when listening is a fairly common complaint for people with hearing loss and one that may have significant negative consequences".

#### **The cascading impact of hearing loss on access to school communication**

Fragmented Hearing → Effort → Listening Comprehension  
→ Fatigue → Pace of Learning

Karen Anderson, PhD



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### Listening and Visual Fatigue

Here are some anecdotal reports from people with hearing loss that Ben Hornsby found via an Internet search of blogs and message boards:



Go Graph

*"Listening IS exhausting!"*

*"On a typical day, it can be tiring to put in the effort to listen, especially when you deal with all kinds of people all day long..."*

*"I go to bed most nights with nothing left. It takes so much energy to participate in conversations all day that I'm often asleep within minutes."*

In regards to the consequences of listening with hearing loss one person reported *"...at the end of every day I am physically exhausted."*

These anecdotal findings are corroborated by formal research in this area which suggests that increasing listening effort may be a coping strategy used by people with hearing loss to compensate for communication and processing difficulties. (Hornsby, 2012). To maintain optimal communication, individuals with hearing loss may report a need for increased concentration, attention and focus, compared to individuals without hearing loss. Common consequences of sustained listening effort appear to be increases in subjective reports of stress, tension and fatigue (e.g., Hetu, et al., 1988).

The effects of stress, tension and fatigue related to listening effort can have further consequences for individuals with hearing loss, such as recovery time (Nachtegaal, et al., 2009), response time (Gatehouse and Gordon, 1990), performance quality and attendance (Kramer, Kapteyn, and Houtgast, 2006). The increased and sustained listening effort required by children in their school settings put them similarly at risk for the above mentioned consequences (Hicks & Tharpe, 2002; Pittman, 2011).

### Other Articles about Listening Fatigue

The Cascading Impact of Hearing Loss on Access to School Communication by Karen Anderson

<https://successforkidswithhearingloss.com/wp-content/uploads/2014/06/Cascading-Impact-of-Hearing-Loss-on-Access-to-School-Communication.pdf>

Access is the Issue, Not Hearing Loss: New Policy Clarification Requires Schools to Ensure Effective Communication Access by Karen Anderson

<https://pubs.asha.org/doi/10.1044/hhdc25.1.24>



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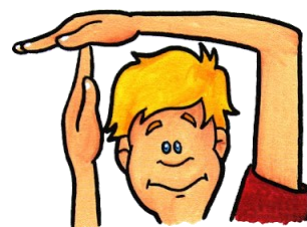
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## Listening and Visual Fatigue

The extra listening effort experienced by children with hearing loss will likely lead to fatigue. Below are some strategies that may help reduce listening effort in the classroom environment:

**Monitor Fatigue:** Signs of fatigue are rubbing eyes, laying head down on desk, headaches, inattentiveness, excessive fidgeting, etc.

**Provide Auditory Breaks:** These auditory breaks only last as long as it would take a child to eat a cookie (2-3 minutes). The student should NOT remove their hearing aids but rather, with the FM system turned off, remove themselves from the classroom environment. This could take the form of walking a note to the office, getting a drink of water or simply walking to the library. It is best if these breaks can be scheduled into the student's day following noisier activities (e.g. group work, Phys Ed).



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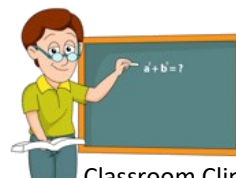


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**Preteach Vocabulary:** Teaching new vocabulary in advance allows the student who is hard of hearing to more accurately repair the incomplete auditory message they often receive. This alleviates the fatigue related to trying to figure out what was said.

**Quiet Work Space:** Be sure to provide the student who is hard of hearing with a quiet work space. This is particularly true during group or partner work. Even if the student is using the FM system, the increase in background noise will thereby increase the student's listening effort. Allowing the student's group to work outside of the classroom will reduce listening effort.

**Use of Visuals:** Providing visual information allows the student who is hard of hearing to more accurately repair the incomplete auditory message they often receive. This alleviates the fatigue related to trying to figure out what was said.



Classroom Clipart

**Load:** Monitor homework load. It should be noted that while students who are hard of hearing may not appear fatigued during the school day, anecdotal parent reports suggest that these students can demonstrate extreme fatigue after school and more so after mid-week. Be aware of the amount of homework that is required, knowing that the student who is hard of hearing will experience greater fatigue than their peers.



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**Timetabling:** Consider the subject load when timetabling. For students in upper grades, try to schedule Social Studies and English in different semesters. These subjects often require students to listen and attend to group discussions. It is an extremely fatiguing activity. They also have heavy reading/writing requirements, which are not typically strengths for students who are hard of hearing.