Teaching Hearing Loss Prevention to Audiology Graduate Students and the Community: The University of Iowa’s Innovative Approach

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Why Incorporate Hearing Loss Prevention in Audiology Clinical Teaching and Practice?

As audiologists, it is our responsibility to focus on prevention as much as treatment.
Sound is everywhere...

- Sound levels present in daily life, including household and recreational activities, can surpass levels which would require implementation of a conservation program in the workplace.

- Many people are unaware of the high sound levels to which they are exposed.

http://www.dangerousdecibels.org/education/information-center/hearing-loss/

http://e-a-r.com/hearingconservation/faq_main.cfm
(Noise Navigator)
**Not So Temporary . . .**

- **Temporary changes**
  - Complete recovery following exposure to excessive sound levels
    - Hearing thresholds return to previous levels
    - Tinnitus resolves
  - Does not mean that no damage was done

- **Permanent changes**
  - Degeneration of afferent nerves and cochlear nerves even when thresholds return to normal
    - Complex listening tasks (understanding speech in noise) may be permanently affected
  - Hearing thresholds do not recover
  - Tinnitus is permanent
Prevalence of Excessive Sound Induced Hearing Loss

- Excessive sound exposure is the second leading cause of hearing loss
- 15% of adults in the U.S. ages 22 – 69 years
- 12.5% of children in the U.S. ages 6-19 years
- Increase in prevalence of hearing loss, in general, for ages 12-19 years
  - 19.5% (2005 – 2006)
  - Excessive sound exposure thought to be related
First the bad news . . .

- Limited use of hearing protection devices has been documented
  - Farmers
  - Construction workers
  - Musicians
  - Young people

- When used, hearing protection devices are often not used effectively
Now some good news . . .

- Research has shown…
  - People are more willing to use hearing protection if they understand and appreciate the need for it and are educated about the consequences of sound exposure
  - Instruction on proper earplug insertion can increase attenuation by up to 10 dB
Hearing loss caused by excessive sound is preventable!

As audiologists, hearing health care providers, it is our professional responsibility to teach prevention to the public.

As clinical teachers, it is our responsibility to teach prevention and identification to students (ASHA, KASA, 2011).
Where do we do this?

- Clinic setting
- Community outreach
Specific Venues

- Audiology training clinic
- Preschools
- Iowa Children’s Museum
- 3rd and 4th grade general education classrooms
- School science fairs
- School band programs
- Summer band camps
- University sponsored career/science fairs
- University School of Music
- University fitness centers
- Music venues
- Student health clinic
- Sororities and fraternities
- College dormitories
- Sporting events
- University laboratories
- Student gathering places
- University sponsored community events
- Freshman seminar
- Local health fairs
- County fair
- State fair
- etc. . .
How do we do this?

• Collaboration!!!
  ▫ Faculty
  ▫ Staff
  ▫ Graduate students
  ▫ Undergraduate students
  ▫ High school students . . .
How do we do this?

- AuD capstone projects
  - Provide evidence from literature regarding prevention needs
  - Ideas for prevention programs
  - Administration of prevention programs

- UI-SAFE
  - Manpower to manage the programs
  - Sustainability of the programs
What do we do?

In House Clinical Services

- Hearing evaluations
- Measure output of personal music players
- Verify sound level meter phone apps
- Dosimeter lending program
- Provide hearing protection devices
  - Evaluation of needs, fitting, verification, follow-up
- Hearing loss and tinnitus simulations
What do we do?

Community Outreach Services

- Measure output of personal music players
- Verify sound level meter phone apps
- Provide hearing protection devices
- Educate
  - Sound levels in daily life
  - Strategies for protecting hearing
  - Dangerous Decibels Program
- Motivate
  - Variety of materials/activities designed for target populations
  
  Partner
Beyond the local community...

- http://uiowa.edu/~ui-safe
- Facebook page
  - Search “Wendy Johnson”
Positive outcomes

- Attention from local media regarding healthy hearing
- Partnerships
  - UI School of Music
  - UI Recreation Department
  - UI Department of Education
  - Local Music Venues
  - Local Schools and band programs
  - School nurses
- First Year Seminar offered at UI on healthy hearing
Positive outcomes

• Emphasis on community service as part of our graduate and undergraduate education
• Opportunities for graduate students to serve in a leadership role
• Opportunities for graduate students to serve as role models for undergraduates
• Promotion of our profession within the community
Good News!!

• Research shows that educating and motivating individuals regarding healthy hearing is effective.

• Students are a key component of our hearing loss prevention program.
  ▫ Fresh ideas
  ▫ Manpower
  ▫ Motivating to young people who need to hear our message
Why Incorporate Hearing Loss Prevention in Your Clinical Teaching and Practice?

Because everyone needs to think of hearing protection just like sunscreen.