Forensic Audiology Web Seminar
Recorded November 18, 2014

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+ Forensic Audiology

+ Audologists As Experts & Litigation Consultants
  - Roles
  - Expectations
  - The Legal Process
  - Forensic Audiologic Assessment
  - Introduction to Relevant Law
  - Rewards & Pitfalls

+ From ASHA’s Scope of Practice in Audiology (2003)
  - Consultation to individuals, public and private agencies, and governmental bodies, or as an expert witness regarding legal interpretations of audiology findings, effects of hearing loss and other auditory dysfunction, balance system impairments, and relevant noise-related considerations;
ETHICS

- Truthfulness is essential
- Do NOT misrepresent or exaggerate facts or opinion
- Your opinion or reputation are NOT FOR SALE!
  Only your time and expertise.

Qualifications

- Your CV will be submitted as a trial exhibit
- Each side will have the opportunity to argue about your qualifications, and the judge will make a determination regarding your acceptance as an expert

Types of Cases

- Worker’s Compensation
- Personal Injury
- Criminal
- Civil
- Malpractice
Worker’s Compensation

- Federal
- State
- Railroad and Maritime Workers
- Private industry
- Noise Induced hearing loss
- Tinnitus

Personal Injury

- Product Liability Claims
  - Negligence
  - Breach of Warranty
  - Strict Liability
- NIHL from use of, or proximity to
  - Personal Stereos
  - Air bag Deployment
  - Cell phones
  - High Intensity Music (Concerts, nightclubs)
- Tinnitus

Cell Phones

- Some early cell phones had ringers located underneath the receiver which was held at the user’s ear. These rings were measured as loud as 135 dB SPL. Phone may ring to signal an incoming call while in use. Manufacturers were sued for traumatic hearing loss, sometimes including tinnitus and vertigo, and even TM perforation
Air bag deployment

- An estimated 2.1 million airbags have been deployed since the late 1980’s.
- SNHL has been reported in 17% of air bag deployments
- Tinnitus has been reported in up to 85% of airbag deployments
- TM perforation may occur at levels of about 180 dB SPL, may be lower in the presence of active middle ear disease.
- If you or a loved one has been seriously injured because of a defective air bag, please contact our Phoenix, Arizona personal injury lawyers. We want to help you receive the compensation you may be entitled to under the law.

Vaccine Case

- An audiologist expert was asked by plaintiff to provide expert testimony on behalf of young parents whose son was identified as severely hearing impaired soon after receiving first DPT vaccine at age 2 months. The child developed a recognized adverse reaction (high fever, transient hypotonic state). At age 4 months, he was identified with severe-to-profound SNHL. Parents testified that he had shown normal babbling and response to sound prior to the vaccine.

Criminal Cases

- Felony Murder
- Sexual Assault
- Narcotics
- Etc...
**FELONY MURDER**

- First witness successfully impeached (Daubert challenge?) due to lack of specialized knowledge of CAPDs.
- Hired by State of CO to testify about the ability of the suspect to have willfully colluded in a murder in which his uncle fired the fatal shots
- Defense contends that defendant had auditory/linguistic processing disorder that precluded participation in the murder

**SEXUAL ASSAULT**

- An individual with significant hearing loss was accused of raping a woman
- The assault occurred in a dark vehicle during night time hours
- Significant conversation occurred between perpetrator and victim
- Defense alleged mistaken identity based on defendant’s hearing loss and characteristic deaf speech

**Civil Cases**

- Accident Reconstruction
- RR Crossing
- Community Noise
From a lawyer’s website:

“I often rely on expert witnesses who are indispensable in assisting with the prosecution of these cases. These witnesses include railroad locomotive engineers, civil engineers, transportation safety engineers, audiological experts, surveyors and other personnel.”

R/R Crossing Case

South Carolina Code Ann. § 58-15-910 (1976) requires a train sound its bell and whistle beginning 1,500 feet before a crossing and continuing until the engine has crossed the intersection. CSX concedes the engineer did not sound the horn for 1,500 feet before the Jordan Street Crossing, but rather did so for only 564 feet. The driver testified she did not hear the horn, and offered testimony from an expert that given the sound proofing in the automobile and the fact that the windows were rolled up and the air conditioning on, the whistle was inaudible to the driver, at any distance. Finally, plaintiff offered a witness who testified the train “tooted” only twice before entering the crossing.

Malpractice

- Standard of Care
+ **Elements of Negligent Malpractice**

- That a duty of care was owed by the clinician to the patient,
- That the clinician violated the applicable standard of care,
- That the patient suffered a compensable injury, and
- That the injury was caused in fact and proximately caused by the substandard conduct.

+ **Malpractice examples**

- Post-operative patient, with a fragile TM. Insufficient otoblock, impression material ruptured the TM, filled middle ear space, which hardened and adhered to ossicles, requiring surgical removal. Surgery resulted in numerous complications, including loss of taste, neck pain, recurrent sore throat, ear pain and drainage, and residual conductive hearing loss.

+ **Malpractice**

- 6 y-o, underwent SX for bilateral perilymph fistula 2 years previously. Now has permanent SNHL AU, wears HA. Parents sued pediatrician for not performing routine office hearing testing. It was argued that early intervention would have resulted in a less significant hearing loss.
- Audiologist expert testified that standard of care in pediatric offices seldom includes hearing testing, and DX of perilymph fistula is beyond the scope of knowledge of the typical pediatrician. Review of medical records showed no positive signs of perilymph fistula—in fact every fistula test was negative!
**Malpractice**

- Pt. makes appt with audiologist, shows asymmetrical hearing loss; also c/o unilateral tinnitus and feeling of fullness in the poorer ear. No retrocchlear testing is done and pt. is not referred to otologist. Audiologist fits hearing aid(s); pt. waives medical clearance. Pt. later found to have large acoustic neuroma. Is this malpractice? Does this meet the standard of care in audiology?

**The Expert Witness/Consultant**

- Source of the truth
- Educator
- Investigator
- Evaluator
- Strategist
- Interpreter
- Employee

**Witness Types & Roles**

- Custodian of records
- Fact witness
- Opinion witness
- Treating witness
- Corroborating witness
- Character witness
- Rebuttal witness
- Adverse witness
+ **Expert Witness - Defined**

- An individual who, by education or special training possesses knowledge of some particular subject area in greater depth than the public at large.
- One who will assist the trier of fact in understanding complicated subjects not within the knowledge of the average person.
- The only witness allowed to offer an opinion in court.

+ **Essential Functions**

- Establish the facts
- Interpret the facts
- Comment on opposing expert’s facts and opinions
- Define professional standards

+ **Attorney Requirements**

- Knowledge
- Integrity
- Credibility
- Affordability
The Attorney - Expert Relationship

- Receipt of reports and/or tests conducted
- Educate the attorney
- Ask about the legal process
- Review evidence and testimony
- Know your potential opponents
- Anticipate cross examination
- Prepare exhibits/simulations
- Discuss evidence only with attorney's permission

The Expert Witness

- Pay close attention to details
- Replicate accurately
- Reconstruct conservatively using appropriate assumptions
- Use precise equipment and standardized methodology
- Put comments in writing only when required to do so
- Keep reports concise and understandable

The Road to the Courtroom

- Complaint
- Answer
- Interrogatories
- Discovery
- Deposition
- Pretrial conference
What is Expert Witness Testimony?

Scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill experience, training, or education, may testify thereto in the form of an opinion or otherwise.

Federal Rules of Evidence Rule 702

What is the primary difference between expert and lay witness testimony?

An expert must be qualified in a particular field by specialized knowledge, skill or experience; a lay witness may not be “based on scientific, technical, other special knowledge . . .”

Some authorities state that the critical difference between an expert witness and a lay witness is the expert’s ability to answer hypothetical questions.

Live Testimony
Deposition versus Trial Testimony

**DEPOSITION**
- Recorded for future use
- Limit Damage
- Adversarial from beginning - begins with cross examination

**TRIAL**
- Direct Examination
- Opportunity to Speak
  - Directly to Judge and Jury
- Use of exhibits
- Cross-examination
- Redirect

Daubert Challenges

**Daubert established two requirements:**
- Evidence must be **RELIABLE**
- Trustworthy
- Backed up by peer reviewed research
- Supported by scientific methods and procedures
- Evidence must be **RELEVANT**
  - Must be sufficiently tied to the facts of the case, and will help the jury resolve a factual dispute
**Daubert vs. Merrell Dow Pharmaceuticals, Inc. (1993)**

- Made trial judges the gatekeepers of scientific expert testimony on the basis of:
  - Whether the theory used by the expert can be tested and has been tested
  - Whether the theory or technique has been subjected to peer review
  - The known or potential rate of error of the method used
  - The degree of the method's or conclusion's acceptance within the relevant scientific community

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**5th element added to Daubert**

- Whether the scientific theory or method existed prior to the present cause of action
- This question asks whether the theory or method might have been developed for the purpose of testifying in this particular case

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**When is a Daubert challenge raised?**

- Usually raised in motions in limine
- May also be raised in voir dire outside the presence of the jury
- May also be raised in a 402 hearing
- Purpose: To disqualify the opposition's expert witness
+ If an expert cannot pass the Daubert threshold . . .
- The witness will be limited to what they may testify
- OR might not be permitted to testify at trial at all

+ As an expert, you may be
- Challenged by Daubert, OR
- Be called upon by an attorney to assist in preparation of a Daubert challenge for the opposing experts

+ What kinds of testimony are likely to be scrutinized?
- Opinions about critical issues such as injury causation
- Medical technology that is used to support opinions about causation, injury extent or severity, or long term prognosis
- Especially if it appears new, cutting edge, or obscure
- A technology that may be widely accepted and well-developed for some uses, but not for others
- Accident reconstruction testimony
**How to prepare for a Daubert challenge**

- Be intimately familiar with state of the art scientific literature that supports your position
- Be prepared to cite articles and sources
- Use layman’s terms to provide a logical explanation of your position
- KEEP CURRENT

**EXAMPLE OF A DAUBERT CHALLENGE**

**Almond vs. AKAL Security et al, 2007**

- In a lawsuit filed under ADA title I, a GA federal court concluded that a qualified expert in the field of audiology could testify under Federal Rule of Evidence 702 as to the appropriateness of a US Marshals Service requirement that officers have a minimal level of unaided hearing, even though his testimony was based on personal experience and not scientific evidence. As long as the expert explained how his professional experience had led to the conclusions he had reached, his testimony met minimum reliability standards.
From ASHA’s Scope of Practice in Audiology (2003)

- Consultation to individuals, public and private agencies, and governmental bodies, or as an expert witness regarding legal interpretations of audiology findings, effects of hearing loss and other auditory dysfunction, balance system impairments, and relevant noise-related considerations;

The Playing Field - The Court of Law

- Judge & Jury - the triers of fact
- Plaintiff Attorney or Prosecutor - the offense
- Defense Attorney - the defense
- Court officers, bailiffs, reporter
- Witnesses:
  - Lay or ordinary - the source of fact
  - Expert - the source of truth

Expert Testimony

- Stay within your area of expertise
- Make responses clear and brief as possible
- Use illustrative materials as appropriate
- Avoid advocacy . . . Preserve objectively
- Maintain proper demeanor
**The Court Appearance**

- Be prepared
- Get a good night's sleep
- Eat a good breakfast
- Dress credibly - project confidence
- Pay attention and show respect
- Make presentations clear - use simple terms
- Direct answers to the attorney and explanations to the judge or jury

**The Testimony Process**

- Direct Examination
  - Offering of qualification
  - Laying of foundation
  - Elicitation of opinion
- Cross Examination (to discredit)
  - You
  - The foundations of your opinion
  - Your conclusions

**The Testimony Process**

- Re-direct examination
  - To clear up any confusion resulting from the cross examination
  - Limited to the scope of the cross examination
- Re-cross examination
  - Limited to the scope of the re-direct
  - Witness is excused
The Forensic Audiologic Assessment

**Purpose:**
- Establish a valid and reliable measure of audiologic status
- Obtain all information essential to assist in interpretation

**Protocols**
- Detailed history
- Complaint
- Medical & Audiologic History

**Basic Procedures:** AC, BC, SRT, PB Max, Tympanogram, Acoustic Reflexes, Reflex decay, OAE

**Special Procedures**
- Stenger (PT & Modified); BSER, ASSR, Bekesy (with BADGE), etc.

**Instrumentation & calibration**
- Audiometer ANSI S3.6-1996
- Test Room ANSI S3.1-1971
- Classic procedures, classically performed

Who needs to know the law and why?

- Litigative consultants
- Expert witnesses
- Industrial audiologists
- Recreational audiologists
- Advocates
- Dispensing audiologists
- Students and educators
- Informed audiologists
All Audiologists (Especially Forensic Audiologists) Should Know !!!
- Their State’s Audiology Licensing Law
- Their State’s Hearing Aid Dispensers’ Regulations
- Applicable Codes of Ethics
- Relevant Federal, State & Local Regulations with respect to hearing aids, occupational hearing loss and environmental noise.
- Remember … Ignorance of the law is not a Defense

Illustrative Examples

Litigation
Civil - Wrongful Death
- Three young adults and an infant die as a result of a fire which originated in a sofa in the living room of a garden apartment.
- Arson experts to testify that fires of this type smolder for 1-2 hours prior to full ignition
- Issue: Would a smoke detector have awakened these individuals if it had been in operation as required by law?
Litigation
Civil - Wrongful Death

- Standards for Smoke Detectors
  - Underwriters Laboratories (UL)
  - National Bureau of Standards (NBS)
  - Massachusetts College Student Experiment
- Random sampling of smoke detectors for compliance
- Consultation: chronobiologist
- Application of acquired data to case

Litigation
Civil - Wrongful Death

- Reviewing the Relevant Literature
  - NFPA Fire Almanac
  - NFPA 74-1984
  - 4.21 85dBA @ 10’
  - 75dBA @ 10’ (if in same room)
Litigation - Wrongful Death

- Reviewing the Relevant Literature
  - Underwriters Laboratories - UL217 Single and Multiple Station Smoke Detectors (also ANSI/UL 217-1985.)
  - Other Professional Journals
    - Sleep
    - Arch. General Psychiat.
    - Proceed. Human Factors Soc.
    - Perceptual & Motor Skills

Litigation - Civil

- 800-1000 industrial employees file hearing loss compensation cases
- All referred to the same otologist for evaluation
- Puretone testing (some tympanometry) performed by otologist or nurse assistant
- Automatic audiometry performed for employer by general medical screening service
- Claims paid

Litigation - Civil

- New management questions claims
- Noise exposures and youth of some claimants also questioned
- Evaluation(s) by audiologist (basic test battery plus BSER on all) provide responses, on average, 20 - 30 dB better than originally obtained
- Application of ISO-1999 (age, TWA, years, HL) supports overall accuracy of new tests.
**Litigation Malpractice - Failure to Diagnose**

- 41/f with c/o a sensation of ear fullness and hearing loss, AD>AS
- PT audiogram WNL [AD 5-10>AS@4/6 freq] normal tympanograms
- Returns 2 yrs later c/o "lost about 30% of hearing" and "feels as if her ears are plugged all of the time"
- PT audiogram WNL [AD 5-10>AS@5/6 freq], normal tympanograms
- Dx: possible CAPD or ET dys. – "in either case the underlying fact is that very little can be done for it."

**Litigation Malpractice - Failure to Diagnose**

- Returns 3 mo. later c/o "debilitating vertigo" following deep dive - PCP treated for BPV Rx: meclizine. MRI revealed 15-18 mm intracanalicular acoustic Schwaanoma
- Assessment: nl audiogram, excellent discrim., nl tympanogram, BUT PIPB 80% AD; absent acoustic reflexes AD
- Translabyrinthine removal of AN. Now deaf AD, and still dizzy.

**Audiologists as Legal Entities**

- When audiologists establish themselves as legal entities in their own right and not as mere agents, servants or employees of others.
  
  Muraski, 1982
Its All About a **BREACH**

- Failure to maintain something
- Break law or promise

**Breaches**

- Professional care – contract, malpractice
- Ethics (Academy/ABA Codes of Ethics)
- Law
  - Federal (FDA, Stark, Medicare, Medicaid)
  - State (License, Business Law, Professional Conduct, Medicaid)

**Standard of Care**

- EDUCATION & SKILLS
- ORDINARY & REASONABLE CARE
- LIABILITY FOR DIVERGENCE
+ **Education & Skills**

- Posses the degree of learning and skills ordinarily possessed by practitioners in the locality in which he or she practices

+ **Ordinary & Reasonable Care**

- Reasonable care and diligence … not the highest possible degree of care.

+ **Liability for Divergence**

- Injury to a patient resulting from
  - a lack of requisite knowledge and/or skill,
  - failure to exercise reasonable care,
  - failure to use one’s best judgment
MALPRACTICE
Legal Theory

- Tort Law (Unintentional)
- Negligence & Malpractice
- Professional Liability (Civil)

Malpractice Suit – Ramifications

- Blow to one’s ego & a source of anxiety
- Reporting of Suit
- Licensing board
- Professional organizations
- Medical & Academic institutions
- Professional Liability Insurer
- Cost of Defense
- Cost of Unfavorable Outcome
+ **Requirements for a Cause of Action**
- Legal Duty
- Breach of Duty
- Actual Loss or Damages as a Result of Injury
- Proximate Cause

+ **Legal Duty**
- Must exist between the practitioner and plaintiff

**Breach of Duty**
- On the part of the practitioner
- Improper diagnosis
- Failure to diagnose
- Physical injury

+ **Actual Loss or Damages as a Result of Injury**
- Physical damage
- Psychological damage or Loss of Service
- Developmental or Psychological damage
- Loss of employability, lost wages
- Additional expense (i.e., medical)

**Proximate Cause**
- Breach is the proximate cause of the injury
**Potential Areas for Audiologist Malpractice Litigation**

- Misdiagnosis
- Failure to refer – when incapable of performing required service
- Failure to properly warn or instruct – hearing aid batteries, hearing aids in unfavorable environments, sensory aids, devices, etc.
- Failure to obtain informed consent – Battery (criminal)

**Potential Areas for Audiologist Malpractice Litigation**

- Failure to reveal alternatives
  - Hearing aid(s) v. surgery
  - Hearing aid(s) v. nothing
  - Binaural v. monaural fitting
- Failure to act – omissions

**Other Potential Areas for Litigation Involving Audiologists**

- Acts of employees – all of those above
- Product liability
  - Hearing aids
  - Electrode creams
  - Irrigation systems
- Third party liability – hearing conservation programs
+ Other Potential Areas of Litigation Involving Audiologists

- Intentional
- Failure to preserve confidentiality of patient record (i.e., HIPPA, etc.)
- Assault (e.g., sexual) *
- Contract
  - False representations *
  - Promises *
  [Also, ethical and possibly criminal]

+ Professional Liability (Criminal)

- Violations of business law
- Hearing aid sales
- False claims
- False advertising
- Violations of insurance law
- Fraudulent billing
- Double billing

+ Professional Liability (Criminal)

- Violations of health & public welfare laws and regulations
- Medicare fraud
- Medicaid fraud
- OSHA violations
PROFESSIONAL LIABILITIES (OTHER)
- Board Certification / Code of Ethics
- Academy
- ABA
- ASHA
- State audiology associations
- Abide by all Codes of Ethics

State Licensing Boards Professional Conduct
- Typical complaints
- Advertising
- License fraud
- Fraud
- Unprofessional conduct
- Unethical conduct
- Refusal to serve or abandonment

LAWS
An example: New York State Workers’ Compensation Law

<table>
<thead>
<tr>
<th>Section Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>Sec 49aa</td>
<td>Declaration of purpose</td>
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<tr>
<td>Sec 49bb</td>
<td>Waiting period, date of disablement; payment of compensation</td>
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<tr>
<td>Sec 49cc</td>
<td>Right to compensation</td>
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<tr>
<td>Sec 49dd</td>
<td>Posthumous schedule reward</td>
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<td>Sec 49ee</td>
<td>Liability of employer; pre-placement examinations and notice to prior employers; apportionment of liability between employers</td>
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<tr>
<td>Sec 49ff</td>
<td>Minimum exposure required</td>
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<tr>
<td>Sec 49gg</td>
<td>Determination of damage risk criteria and standards for the measurement of occupational loss of hearing</td>
</tr>
<tr>
<td>Sec 49hh</td>
<td>Standards</td>
</tr>
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</table>

Federal Law

- US Constitution
- US Code (USC) - laws made by the U.S. Congress. (also Public Law [PL])
- Federal Register (FR) - official daily publication for Rules, Proposed Rules, and Notices of Federal agencies and organizations, as well as Executive Orders and other Presidential Documents.
+ OSHA Occupational Noise Exposure

- a) Hearing conservation program
- b) Monitoring
- c) Employee notification
- d) Observation of monitoring
- e) Audiometric testing program
- f) Audiometric test requirements
- g) Hearing protectors

+ Occupational Safety & Health Regulations

<table>
<thead>
<tr>
<th>CFR</th>
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<tbody>
<tr>
<td>29</td>
<td>Adoption &amp; Extension of Established Federal Standards</td>
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<tr>
<td>29</td>
<td>Construction - adopts part 1926</td>
</tr>
<tr>
<td>29</td>
<td>Shipyard - adopts part 1918</td>
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<td>Longshoring &amp; marine terminals - adopts part 1918</td>
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<td>Construction - adopts part 1910.95</td>
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<td>Construction - hearing protection</td>
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<td>MSHA Mandatory Noise Standards for Underground &amp; Surface Coal Mines</td>
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Occupational Safety & Health Regulations

- 49 CFR 393.94 DOT/FHWA Vehicle Interior Noise Levels
- 49 CFR 229.121 DOT/FRA Locomotive cab noise

**Diagram**: Graph showing noise levels in different frequency bands for two different conditions.
Regulations (Final)

- Code of Federal Regulations (CFR)
- Title 29. Labor
  - Subtitle B. Regulations Relating to Labor
    - Chapter XVII. OSHAdm DOL
      - Part 1910. OSHA Standards
      - Subpart G. Occupational
      - Health & Env. Control
- § 1910.95 Occupational noise exposure

Current Regulations

- (a) “Protection against the effects of noise exposure shall be provided . . .” > 90 dBA 8 hr TWA
- (b)
  - (i) feasible administrative or engineering controls shall be utilized . . . If unsuccessful, PPE to bring noise below 90 dBA 8 hr TWA limit.
  - (ii) If variations in noise level involve maxima at intervals of 1 second or less it is to be considered to be continuous.
29 CFR 1910.95
Current Regulations

- (c) Hearing conservation program
  - (1) continuing effective hearing conservation program (HCP) per paragraphs (c) through (o) when exposures => 85 dB/8hr TWA (slow response) without regard to PPE.
  - (2) 85 dB/8hr TWA to be referred to as the action level.

Germinal Documents
29 CFR 1910.95

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<thead>
<tr>
<th>Number</th>
<th>Date</th>
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<tr>
<td>31FR502</td>
<td>10-18-72</td>
<td>Original regulation</td>
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<td>36FR37773</td>
<td>10-24-74</td>
<td>Proposed rules</td>
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<td>46FR4078</td>
<td>01-16-81</td>
<td>Final rule</td>
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<td>46FR42622</td>
<td>08-21-81</td>
<td>Rule and Proposed Rule</td>
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<tr>
<td>48FR973</td>
<td>03-08-83</td>
<td>Final Rule</td>
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Germinal Documents
Occupational exposure to noise

- Information on levels of environmental noise requisite to protect health & welfare with an adequate margin of safety. EPA 550/9-74-004, March 1974
- Some considerations in choosing an occupational noise exposure regulation. EPA 550/9-76-007, February 1976
- Public health and welfare criteria for noise.
- EPA 550/9-73-002
## Occupational Safety & Health Regulations

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<td>Occupational Safety &amp; Health Standards for Employment</td>
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## Compensation Laws

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<td>5 USC Ch. 81</td>
<td>Federal Employees Compensation Act</td>
</tr>
<tr>
<td>22 USC Ch. 16</td>
<td>Longshoremen’s &amp; Harbor Workers Compensation Act</td>
</tr>
<tr>
<td>38 CFR Ch. 3</td>
<td>Department of Veterans’ Affairs</td>
</tr>
</tbody>
</table>
+ Noise Pollution & Abatement Act of 1970 – 42 USC 1858

- Established an Office of Noise Abatement and Control under EPA to study noise and its effects on the public health and welfare.
- EPA to report to the President and Congress within one year of enactment.
- Study noise within the federal government and devise ways to abate it.
- Appropriations up to $30,000,000 for this program.

+ Environmental Noise Control
Publications pursuant to Noise Pollution & Abatement Act of 1970 (PL 91-604)

<table>
<thead>
<tr>
<th>NTID2000.1</th>
<th>Noise From Construction Equipment and Operations, Building Equipment, and Home Appliances</th>
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<td>NTID2000.2</td>
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<td>NTID2000.4</td>
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<td>NTID2000.8</td>
<td>State and Municipal Non-Occupational Noise Programs</td>
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Publications pursuant to Noise Pollution & Abatement Act of 1970 (PL 91-604)

<table>
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<tr>
<th>NTID2000.9</th>
<th>Noise Programs of Professional/Industrial Organizations, Universities and Colleges</th>
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<td>NTID2000.10</td>
<td>Summary of Noise Programs in the Federal Government</td>
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<td>NTID2000.11</td>
<td>The Social Impact of Noise</td>
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<td>NTID2000.12</td>
<td>The Effects of Sonic Boom and Impulsive Noise on Structures</td>
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<td>Transportation Noise and Noise from Equipment Powered by Internal Combustion Engines</td>
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<td>NTID2000.14</td>
<td>The Economic Impact of Noise</td>
</tr>
<tr>
<td>NTID2000.15</td>
<td>Fundamentals of Noise Measurement, Rating Schemes And Standards</td>
</tr>
</tbody>
</table>
Title 42 - The Public Health & Welfare
Chapter 65 - Noise Control

Sec. 4901 Congressional Findings And Statement of Policy
Sec. 4902 Definitions
Sec. 4903 Federal Programs
Sec. 4904 Identification of Major Noise Sources
Sec. 4905 Noise Emission Standards For Products Distributed in Commerce
Sec. 4906 Omitted
Sec. 4907 Labeling
Sec. 4908 Imports
Sec. 4909 Prohibited Acts
Sec. 4910 Enforcement
Sec. 4911 Citizen Suits
Sec. 4912 Records, Reports and Information
Sec. 4913 Quiet Communities, Research, And Public Information
Sec. 4914 Development of Low-Noise-Emission Products
Sec. 4915 Judicial Review
Sec. 4916 Railroad Noise Emission Standards
Sec. 4917 Motor Carrier Noise Emission Standards
Sec. 4918 Authorization Of Appropriations
Sec. 4919 Railroad Noise Emission Standards
Sec. 4917 Motor Carrier Noise Emission Standards
Transportation Noise

- 40 USC 470 - DOT - Aviation Programs Airport Development
- 40 CFR 772 - DOT/FHWA Highway Noise Control Standards and Procedures
- 40 CFR 210 - DOT/FHWA Railroad Noise Emission Compliance Regulations
- 40 CFR 383.34 - DOT - Vehicle Emission Noise Levels
- 40 CFR 383 - DOT - Regulations for the Enforcement of Motor Carrier Emission Standards

Aviation Noise

- 40 USC 407 - FAA Safety Regulations
- 40 USC 401 - FAA Control & Abatement of Aircraft Noise & Sonic Boom (z) FAA Noise Control Act of 1972
- 14 CFR 36 - FAA Noise Standards: Aircraft Type & Air-Worthiness Certification
- 14 CFR 81 - FAA Operating Noise Levels
- 14 CFR 81.30 - FAA Civil Aircraft Noise Booms
- 14 CFR 81.301 - FAA Operating Noise Standards
- 14 CFR 150 - FAA Airport Noise Compatibility Planning

Environmental Noise Control

- Federal Highway Administration - Department of Transportation
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Hearing Aids

- 21 CFR 801 FDA LABELING
- 21 CFR 801.420 Hearing aid devices; professional and patient labeling
- Definitions
- Label requirements (permanent markings)
- Label requirements (User Instructional Brochures)
  - viii. A statement that a hearing aid will not restore normal hearing and will not prevent or improve a hearing impairment resulting from organic conditions.
- Warning to Hearing Aid Dispensers (medical conditions)
- Important Notice for Prospective Hearing Aid Users (medical evaluations)
- Technical Data

Hearing Aids

- 21 CFR 801 FDA LABELING
- 21 CFR 801.420 Hearing aid devices; conditions for sale
  - a. Medical evaluation requirements
  - b. Opportunity to review User Instructional Brochure
  - c. Availability of User Instructional Brochure
  - d. Recordkeeping
  - e. Exemption for group auditory trainers

Miscellaneous Federal Documents of Special Interest to Audiologists

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<th>CFR Section</th>
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<tr>
<td>49 CFR 391.41(b)(11)</td>
<td>FHWA - Physical qualifications for drivers</td>
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<tr>
<td>49 CFR 392.9(b)</td>
<td>FHWA - Hearing aid to be worn</td>
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<tr>
<td>21 CFR 801.420</td>
<td>FDA - Hearing aid devices; professional and patient labeling</td>
</tr>
<tr>
<td>16 CFR 214.53</td>
<td>FTC - Hearing aid industry</td>
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</table>
Useful Web Sites

www.findlaw.com
www.gpoaccess.gov
www.loc.gov
www.thomas.gov

Readings In Forensic Audiology

- Ventry, I.M. & Chaiklin, J.B. (Published articles, 1962-1976)

A Personal Code

- Strive to maintain personal, professional, intellectual and academic integrity
- Maintain objectively – don’t be swayed by the client’s or attorney’s wishes
- Err to the conservative
- Do not publish with the intent of establishing courtroom qualifications or to use data to support specific testimony
- Avoid making negative comments about opposing experts
Forensic Audiology Web Seminar
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A Personal Code
- Only your time is for sale - not your opinion
- Stay within area of knowledge and expertise
- Never work on a contingency basis - require contract or a retainer or other payment in advance

Rewards and Pitfalls
- WHY?
  - To capitalize on years of education and expertise
  - To experience the challenge, drama and excitement
  - To put something back into the system
  - To get paid for further study
  - To Get paid

Rewards and Pitfalls
- WHY NOT?
  - Alien environment
  - Reality v. fantasy
  - Putting yourself on the line - ego attack
  - Professional liability
To ask a question, please type your question into the chat box in the lower left corner of the screen and click on the "Send" button located right below the box.