

AMERICAN OTOLOGICAL SOCIETY, INC.
The One Hundred Forty-Third Annual Meeting
Bally's Las Vegas
Las Vegas, NV
May 1 - 2, 2010

Deadline for abstract submission: October 15, 2009

Abstract Submission Instructions: Please read all instructions carefully. Failure to comply with the instructions could delay the review of or disqualify your abstract submission. Please contact the AOS Administrative Office if you have any questions prior to submitting your abstract.

Email - segossard@aol.com

Ph: 352-751-0932

Cell: 217-414-4868

The American Otolological Society accepts on-line submission of abstracts to www.americanotologicalsociety.org. The electronic version is not to contain any extraneous formatting instructions.

Acknowledgment of receipt of an electronic submission will be sent electronically during the submission process to the primary author.

The AOS Program Advisory Committee **will not** consider abstracts that do not contain the required elements.

Abstracts must be structured according to *Otology & Neurotology* Guidelines for Authors

General Format:

A concise abstract of **not more than 250 words** or less is required for all original clinical and basic science contributions, including review articles. The AOS Program Advisory Committee for selection reviews all abstracts anonymously; please do not place any identifying information in the body of the abstract, such as referral to authorship or institution. **Also, if the research in your paper is supported by a grant, or special financial arrangement, this must be identified.** These should be organized according to the headings outlined below. The author(s) must accept sole responsibility for statements in their submitted abstract.

Choose an appropriate title reflecting the content of the abstract body. The title will appear in all publications if chosen for presentation. Do not capitalize prepositions, a, an, the, etc. No changes to abstract will be accepted after October 15. Do not include the author's name(s) in the abstract title or body.

List all authors in proper sequence (numbering 1, 2, 3, etc., if applicable) using first names, middle initials, and last names and exact degrees. Specify the primary author and the presenter of the abstract. Please specify a corresponding author to whom all correspondence about the abstract will be directed.

The AOS Program Advisory Committee will require a **completed manuscript to the *Otology & Neurotology* Journal three weeks** before the scientific meeting so the Program Advisory Committee has an opportunity to review the manuscript for any commercial bias, conflict of interest, use of commercial names and any other identifying information that may conflict with the ACCME requirements. The program committee may ask you to revise submitted abstract to enforce compliance with the ACCME requirements.

For clinical studies:

Objective: Brief, clear statement of the main goals of the investigation.

Study design: Specify the type of study-randomized, prospective double blind; retrospective case review; etc.

Setting: Primary care vs. Tertiary referral center; ambulatory vs. hospital; etc.

Patients: Primary eligibility criteria and key demographic features.

Intervention(s): Diagnostic, therapeutic, and/or rehabilitative.

Main outcome measure(s): The most essential criterion that addresses the study's central hypothesis.

Results: Include statistical measures where appropriate.

Conclusions: Include only those directly supported by data generated from this study.

For basic science reports:

Hypothesis: Brief, clear statement of the main goals of the investigation.

Background: Concise orientation for the reader unfamiliar with this line of investigation.

Methods: Succinct summary of techniques and materials employed.

Results: Include statistical measures where appropriate.

Conclusions: Include only those directly supported by data generated from this study. Emphasize clinical relevance wherever possible.

For reviews and meta-analysis:

Objective: Brief, clear statement of the goals of the review.

Data sources: Specify database, search methodology, languages covered, and time frame.

Study selection: Criteria used to select articles for detailed review.

Data extraction: Means of assessing quality, validity, and comparability of extracted data.

Data synthesis: Specify statistical techniques used for data analysis.

Conclusions: Concise statement of primary inferences with any recommendations.

**For All Human Studies: Indicate IRB Approval Number
Support/Acknowledgment:**

Author Responsibility/Financial Disclosure/Conflict of Interest Form: All authors and contributing individuals are responsible for disclosing any potential conflict of interest. **Conflict of interest of an individual has three components: 1) a financial relationship with a commercial interest (name of company, e.g., pharmaceutical company or medical device manufacturer); 2) type of relationship/affiliation; and, 3) the opportunity to influence content of a CME activity relevant to products and services of that commercial interest** in order to comply with the ACCME requirements. **At the time of the abstract submission, the primary authors and contributing individuals are required to sign a financial disclosure/conflict of interest form.** The primary author accepts responsibility to secure conflict of interest/disclosure statements from all co-authors. All authors must agree to disclose all non-FDA approved use of FDA approved drugs during the abstract submission process as well as the actual oral presentation in order to comply with the ACCME requirement. All authors [Click here](#) to electronically sign the disclosure/conflict of interest document.

~~To proceed with abstract submission, [click here](#).~~

TITLE OF ABSTRACT: Capitalize each word in the title, use same format for the body of the abstract. Do not include the author's name(s). (No changes accepted after 10/15/09)

Experimental Evaluation of Round Window Stimulation Using the Floating Mass Transducer

AUTHORS: List all authors in proper sequence (numbering 1, 2, 3, etc., if applicable) using FIRST NAMES, MIDDLE INITIALS, AND LAST NAMES AND EXACT DEGREES. (No changes accepted after 10/15/09)

(1) Hideko H. Nakajima MD, PhD

(2) Wei Dong PhD

(3) Elizabeth S. Olson PhD

(4) John J. Rosowski PhD

(5) Michael E. Ravicz MS

(6) Saumil N. Merchant MD

NAME, ADDRESS, TELEPHONE, FAX NUMBER, E-MAIL OF PRIMARY AUTHOR:

Heidi Nakajima

Eaton-Peabody Laboratory, Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston, MA 02114, USA

Tel.: 617 413 0616

Fax: 617 720 4408

E-mail address: heidi_nakajima@meei.harvard.edu

NAME, ADDRESS, TELEPHONE, FAX NUMBER, E-MAIL OF PRESENTER AT COSM IF OTHER THAN THE PRIMARY AUTHOR:

IDENTIFICATION OF PROFESSIONAL PRACTICE GAPS

Professional practice gaps are the variations or differences in the practice patterns when compared to current evidence, standards of care or clinical guidelines that are designed to provide quality of care to patients. Describe how you translate identified professional practice gaps into educational needs; how the need is expressed in terms of knowledge, competence, performance and patient outcome; what should the learners be able to apply to their profession after they participate in the educational activity; list the desired results in terms of changes in physician knowledge, competence, performance and/or patient outcome.

Please identify the professional practice gaps, educational needs, learning objectives, and desired results

Define Professional Practice Gap: Basic Science: Cochlear Mechanics
Educational Need: Mechanism of hearing resulting from sound stimulation applied at the round window
Check all that apply: <input checked="" type="checkbox"/> Knowledge <input type="checkbox"/> Competence <input type="checkbox"/> Performance <input type="checkbox"/> Patient Outcomes
Learning Objective: 1. Understand factors that determine efficiency of coupling of an implantable hearing device applied at the round window. 2. Learn how intracochlear pressure measurements can enable investigations of basic and clinical science issues such as round stimulation in stapes fixation, non-aerated middle-ears and third-window lesions.
Desired Result: 1. Improved knowledge of cochlear mechanics. 2. Optimization of surgical technique when placing the floating mass transducer at the round window.

The following competency areas will be addressed - Please place a check in the (any/all) competency areas your presentation will address

- Patient Care** that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health
- Medical Knowledge** about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care
- Practice-Based Learning and Improvement** that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care
- Interpersonal and Communication Skills** that result in effective information exchange and teaming with patients, their families, and other health professionals
- Professionalism** as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population
- Systems-Based Practice** as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

Abstract (250 words or less)

Hypothesis:

Round window (RW) stimulation with a floating mass transducer (FMT) can be studied experimentally and optimized to enhance hearing.

Background:

The FMT (MED-EL Vibrant Soundbridge) has been recently implanted in patients with conductive or mixed hearing loss against the RW with varying success. The mechanics of RW stimulation with the FMT have not been studied in a systematic manner.

Methods:

In cadaveric human temporal bones, measurements of stapes velocity with laser vibrometry in response to FMT-RW stimulation were used to optimize FMT insertion. The effect of RW stimulation on hearing was estimated using simultaneous measurements of intracochlear pressures in both perilymphatic scalae with micro-optical pressure transducers. This enabled calculation of the differential pressure across the cochlear partition, which is related to auditory transduction.

Results:

The best coupling of the device was achieved with fascia placed between the RW and the FMT, and by "bracing" the free end of the FMT against the hypotympanic wall with dental impression material. FMT-RW stimulation resulted in differential pressures comparable to sound-induced oval window stimulation above 1 kHz, but limited below 1 kHz.

Conclusions:

Measurements of stapes velocity and intracochlear sound pressures in scala vestibuli and scala tympani enabled experimental evaluation of FMT stimulation of the RW. The efficacy of FMT-RW coupling was influenced significantly by factors which can be surgically optimized. Intracochlear differential pressure measurement lays the foundation for investigations of basic and clinical science issues such as RW stimulation in stapes fixation, non-aerated middle-ears and third-window lesions.

Copyright Transmittal: Abstracts are received with the understanding that they are not under simultaneous consideration by another publication and that they are original contributions that have not been previously published. Accepted abstracts become the permanent property of *Otology & Neurotology* and may not be published elsewhere without permission from *Otology & Neurotology*.

Publication Statement: The material in this abstract, (Name of Abstract) has not been submitted for publication, published, or presented previously at another national or international meeting and is not under consideration for presentation at another national or international meeting including another COSM society. The penalty for duplicate presentation/publication is prohibition of the author from presenting at a COSM society meeting for a period of three years. Submitting author's signature required _____ Will accept via e-mail printed name as your signature.