INDUSTRIAL AUDIOLOGY 102

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Careers in the Industrial Arena

- Who?
- What?
- When?
- Where?
- Why?
- Why Not?
- How Much?
WHO?

- Less than 100 Industrial Audiologists (0.83%)
- "Occupational" Audiologists
- Serving 30-40 million workers
- Direct employment
  - Large Employer
  - Hearing Conservation Contractor
  - Government
- Private Practice
  - Hearing Conservation Contractor
  - Hospital with Occupational Medicine Dept.
  - Consultant
Who Needs Industrial Audiologists?

- Manufacturing/Production/Fabrication
  - Wood Harvesting/Pulp and Paper
  - Metal Stamping and Shaping
  - Glass Fabrication/Bottling
- Transportation, Rail, Airlines, Trucking
- Construction
- Agriculture
- High-Tech
- Mining
- Civilians in Military
- Mom & Pop Shops
What Do They Do?

- Perform routine audiometrics & diagnostics
- Analyze results
  - OSHA/MSHA/NIOSH/Recordability
- Report back to Employer/Employee
- Perform noise monitoring
- Perform employee training & hearing protection
- Advise on compliance issues
- Consult on workers’ compensation issues
- Perform workers’ compensation exams
- Consult on accommodation issues
- Consult on noise control issues
- Determine %BHI, %IWP (WPI), work-relatedness for OSHA
- Testify
What Does OSHA Require?

- Baseline test within 6 months of exposure
- Annual test every 12 months
- Review for Standard Threshold Shift
  - 10 dB average change at 2, 3, and 4 KHz
  - Date is Critical!
- Recordability Determination for 300 Log
- Referral
  - If additional testing is necessary
  - If employer believes HPD caused the STS
- Notification in writing within 21 days
What Do I Need?

- Earplugs
- Earmuffs
- Hard Hat
- Steel-Toed Boots or Shoes
- Safety Glasses
- Uniform
- Caution
  - Don’t Touch Anything!
    - Electrically Charged
    - Sharp
    - Dirty
    - Hot
What Do I Need?

- Sound Level Meter, Type II
- \( \frac{1}{2} \) Octave Band Filter
- Noise Dosimeter, Type II
- Bio-Acoustic Simulator with Background Noise Monitor (Oscar, Bio-Betty)
- Recordkeeping System for keeping data separate from clinic files
- Library of Regulations, Statutes, Guidelines, References, Formulae for each state
What Do I Need?

- Create a network of people at…
  - Local and State Chamber of Commerce
  - State Department of Labor
  - Local or Regional Manufacturers’ Organization
  - National and Local Safety Council
  - State Workers’ Compensation Meetings
  - OSHA Regional and Area Offices, OSHA website
  - National and Local Occupational Health Nurses

- Volunteer to speak; become their go-to expert
- Market to those industries most likely to have noise issues (SIC Code)
- Use social media
- Ask patients where they work…Noise?
Ask Yourself…

• Can the industries in my area support an industrial business service/division profitably?
  – This decision cannot be made as an evangelical quest to stamp out all NIHL
• Can your business afford the extra time for…
  – Travel and time away from the practice?
  – Extra training to keep current on industrial issues?
  – Extra equipment and insurance?
    • Mobile Equipment Insurance
    • Longshore and Harborworkers Insurance?
    • Test van on site > Increased liability limits on auto insurance?
• Are you prepared to defend your decisions in court?
When?

- Flexible work hours
- Not necessarily 9-5
- Go when you’re needed
- Subject to change on short notice
- Manufacturers think everything is an emergency
Where Do They Work?
Where?
Where?
Where?
Where?
Where?
Why?

• Grossly underserved population
• Hearing Loss is 2\textsuperscript{nd} (behind skin diseases and ahead of respiratory conditions) among private industry’s most common workplace illnesses
• 12\textsuperscript{th} most commonly cited OSHA violation
  – 876 citations; $660,000
  – 1\textsuperscript{st} is Lockout/Tagout (control of hazardous energy) with 3245 citations; $3,613,079
  – OSHA Averages 2 citations for every inspection
• Lack of interest by audiologists in this subspecialty
Why?

• It’s the Law
  – OSHA, 29 CFR 1910.95
  – MSHA, Part 62, Subchapter M
  – FRA, 49 CFR, Parts 227 and 229
  – EPA, Hearing Protector Labeling Act
  – ADA, workplace modification
  – HIPAA, privacy laws and signage
  – NIOSH (Criteria for a Recommended Standard, Publication 98-126)
  – 50+ State Workers’ Compensation Laws

• It makes good financial sense
  – It costs less to train and protect workers now than it does to pay them for the hearing loss later
Why Not?

- Industry/Noise not emphasized in training programs
- Insufficient number of preceptors and locations
- Not “warm and fuzzy” work
- Lack of full-time employment opportunities, usually related to insufficient number of and difficulty finding skilled industrial audiologists
Why Not?

• Fear
  – The dreaded “logarithm”
  – Industrial hazards and workplaces
  – Courtroom
  – Being unable to adequately explain or defend
    • Training and Education
    • Professional Opinion or Decision
    • Relationship between noise exposure and hearing loss
    • Difference between
      – Hearing Loss and Standard Threshold Shift
      – Recordable Hearing Loss
      – Impairment – the extent of the physical damage
      – Disability – inability to be employed without loss of wages
### Standard Threshold Shift?

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<th>Year</th>
<th>2000 Hz</th>
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<th>4000 Hz</th>
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### Recordable/Compensable?

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<td>Annual</td>
<td>25</td>
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<td>YES</td>
<td>YES, if work-related</td>
<td>NO-FL</td>
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<td>YES</td>
<td>Yes, if work-related</td>
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<tr>
<td>Annual</td>
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<td>60</td>
<td>60</td>
<td>YES</td>
<td>YES, if work-related</td>
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How Much?

• Very hard to determine salaries for Full-time Industrial Audiologists
  – Not generally counted as a separate group in survey data
    (<1%, self-reported sample of ≈2500)
  – Most audiologists say they do industrial work, but it’s usually industrially-referred clinical work
• Earn anywhere from 25% more to double their clinical counterparts; in both ASHA and AAA surveys
• Industrial Audiologists in private practice earn substantially more – charges based upon local industry and competition - Sky’s the Limit
How Much?

- Desperate Need for Younger Industrial Audiologists
- Alternative is the abandonment of that part of our scope of practice
  - Occupational Health Nurses (audiometrics)
  - Industrial Hygienists (noise measurement)
- Do more than pay lip service to the prevention of hearing loss due to noise
- If you build it they will come
- 30-40 million people are depending on you!
With Apologies to David Letterman…

The Industrial Audiology Top Ten List
10. Know the OSHA law by heart
9. Know your state’s Workers’ Compensation law

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9. Know your state’s Workers’ Compensation law & %BHI formula
8. Get CAOHC-Certified as a Professional Supervisor (maybe COHC first)
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9. Know your state’s Workers’ Compensation law
8. Get CAOHC-Certified as a Professional Supervisor (maybe COHC first)
7. Learn NHCA’s Guidelines for Baseline Revision
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9. Know your state’s Workers’ Compensation law
8. Get CAOHC-Certified as a Professional Supervisor (maybe COHC first)
7. Learn NHCA’s Guidelines for Baseline Revision
6. Buy your own personal safety equipment
5. Learn the Industrial Vocabulary (precipitator, dielectric, HVAC, track-hoe, Hyster, RO-RO, lockout-tagout, 300 Log)
5. Learn Industrial Vocabulary)
4. Learn the difference between WC, OSHA and employee hearing health
#3

5. Learn Industrial Vocabulary (precipitator, dielectric, HVAC, track-hoe, Hyster)

4. Learn the difference between WC, OSHA and employee hearing health

3. Learn to shake hands properly
#2

5. Learn Industrial Vocabulary (precipitator, dielectric, HVAC, track-hoe, Hyster)
4. Learn the difference between WC, OSHA and employee hearing health
3. Learn to shake hands properly
2. Learn to discuss money without flinching or apologizing, and be able to justify your fees
Industrial Audiology Top 10

5. Learn Industrial Vocabulary (precipitator, dielectric, HVAC, track-hoe, Hyster)
4. Learn the difference between WC, OSHA and employee hearing health
3. Learn to shake hands properly
2. Learn to discuss money without flinching or apologizing, and be able to justify your fees
1. Be as **Tough and Tight** as the people you’re working with and for, in production settings
References

• National Hearing Conservation Association
  – www.hearingconservation.org
  – Multidisciplinary membership organization

• Council for Accreditation in Occupational Hearing Conservation
  – www.caohc.org
  – Offer certifications as Occupational Hearing Conservationist
  – Professional Supervisor/Audiometrics
  – Hearing Conservation Certification Course Director

• National Institute for Occupational Safety and Health
  – www.cdc.gov/niosh
  – Research based, recommends changes to OSHA standards, chemical & noise exposure synergism

• Occupational Safety and Health Administration
  – www.osha.gov
  – Federal Standard for General Industry – no Caller ID

• www.occupationalhearingloss.com – online calculator (binaural only)
Thank YOU!

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