

# Vestibular S.I.G.

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## Officers:

### Chair:

Denise Gobert  
D.gobert@alumni.utexas.net

### Vice Chair:

Diane Wrisley  
Dmwst44+@pitt.edu

### Secretary:

Patrick Sparto  
psparto@pitt.edu

### Nominating

### Committee:

Kim Gottshall  
krgottshall@nmcscd.med.navy.mil

Michelle Gutierrez

mlgutierrez@zianet.com

Marcia Hall

marcia@onbalance.com

### Newsletter Editors:

Annamarie Asher  
asher@umich.edu

Tara Denham

Tara.Denham@med.nyu.edu

## From the Chair:

Are you keeping up with the PACE?

Yes, there is a challenge now for all vestibular rehab specialists to keep up with the rapidly progressive area called "Vestibular Rehabilitation". We are steadily and rapidly making wonderful progress now in better diagnosing and treating our patients because of the wonderful work of great clinical scientists like Dr's Susan Herdman, Faye Horak, Anne Shumway-Cook, Susan Whitney and Neil Shepard, to just name a few. They have aided us in fine tuning our care of patients so that now we can quickly set up customized treatment for our challenged patients. I like to call them Practitioners Advancing Clinical Evidence-based practice or P.A.C.E.

What does this mean for us who work in areas such as outpatient clinics, hospitals, nursing homes, rural home health, or school districts? It means that we need to take on the new knowledge and make sure that we are providing the best of care. To help all of you to do this the APTA Vestibular Special Interest Group leaders will be providing you with the latest information through stimulating article reviews, newsletters, web-based information, local seminars and challenging programs at our upcoming conferences. There are so many new and exciting things going on with clinical technology to make your job easier and more efficient. For instance,

now we have available the new Vestibular Myogenic Potential Test to quantify otolith function, the use of Virtual Reality environments to provide a "turbo-boost" to sluggish optokinetic systems and the use of a combined computerized measurement of eye, head and postural control all in one test. These new tests and techniques help to provide the evidence for better functional outcomes that help justify third-party reimbursements. So we are excited about how we have progressed and therefore feel obligated to share this information with all of you. Please feel free to provide us with your feedback and comments to let us know how we can best help you keep up the P.A.C.E.

- Denise Gobert, Chair

## IMPORTANT ANNOUNCEMENT

For your convenience, this SIG newsletter has been made available on the web at [www.neuropt.org](http://www.neuropt.org) Electronic posting of SIG newsletters is an efficient and cost effective way to bring you the latest SIG news. Consequently, beginning in 2003, the Spring issue of all SIG newsletters will be available exclusively online. All members will receive an email notice with a link for accessing the newsletter. You will no longer receive your newsletter via postal mail unless you specifically request a copy.

**If you would like to continue receiving your newsletter via postal mail, please contact the Executive Officer at Neurology Section, 1111 N Fairfax Street, Alexandria VA 22314, 800-999-2782 ext. 3237, Fax 703-706-8575, neuro@apta.org**

**Educational News from the Vice Chair:**

Vestibular Special Interest Group Educational Opportunities:

One of the benefits of belonging to the Vestibular SIG is educational programming we sponsor or recommend at APTA's Combined Section and Annual conferences. The 2002 Combined Section meeting will be held February 11-16 in Tampa, Florida. The Neurology Section has planned a line-up of programming that promises to be stimulating and relevant to current practices. I encourage you to visit the website at <http://www.apta.org/Meetings/CSM 2003> **For the first time handouts for CSM 2003 will only be available online! Please remember to download, print and bring the handout to CSM.**

Some of the neurology section programming that may appeal to members of the Vestibular SIG include:

Thursday 2/23/03 10:15 —1:15 pm: Experienced-Based Neuroplasticity: From Bench to Bedside. Jeffery Kleim PhD and Katherine Sullivan, PT, PhD

Friday 2/14/03 8-11 am: Multisensory Integration for Postural Control. Fay B. Horak, PT, PhD and John J Jeka, PhD and Leslie Allison, PT, MS, NCS

Friday 2/24/03 3:30—5:00 pm: Migraine-related Vestibulopathy. Diane M. Wrisley, PhD, PT, NCS

The Vestibular SIG is pleased to be sponsoring 2 programs at CSM: One combined with a short business meeting and the second a round table discussion.

*Vestibular SIG Meeting*

Date : Friday 2/14/03

Time: 6:30—8:30pm

Topic: Vestibular Rehabilitation Practice: Developing a Consensus

Facilitator : Britta Smith

We all have decisions rules that we use to decide a patient's treatment diagnosis and their course of treatment. Each of us has a list of "red flags" that we use to deter-

mine when we should send a patient back to the physician. Wouldn't it be nice to have a consensus, based on current evidence, of what we do in practice and why?! In place of a formal lecture, this year we will provide members with an opportunity to share with one another regarding the physical therapy evaluation and treatment of common vestibular disorders. The discussions will be structured to try to develop decisions trees or consensus of what is current and evidenced based practice with an ultimate goal of generating publishable manuscripts based on the information generated. Please feel free to contact Diane Wrisley at [wrisleyd@ohsu.edu](mailto:wrisleyd@ohsu.edu) if you would like to facilitate a small group or have a suggestion of a topic that should be discussed.

*Vestibular SIG Round Table*

Date: Saturday 2/15/03

Time: 3:00—5:00

Topic: The Basics or Beyond: What Entry-Level Education Should Be for Vestibular Rehabilitation Facilitators: Kim Gottshall, PhD, PT, San Diego, CA Kristine Legters, DSci, NCS, Erie, PA

Join us for a discussion of what is currently being taught in entry level programs and what we believe should be entry level vestibular rehabilitation education .

**VESTIBULAR SIG 2003 POSITION**

The Vestibular SIG seeks nominations of interested members for the position of Nominating Committee 2003 –2006. The member participates as an active officer of the SIG The primary responsibility is to assist in the determination and submission of a slate of qualified candidates from the membership to the Neurology Section Nominating Committee Chair. Attendance at CSM SIG section and officers meetings is requested, as well as participation in scheduled SIG officer conference calls. Nominations may be submitted to any member of the committee until combined Sections.

Respectfully submitted,

Marcia Hall, PT Nominating Committee Chair

[Marcia @onbalance.com](mailto:Marcia@onbalance.com)

Michelle Guttierrez, PT [mlgutierrez@zainet.com](mailto:mlgutierrez@zainet.com)

Kim Gottshall, PhD,PT [krgotshall@med.navy.mil](mailto:krgotshall@med.navy.mil)

## Research Review

Epley, J. M. Human Experience with Canalith Repositioning Maneuvers. *Annals of the New York Academy of Sciences*. 942:179-191. October 2001.

This article was published as a collection of the proceedings from "The Vestibular Labyrinth in Health and Disease," a conference held November 16-18, 2000 in St. Louis, Missouri. As one of the keynote speakers, Dr. Epley has delineated three pathological conditions as sub-classifications of Benign Paroxysmal Positional Vertigo (BPPV).

In the article, a brief history in the evolution of diagnosis and treatment of this disorder is reviewed and the concept of BPPV "variants" is introduced. Epley states that previously unclassified positional nystagmus, recently attributed to "vague central nervous system pathology," can be classified as *vestibular lithiasis* if certain criteria are met. Vestibular lithiasis can be further divided into the sub-classifications of *canalithiasis*, *cupulolithiasis*, and *canalith jam*. With respect to treatment of vestibular lithiasis, Epley maintains that the most effective means is by performance of repositioning maneuvers (RMs) utilizing a nystagmus-based strategy. Epley argues that although blind maneuvers can be effective for uncomplicated posterior semicircular canal canalithiasis, nystagmus-based strategy is essential for more complicated versions of vestibular lithiasis in regards to the timing and sequencing during RMs.

Pathology and pathophysiology of vestibular lithiasis is discussed in detail in order to link the rationale for specific positioning during the RMs with respect to the plane of the canal being treated using a nystagmus-based strategy. Based on logical anatomical deduction, Epley concludes that there are 18 possible variants of vestibular lithiasis, stating that the generated nystagmus is specific to any of the six given semi-circular canals with the three possible sub-variants of canalithiasis, cupulolithiasis, and canalith jam.

Epley proceeds with careful and didactic explanation of canalithiasis and its treatment, utilizing nystagmus based strategy. Epley argues that oscilla-

tion of the mastoid on the affected side promotes improved outcomes. Contraindications to mastoid oscillation are provided. RMs for all three canals is discussed, including reversals and conversions from one canal to another.

With regards to assessment and treatment of the remaining two sub-variants of vestibular lithiasis, Epley continues to support his hypotheses with logical anatomical positioning and nystagmus based strategy. The phenomenon of *heavy cupula* is discussed as a part of the differential. In testing and treating cupulolithiasis, Epley's recommendations deviate from those described in the literature. Testing for cupulolithiasis requires positioning the cupula of the suspected semi-circular canal perpendicular to the gravity vector, allowing for maximal deflection and maximal intensity of the observed nystagmus. The canal is then rotated 180 degrees in the plane of the canal into its "release position," allowing for maximal inhibition of the affected semicircular canal. According to Epley, in the release position, the observed nystagmus should decay and then reverse, persisting with less intensity than the original test position. Positions for each canal are described in detail utilizing orientation of the gravity vector with respect to Reid's line and head and body rotations in degrees, referencing upright as 0 degrees. With treatment, Epley postulates that oscillation of the mastoid of the affected ear in the release position will effectively promote resolution. This is based on the hypothesis that the otoconial debris is adhered to the utricular side of the cupula and not the canal side. With applied oscillation, the otoconial debris is liberated and simply falls along the gravity vector into the utricle.

Canalith Jam is described by Epley as the phenomenon of otoconial debris becoming lodged against the cupula and the ampulla wall, preventing it from returning to its original resting position. According to Epley, this phenomenon can occur spontaneously or during RMs. The net result is persistent apparent spontaneous nystagmus unaffected by position. Assessment and treatment techniques are described using the same deduction process for canalithiasis and cupulolithiasis.

Epley recognizes that the diagnosis and treatment of canalithiasis is well defined in the literature, whereas the sub-variants of cupulolithiasis and ca-

nalith jam are not. He states that the recommendations he has made with respect to diagnosis and treatment of these two sub-variants is based on “analyses and conclusions developed by the author from unpublished studies at the Portland Otologic Clinic.” We look forward to their publication.

Bryan D. Hujsak, P.T.  
Vestibular Rehabilitation  
New York University Medical Center