

# COMPARATIVE ANALYSIS OF HEARING LOSS IN ARMY SOLDIERS



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# Disclaimer/Acknowledgement:

- The views/opinions expressed in this presentation regarding the research done are those of the researcher only and does not represent the opinions of the Lyster Army Health Clinic, the U.S. Army or the U.S. Government
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# Objective

- To try to determine if a correlation exists between hearing loss and those wounded, killed, or involved in a military-related accident in OIF/OEF.

# Background (What we know)

- Good communication is essential to mission accomplishment (Garinther and Peters , 1990).  
“Better ears can hear further than impaired ears at all voice levels.... (Price et al, 1989)
- Military audiologists have argued for years that current entrance standards for hearing, along with waiver criteria and profile standards, allow too much hearing loss.
- No study ever done looking at the specific association between accident data and hearing loss.

# Study Design

- Accident data obtained from the Combat Readiness Center at Ft. Rucker (2001-2007)
- Used SSNs of randomly selected records from accident data to obtain DOEHRS-HC audiograms prior to and after accident (if available).
- Recorded date, location, circumstances of accident and disposition of Soldier (ie. wounded, killed, involved-in)

# Study Data

- Records reviewed: 1537
- No record of hearing test in DOEHRS-HC: 420 (27% of records reviewed)
- Total records actually used in study and grouped according to HL category (H-1, H-2, H-3): 473\*

(\* number based on power analysis for small to med sample size)



# Demographic Info

- Males: 461
  - Females: 12
  - Enlisted: 447
  - Officers: 26
  - OIF: 433
  - OEF: 40
  - Varying MOSs
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# Demographic Info

- Pre-Accident

- H-1 w/o: 165
- H-1 w: 70\*
- H-2: 40
- H-3: 20


- Post-Accident

- H-1 w/o: 128
- H-1 w: 97 (increase)\*
- H-2: 89 (increase)
- H-3: 49 (increase)

\*H-1 w: Those with hearing loss at 4kHz and below (speech frequencies)



# Severity of Injuries

- Lost Work Day: 377
  - Restricted Work: 20
  - Permanent Partial Disability: 23
  - Fatal: 53
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# Descriptive Stats/Injury Breakdown

- Ultimately could not make correlation/argument for hearing loss contributing to accident cause for majority of records. Most were:
  - Vehicle accidents to some degree (ran off road, overturned, etc.)
  - Personal Injuries (Sports and other varying)
  - Explosive incidents (weapons/other)

# Notable individual cases for discussion

- Case #1 & 2: Males, 11Bs, enlisted SMs with H-3 loss pre-deployment; failed to heed warning shots resulting in SMs being fired upon and sustaining fatal injury. (Q: Did they hear warning shots?)
- Case #3: Male, 24Z, officer with H-2 loss had hand in fan blade of engine when driver started engine resulting in permanent partial disability. (Q: Did he hear driver say he was going to start engine?)

# Notable individual cases for discussion

- Case #4: Male, 11B, H-3 pre-deployment; guard fired shots at SM resulting in lost work day (Q: Did guard call out to SM to identify himself prior to firing at him and SM didn't hear him?)

# Discussion Points

- # of accident records with no data in DOEHRS-HC (27% of reviewed)
- There were # of records with incorrect or misspelled names, wrong SSNs, etc. (Garbage in-Garbage Out!)
- How can we as AHP PMs make the data better/more accurate?

? Questions ?

