Long-Term Findings from the NIDCD/VA Hearing Aid Clinical Trial

Gene W. Bratt, Ph.D, Chair

gene.bratt@med.va.gov
Demographics and Audiometrics
CSP #418-A

Gene W. Bratt, Ph.D.
Study Chair
Barbara F. Peek, Ph.D.
Mia A.L. Rosenfeld, Ph.D.
Dave Williams, M.S.
CSP 418: The NIDCD/VA Hearing Aid Clinical Trial

- **Study Chair**: Vernon Larson, Ph.D.

- **Sponsors**: National Institute on Deafness and other Communication Disorders & the Department of Veterans Affairs

- **Support**: Hines VA Cooperative Studies Program Coordinating Center
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- **Object**: To compare the benefits provided to patients with sensorineural hearing loss by 3 commonly used hearing aid circuits
  - Wide Dynamic Range Compression
  - Peak-clipping
  - Compression Limiting
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- **Design**: Double blind, 3-period, 3-treatment crossover
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- Patients: \( n=360 \)
- Mean age: 67.2 years
- 57% male
- 78.6% white
- 70% veterans
- 47% new hearing aid users
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- Outcome Measures
  - Speech Recognition
    - Aided, unaided
    - Quiet, noise
  - Sound Quality
  - Subjective Hearing Aid Benefit
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Conclusions:

- No significant superiority for any circuit on all measures, preferential superiority in favor of compression limiting

- Significant improvement aided in quiet and noise
  - Larson et al., 2000, *JAMA*
Study Objectives: CSP 418-A

- To determine current use or non-use of the original study hearing aids and reasons for any changes
- To compare changes in selected audiologic measures from the original study to the current day
- To assess predictors of long-term hearing aid use
CSP 418-A Participating Sites

- Albuquerque, NM:  
  - Michael Crum  
  - Cheryl Byrd

- Iowa City, IA:  
  - Gail Takahashi  
  - Julie Bridges

- Long Beach, CA  
  - Janet Shanks  
  - Charlene Mikami
CSP 418-A Participating Sites

- Mountain Home, TN
  - Richard Wilson
  - Deborah Weakley
- Nashville, TN
  - Barbara Peek
  - Kjersten Branscome
- Portland, OR
  - Gabrielle Saunders
  - Kate Dunkley
CSP 418-A Participating Sites

- Washington, DC
  - Lucille Beck
  - Sharon Beamer

- West Los Angeles, CA
  - Doug Noffsinger
  - Chuck Martinez
  - Karen Sugiura
Hines Cooperative Studies
Project Coordinating Center

- **Acting Director:** Domenic Reda
- **Study Biostatistician:** David Williams
National Institute on Deafness and other Communication Disorders

- **Program Director**: Lynn Luethke
Chair’s Office

- **Study Chair**: Gene W. Bratt
- **Clinical Coordinator**: Mia Alexandra Lee Rosenfeld
CSP 418-A Control Measures

- Demographics; Checklist of Life Events
- Pure tone thresholds: AC (BC when needed)
- Otoscopy
- Tympanometry
- Stapedial reflexes
- Word Recognition Ability
- Loudness Discomfort Levels
- Hearing aid measures: 2cm³ coupler, in situ
Outcome Measures: Speech Intelligibility

- **Northwestern University Auditory Test # 6** (Tillman & Carhart, 1966)
  - Quiet Unaided
  - Quiet Aided

- **Connected Speech Test** (Cox et al., 1987)
  - Quiet Unaided
  - Quiet Aided
  - Noise Unaided
  - Noise Aided
Outcome Measures: Hearing Aid Usage

- Hearing Aid Status Questionnaire (HASQ)
  - (Noffsinger & Boothroyd, 2001)
Outcome Measures: Self-Reported Quality of Life

- The Communication Profile for the Hearing Impaired (CPHI) (Demorest & Erdman, 1986)
- The Glasgow Hearing Aid Benefit Profile (GHABP) (Gatehouse, 1994)
- The International Outcome Inventory for Hearing Aids (IOI-HA) (Cox et al., 2000)
- The Life Orientation Test (LOT) (Scheier & Carver, 1985)
Outcome Measures: Hearing Aid Satisfaction

- Satisfaction with Amplification in Daily Life (SADL) (Cox et al., 1999)
Outcome Measures: Hearing Aid Benefit

- Profile of Hearing Aid Benefit (PHAB) (Cox & Rivera, 1992)
Enrollment

- Total Participants = 210
- Clinic = 190
- Home Visits = 7
- Phone Survey only = 13
Age

- Mean $418-A = 73.2$ years
  - range $36-96$ years

- Mean $418 = 67.2$ years
  - range $29-91$ years
Gender

- 418-A
  - Females = 38.1%
  - Males = 61.9%

- 418
  - Females = 43.1%
  - Males = 56.9%
Ethnicity

- **418-A:**
  - White: 79.4%
  - Black: 12.9%
  - Hispanic: 5.2%
  - Asian/Pacific Islander: 2.1%
  - American Indian/Native Alaskan: 0.5%

- **418:** 78.6% White
Other 418-A Demographics

- Veterans: 76%
- College Educated: 72%
  - (includes college degree or some college)
- Married: 65.5%
- Retired: 75.3%
Audiometrics: 418A vs. 418
Audiometrics: Hearing Aid Users vs. Non-Users
Speech Discrimination
(W-22)

- **418-A**
  - Right Ear: 77%
  - Left Ear: 74%

- **418**
  - Right Ear: 87%
  - Left Ear: 87%