Necessity is the Mother of Invention

How a biotech venture capitalist turned his own experience with Meniere’s disease into a company to develop a treatment.

As a life science venture capitalist, Jay Lichter is always looking for opportunities to form and invest in companies that develop drugs for diseases that have no treatment. Over the last 10 years, he’s launched more than 15 such biotech companies. He never imagined that one day he would be starting a company because he was facing a medical condition of his own.

Let’s flash back to 2007. Jay had some minor hearing loss that had become a running joke in his family—his teenage daughters teased him that he must be getting old, and he believed it. Having returned from a family vacation in Hawaii, Jay felt what he thought was water in his ear from all the surfing and snorkeling. He ignored it, thinking it would resolve on its own, but it never really did. Months later, his hearing loss had worsened and he began experiencing very brief and sporadic episodes of vertigo and tinnitus that lasted a few seconds. But in 2008, something happened that forced him to acknowledge his symptoms and take action.

CONTINUED ON PAGE 2
While driving to a business meeting, he was hit with a sudden wave of extreme vertigo unlike anything he had ever experienced. He is fortunate that he was able to pull his car to the side of the road and park. For the next fifteen minutes Jay’s world was spinning and he wondered if he was dying of a heart attack or a stroke. Luckily his colleague’s assistant was able to get him to the hospital, where he underwent a battery of tests that ruled out heart attack or stroke. Nobody was sure what had caused Jay’s vertigo attack, and he was sent home with some Valium and referred to an ear, nose and throat clinic.

As fate would have it, an expert in Ménière’s disease, Jeffrey Harris, M.D., Ph.D., division chief of otolaryngology at University of California, San Diego, happened to be working in the clinic on the day of Jay’s appointment to have his hearing tested. Based on Jay’s symptoms of hearing loss, vertigo, tinnitus and aural fullness, Dr. Harris diagnosed him with Ménière’s disease.

Jay tried to return to business as usual, but it soon became apparent that he was in no condition to return to work. He had lost the majority of his hearing in his left ear, and was unable to drive because he was suffering an average of three, all-day attacks of debilitating vertigo each week. This went on for months.

Jay tried a low salt diet, which gave him no relief from his vertigo and made eating completely unenjoyable. Jay was given oral and injected steroids, both of which helped with the vertigo but presented limitations – the oral steroids caused a laundry list of unpleasant systemic side effects, including insomnia and irritability, and the liquid steroids injected into his ear required him to lie on his side for long periods of time without swallowing, talking or coughing or else the medicine just ran out of his ear and he would need to return for repeat injections. There had to be a better way.

Dr. Harris and Jay, both unsatisfied with the available treatment options, decided to work together to explore the potential for developing the first FDA approved drug for Ménière’s disease. Between bouts of vertigo, Jay scoured the clinical and scientific literature, researched existing treatments, and filed dozens of
patents in conjunction with starting a new company called Otonomy whose mission is to develop new and effective treatment options for people with Ménière’s disease and other ear disorders.

Otonomy is now developing OTO-104, a sustained-exposure formulation of the steroid dexamethasone for the treatment of Ménière’s disease and other inner ear conditions. OTO-104 was developed using Otonomy’s proprietary technology that utilizes a thermo-sensitive polymer, which transitions from a liquid to a gel at body temperature. The polymer is combined with drug micro-particles to create a suspension that is retained in the middle ear cavity for an extended period of time, providing high and sustained drug exposure in the inner ear.

Having shown promise in its first clinical study, OTO-104 is in the first of two pivotal efficacy studies that the company believes will be required for FDA approval in the treatment of Ménière’s disease. The company expects to have results from this trial by mid-2015 and then initiate a second pivotal study, a Phase 3 clinical trial, by the end of 2015. Patients with an interest in participating can check the company’s website for information regarding trial status.

Jay is proud of the progress Otonomy has made in developing OTO-104, and is hopeful that the technology that resulted from his experience with Ménière’s disease will someday help the hundreds of thousands of people living with this condition, as well as the millions of patients impacted by other vertigo disorders, hearing loss, and tinnitus for whom there are currently no FDA-approved drug treatments.

Jay considers himself extremely lucky to have gone four years and counting without a severe vertigo attack, though he is painfully aware that it could occur again without warning, as it did back in 2008. He also worries that his Ménière’s disease will become bilateral and that his hearing loss will spread to his other ear. For now, however, he remains hopeful, both for his own future and for the sake of the many other patients afflicted with ear disorders who Otonomy is committed to help.

EDITOR’S NOTE: FOR MORE INFORMATION ABOUT OTONOMY AND ITS CLINICAL TRIALS AND PRODUCT CANDIDATES, INCLUDING OTO-104, VISIT WWW.OTONOMY.COM. IF YOU’D LIKE TO BE ADDED TO AN EMAIL LIST TO RECEIVE UPDATES ON OTONOMY AND OTO-104, PLEASE CONTACT HEIDI CHOKEIR WITH CANALE COMMUNICATIONS AT HEIDI@CANALECOMM.COM.
Hi. My name is Spencer. I’m a 20 month old Ragdoll of the feline purr-suasion. I live with my mom in New Jersey. She’s chronically dizzy. She’s been that way since I came to live with her. She keeps telling people how much I help her deal with her illness, how I make her feel less alone and less afraid when the dizziness takes over. I do it because I love her, dizzy or not! But it got me thinking, maybe other pets do the same thing for their humans. So I decided to find out.

**HERE ARE A FEW STORIES OF PETS AND THE PEOPLE THEY LOVE:**

**HEIDI**
Heidi is a 65-pound Doberman/hound dog that lives in Virginia with her mom, Katie Mahoney. Heidi was abandoned at a shelter when she was 3 days old! Her mom and dad adopted Heidi and she’s repaid them with tons of love! “My mom began her vestibular journey in July, 2013 and has been dizzy ever since. We really like to go for walks but I know when she’s too tired. I tell her, ‘I’m sorry you aren’t feeling well, but you need to walk me anyway.’ I do that as a camouflage to get her out of the house! She says that taking walks with me helps her keep moving, even on bad days.”

**OSCAR**
Oscar Wilde is a 90-pound, 6-year old Irish Setter. He lives in Georgia with his mom, Julia Anne Bourne. Oscar’s mom has been dealing with vestibular issues off and on for 12 years. The past few years have been particularly bad. Oscar has an intuitive sense about his mom’s need for his help. “My mom deals with a lot of anxiety because of her spins. When I sense one coming on, I stand beside her so she feels safe. She knows she can lean on me for physical and emotional support. We walk together as part of her therapy. I try to remind her to chill out - everything is going to be ok because I’m there to support her unconditionally!”

**HAZEL & GRIZZLY**
Hazel and Grizzly are rabbits. They are called
“Mini Lops” because of their floppy ears, and they are very snuggly! They live in Oregon with their mom, Sally Hatch, and they have their paws full. Their mom fell from a horse in February, 2010 and suffered a traumatic brain injury that has led to multiple vestibular problems, many surgeries, and constant debilitating pain and anxiety. She was only 23 when this happened. Before her injury, Sally was an operating room nurse and avid horsewoman. Not so much anymore. “Our mom is basically confined to our home. She is very sensitive to noise and visual stimulus. We play a big role in keeping her focused. She has her dog, Jewel, and a wonderful therapy horse named Norman, but we’re her favorites! When she is experiencing a panic episode our dad loads us onto her bed and we curl up around her so she knows she is not alone! We love her so much!”

Tom

Tom is an 8 year old Flat-Coated Retriever (although retrieving isn’t really his thing!). He lives in Wisconsin with his mom, Dawn Wallander. Dawn has always had balance issues because of inner ear problems, but things got complicated in April, 2014 when she began falling. Dawn has trouble bending over, so Tom stands strong while she leans on his head for balance. Recently, she developed a blood clot in her leg and had to go to the hospital. Tom had to stay with a friend and leave his mom all alone. No one liked that! Tom is a pretty quiet fellow but never forgets his role in helping his mom. "Some days her migraines are so bad that she just wants to curl up on the recliner, but I know she has to move to stay healthy so I bug her! I remind her rather urgently that I need to eat and drink and go potty. She says that helps her feel less alone. Sometimes she even lets me up on her bed to snuggle. I love that!"

These are just a few of the pets who help their humans cope with the overwhelming effects of this invisible illness called dizziness. I’ve never been dizzy, but then again I’m only 20 months old! I am a well-loved companion who is unconditionally devoted to helping make a difference in my human’s life. I’ll bet you know a dog or cat or bunny or horse or hamster or bird that’s doing the very same thing for someone you love! Tell them Spencer sends a gentle head butt of thanks!
Welcome to VEDA’s New Medical Advisors

VEDA’s medical advisors ensure the medical and scientific validity of our publications and guide our efforts to educate the greater medical community about vestibular disorders.

Recently VEDA welcomed several new members to our medical and scientific advisory board with a broad array of expertise in the fields of vestibular research and clinical practice.

RICHARD CLENDANIEL, PT, PHD
Doctor of Physical Therapy Division, Duke University School of Medicine

JANET HELMINSKI, PT, PHD
Professor, College of Health Science, Midwestern University

GARY JACOBSON, PHD
Professor, Department of Hearing & Speech Sciences Director, Division of Audiology - Vanderbilt University Co-Director, Division of Vestibular Sciences Vanderbilt Bill Wilkerson Center for Otolaryngology and Communications Sciences

DAVID NEWMAN-TOKER, MD, PHD
Associate Professor of Neurology, The Johns Hopkins University School of Medicine

JAMES PHILLIPS, PHD
Associate Professor of Otolaryngology & Director - Dizziness & Balance Center

STEFEN RAUCH, MD
Professor & Vice Chair for Academic Affairs, Department of Otology & Laryngology, Harvard Medical School Chief, Vestibular Division, Otolaryngology Department - Massachusetts Eye & Ear Infirmary

JAY RUBINSTEIN, MD, PHD
Professor, Otolaryngology & Bioengineering - University of Washington Director of Virginia Merrill Bloedel Hearing Research Center

HINRICH STAECCKER, MD, PHD
Professor, Otolaryngology, University of Kansas School of Medicine

VEDA IS CONTINUOUSLY WORKING TO IMPROVE OUR EDUCATIONAL OFFERINGS. HERE ARE A FEW OF THE PROJECTS WE COMPLETED IN 2014:

• UPDATED 10 OF OUR PUBLICATIONS ON VESTIBULAR DISORDERS AVAILABLE AT VESTIBULAR.ORG/EDUCATIONAL-RESOURCES.

• PUBLISHED ARTICLES ON SEVERAL NEW TOPICS, INCLUDING PHARMACOTHERAPY FOR VESTIBULAR DISORDERS, BILATERAL VESTIBULAR HYPO-FUNCTION, AND PERSISTENT POSTURAL PERCEPTUAL DIZZINESS

• CREATED NEW RESOURCES ON OUR WEBSITE FOR VETERANS AND MILITARY SERVICE MEN AND WOMEN WITH INFORMATION ABOUT VESTIBULAR DISORDERS AND TRAUMATIC BRAIN INJURY, ANTI-MALARIAL DRUGS THAT CAN CAUSE VESTIBULAR DYSFUNCTION, AND RESOURCES TO HELP U.S. MILITARY PERSONNEL AND VETERANS ADVOCATE FOR THEIR OWN HEALTHCARE.
Innovative Technology Assists in Accurately Diagnosing Vestibular Problems

Scenario: Your doctor orders test after test, and still they can’t diagnose the source of your dizziness. Sound familiar?

What would you say if I told you that there is a technology that can help differentiate between peripheral and central vertigo, and also assist in identifying which side of the vestibular system is abnormal in peripheral vertigo cases?

Norma Rodriguez, a vestibular patient from Texas, said, “Sign me up!”

“I suffered from dizziness for many years and visited various specialists to resolve my balance problems. A specialist conducted a balance test using a VNG system, but was unable to find the reason for my dizziness,” Norma explains.

“The dizziness became an ongoing problem and was unbearable, so I began a search for a new clinician that understood balance disorders. Finally I found Dr. Priti Manohar, a neurologist, who conducted an iVNG test using the balanceback™ system.

Initially I was skeptical, since I had already gone through a VNG test without finding a solution to my problem. Fortunately, with the balanceback test, Dr. Manohar was able to properly diagnose my condition and provide appropriate treatment.”

The device developed by balanceback™ is the Videonystagmography – a.k.a. iVNG™, which has been used clinically for more than eleven years. The patented iVNG™ technology is a standardized, quantifiable diagnostic tool.

One of the advantages is that the iVNG assists in reducing human error. For instance, part of the exam includes identifying nystagmus (involuntary eye movement). While some systems may require the manual measurement or analysis of each nystagmus, balanceback’s™ iVNG system automates the process to ensure that each nystagmus meets the clinically significant requirement in order to provide objective and evidenced based reporting to the clinician for better patient outcomes.

Dr. Salvatore Gruttadauria is an audiologist and Clinical Director of balanceback™, who has used balanceback™ to diagnose patients’ complaints of dizziness. He says the software package is useful because it provides a detailed report of the outcome of all the tests that are performed, which guides the clinician to focus on those aspects which are more likely to be the root cause of the problem.

Learn more about iVNG™ testing at balanceback.com.
VEDA Membership Gets a Makeover

THANK YOU FOR YOUR ONGOING MEMBERSHIP WITH VEDA!

With your help we are providing information and support to millions of vestibular patients worldwide.

VEDA has an ambitious strategic plan. Our goal is to work toward a day when vestibular disorders are widely recognized, rapidly diagnosed, and effectively treated. But we can’t do it alone.

WE NEED YOUR HELP.

VEDA’s membership program provides a venue to engage vestibular patients in achieving our mission. During 2015 we will be making changes to our membership program to make it more accessible while also expanding the benefits you already receive.

Currently, VEDA provides the opportunity to become a (basic or patient) member by paying a $40 membership fee, renewed annually on your expiration date. During 2015 we will be transitioning to a donation-based membership program.

Once a year – in the spring or fall – you will receive an invitation to renew your membership. This will look different than the form letter you have received in the past - in a good way! We’ll share engaging stories that show you how your membership is making a difference.

You can renew your membership by making a donation of $40, $75, $100, $250, $500 or $1,000, or by signing up for our sustaining member program and making a monthly donation of $5 or more. You may recognize this type of membership program, as it is similar to the membership drives of other well-known national organizations such as NPR (National Public Radio).

YOUR MEMBERSHIP BENEFITS WILL NOT CHANGE.

You will continue to receive a quarterly subscription to our newsletter, On the Level, as well as access to our online member forum and the opportunity to participate in V-PALS. In addition, we plan to offer free webinars to members during 2015, so stay tuned!

VEDA offers membership for people on a limited income by offering discounts to veterans, seniors and people with disabilities. To qualify, mail, email or fax us a copy of one of the following:

- Medicare card
- Social security disability Notice of Award
- Veteran ID card
- (Seniors) A copy of your driver’s license or ID card showing your date of birth

FOR QUESTIONS ABOUT MEMBERSHIP, CONTACT US AT INFO@VESTIBULAR.ORG.

A COMMUNITY OF SUPPORT
Tania Stadsbader is from Poijttenland, Belgium. She first started experiencing vestibular symptoms at the age of 23 and was eventually diagnosed with BPPV. At 38 she received canal plugging surgery, and 6 years later she is symptom-free!

After her operation Tania lost her job. Every day she faced the fear that her vertigo attacks would return. After 18 months of “re-validation” (learning to trust her senses and believe that her vertigo attacks would not return) Tania got a new job and began to reclaim her life.

First, she began cycling, then running. After a while she joined a cycling club, then tried a duathlon, and later a 1/8 triathlon. Now she can ride 220 km by bike in one day! She’s lost weight and feels more relaxed and healthy than she has in over 20 years.

Tania blogged about her experience for two years because she wanted to share the information she couldn’t find when she was sick and hopeless. But blogging wasn’t enough. She wanted to reach more patients and doctors (especially doctors!) to educate them about the vestibular patient experience, and include accurate and up-to-date medical information based on peer reviewed articles. So she decided to write a book, which she called “Dizzy Me.”

The original “Dizzy Me” was published in 2010 in Dutch. When VEDA Ambassador Chair, David Morrill, heard about it he thought, “This would be so helpful to vestibular patients here in the U.S. and other English-speaking countries.”

David and his team of ambassadors sent emails to Tania’s publisher asking him to publish “Dizzy Me” in English. An official English translation would be very expensive. However, Tania sought the help of masters’ students at the Vrije University in Brussels where she works to help translate the book. Several ambassadors suggested leads to U.S. publishers who might be willing to take on the project.

Such is the power of collaboration! Thanks to Tania, David, and all the VEDA ambassadors for their dedication to spreading awareness about vestibular disorders, and stay tuned for news of “Dizzy Me,” the English edition.
Getting in bed itself is a challenge. First, you walk up to the bed and turn 180 degrees to sit. If you forgot something, you may need to turn around several more times before you lie down. And remember, you already turned around to shower, go to the bathroom, and brush your teeth. Then there is the turning and bending to lie down, and during the night the turning over in bed.

So, if you have a similar chronic vestibular problem and sleeping is a challenge, here are some strategies you might consider. As my symptoms change, I use a combination of these at different times.

**PICK A STABLE MATTRESS**

My mattress has to be stable and not move when my husband moves or rocks after I turn over. Memory foam mattresses are the best. Make sure the frame under the mattress is flat and firm. For me, even the floor is better than a bed that moves a lot. If I stay at a hotel or friend’s house, I sometimes sleep on a foam mat on the floor. A bed with springs adds to the motion I feel when lying down.

**PLACE A NIGHTLIGHT AS A VISUAL TARGET**

The idea here is to have a point of reference you can focus on if you begin to feel dizzy. I like a very dim night light, one that doesn’t light up the whole room, but if you get up to go to the bathroom during the night you might want a brighter light to help you find your way. I place it where I can easily see it from bed when I am lying down and use it as a “target” so when I open my eyes and see something still it quiets the feeling that I’m slowly rotating.

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**Sleeping Tips**

*By Suzanne Johnson, vestibular patient*

**I LIKE TO SLEEP!**

(Who doesn’t?)

Medical articles about vestibular problems advise you to get a good night’s sleep, but they don’t tell you how to do that. At first, I found my vestibular symptoms interfered with a comfortable night’s sleep. Eventually, I found several strategies that help.

Symptoms vary for people with different vestibular diagnoses and even among individuals with the same diagnosis. Before trying anything new, it’s always a good idea to consult your doctor.

I’ve had bilateral vestibular problems for over 10 years, including endolymphatic hydrops, which is similar to Ménière’s disease. My dizziness is related to moving my head or body in any direction. I’m not dizzy in specific directions as some people with benign paroxysmal positional vertigo (BPPV) are. I can have just as much trouble turning right or left, or bending forward or backward. My symptoms are at their worst when I turn in multiple directions at the same time, such as when turning and lying down.

For me, the world “sways” every day, but “spins” only during acute attacks. I feel like I am on a rope ladder and my head feels like it is a helium balloon bobbing around. I don’t feel grounded to the earth, or at night the bed, which makes it difficult to sleep.

Most people don’t understand that when you lie down you can’t relax like they do. When I lie down I still feel like I’m swaying. In fact, it’s when I’m not moving at all that the swaying perception is the worst. It’s confusing to the brain if you are still but your inner-ear vestibular center is sending signals that you are moving.
SELECT A STABLE HEAD PILLOW
When you are sleeping you want to be able to relax and still have your head well supported. I prefer a memory foam pillow as it is stable and curves a little around the sides of my head. I can use a feather pillow sometimes, as you can make a divot in the feathers and they don’t “push back.” I can’t use regular foam or soft fiber because there is a slight “rebound” when I move my head. If I’m really sick I might put my head on a towel with the sides rolled up so they provide tight support on the right and left side of my head.

PLACE TIGHT SIDE PILLOWS
I always sleep with at least one pillow tucked tight to my side. If I’m having an acute attack, I’ll have my husband or a friend put a second pillow on the other side. Proprioceptors in your joints and muscles give your vestibular system information about how you are moving. When I’m sleeping I want my proprioceptors to tell my brain that I’m not moving. A pillow pushed against my side, stomach or back gives feedback to my skin and muscles that they are not moving. I understand some BPPV patients can only sleep on their back. I’m fortunate because I can sleep on my side as well.

Pillows pushed tight on both sides provide a wedge for comfort.

FEEL COCOONED WITH A BLANKET
If I’m spinning I need contact with something still on all sides to tell my proprioceptors that I’m stable. Sometimes I have someone put a sheet or blanket over me and pull it tight so that it pushes down a little on my body. This tells the proprioceptors and skin sensors on all sides that my body is not really floating.

Pulling a blanket tight on both sides reduces the feeling of floating.

OTHER TIPS
• Eat something an hour or two before bed so the electrolyte balance that affects your inner ear is constant.
• Drink enough water early in the evening so that you’re hydrated, with enough time to relieve yourself before going to bed so you don’t have to turn to get up in the dark.
• Put soothing music on when you go to bed and select music mode for your alarm to help dampen tinnitus.
• Vestibular problems are tiring and you may need more sleep than you are used to. Go to bed at the same time every night and sleep long enough so that you are rested. You may also want to nap when you get over-tired during the day, preferably in the early the afternoon so it won’t affect your night-time sleep.

It’s important to get enough sleep to maintain your overall health and well-being. With just a few adjustments hopefully you can find the right techniques that will allow you to have a full and peaceful night’s rest.

...Sweet Dreams...

Sleep is that golden chain that ties health and our bodies together.
–Thomas Dekker
Neskey-Coghlan Fellowship Program to Advance Care for Patients with Balance, Vestibular Disorders

Harvard Medical School’s Department of Otolaryngology announced the establishment of the Neskey-Coghlan Fellowship in Balance and Vestibular Disorders, a one-year post-residency fellowship program based at Massachusetts Eye and Ear Infirmary, to train qualified physicians in the diagnosis and management of patients with balance and vestibular disorders.

This specialized fellowship program was made possible through the generosity of Mr. David Neskey, his wife Sharon, and his friends Paul and Tina Coghlan. Mr. Neskey suffers from hearing loss and vestibular problems as a result of Meniere’s disease. He has also been a friend and trustee of Mass. Eye and Ear for many years.

“There is a real shortage of physicians globally who specialize in the evaluation and management of people with vestibular disorders,” said Dr. Rauch, a medical advisor to VEDA, Medical Director at Mass. Eye and Ear Balance and Vestibular Center and Harvard Medical School Professor of Otology and Laryngology, who will direct the fellowship program. “Patients who have balance problems suffer in our healthcare system because our sense of balance involves information from the ears, the eyes, the muscles and joints sending signals up the spine. There is no one specialty that owns all of that system.”

With four clinicians who specialize in the evaluation and management of dizzy and off-balance patients, two state-of-the-art vestibular diagnostic laboratories, and a high volume of dizzy patients, Mass. Eye and Ear offers the ideal environment for training future specialists in balance disorders.

“We are fortunate in this department that we have a collection of otologists and neurologists who specialize in the management of balance and dizziness disorders,” Dr. Rauch said. “The way that we can really leverage our expertise and help people is to train more doctors who specialize in this area and to send them out to populate clinics and departments all over the world.”

The first fellow selected will start in July 2015. The one-year post-residency fellowship will comprise a minimum of 75 percent time commitment to clinical training and patient care under faculty supervision, with the remainder of time dedicated to clinical research and scholarly career development. Candidates will be drawn from specialties in which physicians may have an interest in balance problems, including (but not limited to) otolaryngology and neurology.

For more information about the fellowship you can contact Mass. Eye and Ear’s Otolaryngology Education Office at 617-573-3652 or visit our webpage at: http://www.masseyeandear.org/education/otolaryngology/fellowship_program/balance/.
To determine whether any particular head positions during sleep are associated with BPPV, head position during sleep was monitored for 3 days in 50 BPPV patients after the disappearance of positional nystagmus and in 25 normal control subjects.

A gravity sensor was attached to the center of the subject’s forehead at home. The positional angle of the head was measured at 5-second intervals during sleep.

In BPPV, the posterior semicircular canal was involved in 40 patients and the lateral semicircular canal in 10 patients. Recurrence was found in 22 of 50 BPPV patients. BPPV patients with recurrence were significantly more likely to sleep in the affected-ear-down 45-degree head position than were patients with no history of recurrence (P< 0.02). When the head is in the affected-ear-down 45-degree head position, the non-ampullated half of the posterior semicircular canal and the non-ampullated half of the lateral semicircular canal are nearly in the earth-vertical position, making it easier for detached otoconia to fall into the posterior or lateral semicircular canal and to agglomerate and attain a certain size in the lowest portion of each semicircular canal.

Findings showed that the affected-ear-down 45-degree head position during sleep could be an etiological factor of BPPV, more particularly in patients with recurrent BPPV.

Authors:
Kohichiro Shigeno, Shigeno Otolaryngology Vertigo-Hearing Impairment Clinic, Nagasaki, Japan
Hideaki Ogita, Department of Otolaryngology, Kyoto Teishin Hospital, Kyoto, Japan
Kazuo Funabiki, Systems Biology, Osaka Bioscience Institute, Osaka, Japan

Source:
MARINATED PORTOBELLO MUSHROOMS

INGREDIENTS
- 2 portobello mushrooms, stemmed and wiped clean
- 1/2 cup balsamic vinegar
- 1 tablespoon brown sugar
- 1/4 teaspoon dried rosemary
- 1 teaspoon minced garlic
- 1/4 cup grated (1 ounce) provolone cheese

DIRECTIONS
Preheat the broiler (grill). Position the rack 4 inches from the heat source. Lightly coat a glass baking dish with cooking spray. Place the mushrooms in the dish, stemless (gill) side up.

In a small bowl, whisk together the vinegar, brown sugar, rosemary and garlic. Pour the mixture over the mushrooms. Set aside for 5 to 10 minutes to marinate.

Broil (grill) the mushrooms, turning once, until they’re tender, about 4 minutes on each side. Sprinkle grated cheese over each mushroom and continue to broil (grill) until the cheese melts. Transfer to individual plates and serve immediately.

*Sodium: 138 mg

TOMATO BRUCHETTA

INGREDIENTS
- 1/2 whole-grain baguette, cut into six 1/2-inch-thick diagonal slices
- 2 tablespoons chopped basil
- 1 tablespoon chopped parsley
- 2 cloves garlic, minced
- 3 tomatoes, diced
- 1/2 cup diced fennel
- 1 teaspoon olive oil
- 2 teaspoons balsamic vinegar
- 1 teaspoon black pepper

DIRECTIONS
Toast baguette slices in 400 F oven until lightly browned. Mix all other ingredients together. Spoon mixture evenly over toasted bread. Serve immediately.

*Sodium: 123 mg

*AMERICAN HEART ASSOCIATION’S SUGGESTED DAILY SODIUM: 1,500 MG
YES! I WANT TO HELP PEOPLE SUFFERING FROM VESTIBULAR DISORDERS.

Your support helps VEDA provide information on vestibular disorders to thousands of people every year. Thank you!
You can make a donation to support VEDA’s life-changing work online at vestibular.org or send your payment to 5018 NE 15th Ave, Portland, OR 97211 with the enclosed self-addressed envelope.

Donation:
- $25
- $50
- $100
- $150
- $200
- $250
- Other $__________
- Charge my credit card monthly $__________
- Please make my donation anonymous

Method of Payment:
- Check (payable to VEDA in US Dollars)
- Visa
- MasterCard
- American Express

Options:
- Please send me information about including VEDA in my Will or Estate Planning.
- My company will match my donation.
- Company Name: _________________________

Thank you for supporting the Vestibular Disorders Association! With your help we can reduce the time it takes to accurately diagnose vestibular disorders and improve treatment outcomes, helping patients live happy, productive lives.

Thanks to our Sponsors

CORPORATE SPONSORS PLAY A VITAL ROLE IN HELPING VEDA TO INFORM, SUPPORT AND ADVOCATE FOR THE VESTIBULAR COMMUNITY.
VEDA Welcomes New Membership Coordinator

VEDA’s members are the heart and soul of our organization. Serving you is why we exist! That’s why when we recently asked the question, “How can we improve our membership services?” the answer was, “We need a dedicated Membership Coordinator!”

Meet Christina Conner, Membership & Development Coordinator!

Christina has worked with members in several different organizations, most recently as the Membership and Special Events Manager at the Morris Museum in Morristown, New Jersey. Christina has volunteered with organizations like the Girl Scouts and AmeriCorps.

Christina recently moved to Portland, Oregon from the Greater New York City area and is looking forward to experiencing all the City of Roses has to offer.

“It is my mission to help make the world a better place,” says Christina. “I am very excited to become a part of the team at VEDA and work to increase its impact.”

In her spare time, Christina is an avid reader who also enjoys knitting and hiking.

YOU CAN REACH CHRISTINA AT CHRISTINA.CONNER@VESTIBULAR.ORG.

AN INTRODUCTION TO BALANCE DISORDERS WEBCAST

VEDA is excited to announce an interactive webinars series exclusively for our patient members.

Dr. Jordan Tucker

The first webinar will be held on March 3rd, 2015 at 4:30 p.m. Pacific time, 7:30 p.m. Eastern time. The topic will be, “An Introduction to Balance Disorders” presented by Dr. Jordan Tucker, DPT.

More information will be available in February at vestibular.org. Stay tuned!