



# the Trumpeteer

An Ear- Responsible Publication of Central Carolina ENT, PA

## MdDS - Mal de Debarquement syndrome - vertigo - etiology theories Dr. William C. LeLiever M.D., FACS, FRCS (C)



MdDS is a rare condition that is frequently seen in our vestibular clinic. Mal de Debarquement or Disembarkment syndrome is a type of vertigo that is characterized by constant movement, a rocking sensation, a “to

and fro” motion, persistent throughout the day and relieved with motion or rest. In almost all cases seen, this type of vertigo is brought on by an antecedent exposure to a boat ride/cruise. The individual reports that they develop a continuing rocking sensation after the cruise. Individuals seen are mainly women, between ages of 40 and 55.

The first case of this (MdDS) was seen and reported in our clinic 1984. The sensations in this first case lasted for 6 years. The entire vestibular workup including brain scans, ENG, rotary chair studies, audiometric studies, brain stem testing were negative. Neurological examinations were entirely normal. This case was treated with benzodiazepines for relief. The MdDS syndrome is not a well-known disorder to general physicians. The diagnosis is often missed. The symptom complex described in typical cases lasts for several months. However, many individuals have persistent motion that is debilitating and severely affects their lives. These cases require evaluation and management. Importantly, other vestibular syndromes and neurologic diseases need to be ruled out.

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In a study reported by Hain et al in 1999, they reported the average duration of symptoms in MdDS of 3.5 years with almost 30% of their cases lasting less than one month ( Hain TC) .

The cause of MdDS is unknown. Theories have centered on hormonal imbalance, motion sickness, migraine variant, psychological disturbance, genetic disorders. One additional and interesting concept is proposed - that exposure to prolonged changes to the gravity receptors in the inner ear (boat motion) in a hyper sensitive vestibular system may lead to decompensation and ongoing gravity receptor anomaly when the individual stands on firm ground. This would essentially entail a mismatch. Our clinic favors the causation theory that the otoconia deregulation and resultant symptom complex are a result of the otoconia stimulation. Testing for Otoconia / gravity receptors disorders is not generally available and abnormalities in the gravity receptors are not commonly seen. Gravity receptors have an important role in motion sickness (Graybiel A ). Treatment for MdDS have included benzodiazepines (Valium, Klonopin and others), antidepressants, hormonal medications, non-steroidal anti-inflammatory medications, phenytoin (antiepileptic drug), gabapentin (epilepsy, migraine), vestibular exercise. Motion sickness medications are typically ineffective. Recent research studies are exploring the effects of repetitive transcranial magnetic stimulation for the treatment of MdDS (Yoon – Hee Cha)

In our clinic, the emphasis is on control of symptoms with the most effective control coming

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from gradual motion. The patients are all essentially free of rocking and free of symptoms when in a moving car or walking. Our research suggests that relief may be possible with constant stimulation to the vestibular system and otoconia (utricle and saccule) of the inner ear (LeLiever WC). This treatment is compatible with the notion that magnetic stimulation of the brain / vestibular system may be effective in control of MdDS. The stimulation of the otoconia may be induced thru several pathways, however, the most direct is stimulation of the otoliths themselves thru the inferior vestibular nerves. Otoconia exercises may also be useful and further research is suggested this area.

#### References:

- Hain TC, Hannah PA, Rheinberger MA. Mal de Debarquement. Arch Otolaryngol Head Neck Surg, 1999; 125:615 – 620.
- Graybill A. Structural elements in the concept of motion sickness. Aerospace medicine. 1969:40; 351-67
- Yoon- Hee Cha: effects of repetitive Transcranial Magnetic Stimulation for the treatment of MdDS - research study, UCLA, unpublished data.
- LeLiever, WC, Correia, MJ; Further observations on the effects of head position on vertical OKN in normal subjects. Otolaryngol Head Neck Surg, 97 (3); 275-281, 1987

### Five Ways Treatment for Hearing Loss Can Change a Person's Life

With the latest in hearing technology, including cochlear implants and bone conduction systems, those with hearing loss now have the opportunity to enhance their world. Below are **five ways** that the introduction of sound may be able to transform an individual's life:

1. **Health.** Fatigue, tension, stress, depression and even dementia are all physical symptoms cited by experts as ailments linked to hearing loss. From an emotional perspective, people with hearing loss may experience irritability, anger, negativism and diminished psychological health. However, the good news is when the ability to hear is regained, overall physical and psychological health can be improved.
2. **Career.** Reduced job performance and earning potential – and the resulting loss of identity and self-esteem – are also effects of hearing loss. The ability for an individual with hearing loss to carry out assigned tasks in a workplace environment can be severely hampered by factors such as background noise, acoustics and unfamiliarity with surroundings. Treatment for hearing loss often helps individuals feel more confident and prepared when they are on the job.

3. **Daily Conveniences.** Difficulty hearing the TV, alarm clock, radio, conversations over the phone or the words of another person are not just inconveniences but also potentially life-changing challenges that can lead to embarrassment, anxiety and even social withdrawal. People who struggle with these challenges due to difficulties with hearing loss may be able to overcome them by seeking treatment for their hearing loss.
4. **Special Moments.** Be it the crack of a bat at a little league game, the soft serenade of wedding music, or collective laughter of friends at a dinner party, many of life's most wonderful moments can be missed due to hearing loss. This can lead to feelings of isolation and depression. Improved hearing can allow individuals to participate more in life and better enjoy the special moments.
5. **Relationships.** The inability to share intimate conversations or treasured moments because communication through conversation has been lost may be one of the most devastating effects of hearing impairment. Improved hearing through treatment options, like a cochlear implant or bone conduction system, can afford individuals the opportunity to be more fully engaged with those special people in their life.

<http://www.cochlear.com/wps/wcm/connect/us/about/featured-news/cochlear-highlights-five-ways-treatment-for-hearing-loss-can-change-a-persons-life>



# Cold and Flu Season

By: Christine Lupienski, FNP



Happy New Year! One of your New Years resolutions should be your health this year! You are your biggest advocate for your health. Your health needs to be the number one priority for this New Year. With a New Year comes the flu and cold season. Below is the most recent data from the CDC regarding the FLU for North Carolina. I would like to stress to the reader the most important facts that one can use to fight back against the cold and flu season:

- Wash your hands - for at east 20 seconds, “sing happy birthday” while you scrub your hands with soap. When the song is over, rinse your hands. Then use a clean paper towel to shut off the faucet.
- Hydrate - Hydrate : drink twice as much liquid (water, propel, gatorade, vitamin water, ect.) This will help thin secretions and prevent dehydration.
- Sleep - the goal is to get 7-9 hours of sleep per night. Sleep is so important for you immune system. The less sleep one gets can lead to a compromised immune system.
- Foods that can boost immunity-

**Vitamin C:** 200 milligrams a day is generally recommended and one can get this amount by eating at least six servings for fruit and vegetables a day

**Vitamin E:** 100-400 milligram per day is generally recommended. One can get 30-60 mil ligrams every day of Vitamin E from a diet rich in seeds, vegetable oils and grains. If one can not consume enough vitamin E daily thru diet alone, supplements may be necessary.

**Zinc:** This valuable mineral increases the production of white blood cells that fight infection. Foods high in zinc: oysters, Zinc - fortified cereals, crab, beef, turkey, dark meat, and beans.

**Garlic:** Garlic a member of the onion family is a powerful immune booster which stimulates the multiplication of fighting white blood cells.

- Manage your stress- hormones are released during times of stress which suppress the immune system.
- Regular exercise - According to the 2008 Physical Activity Guidelines for Americans, you need to do two types of physical activity each week to improve your health— aerobic and muscle-strengthening.(<http://www.cdc.gov/physicalactivity/everyone/guidelines/adults.html>). Regular exercise will reduce stress on ones body which will then stimulate the immune system by increasing the number of white blood cells. An increase in white blood cells can assist and combat against a virus or infection.

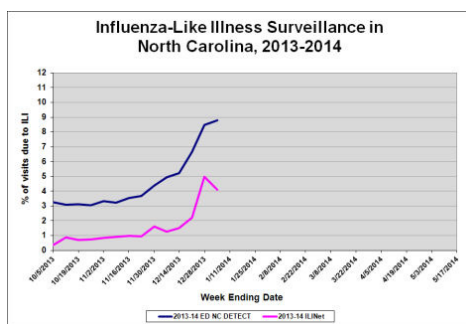


Figure 1. Influenza-Like Illness (ILI) surveillance in hospital emergency departments (ED) and outpatient clinics participating in the Influenza-Like Illness Network (ILINet), by week.

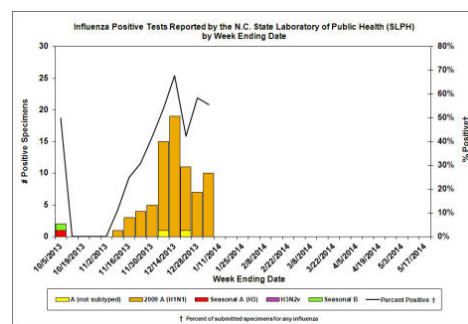


Figure 2. Influenza positive tests by the NC State Laboratory of Public Health and the total percent of submitted specimens that are positive by week.

<http://www.flu.nc.gov/data/>



## Audiology 2014 Updates



Dr Ellen Wilson, AuD CCC-A is a clinical audiologist at CCENT. She has been practicing more than 25 years.

It is the new year and we are pleased to inform you of some new updates within our Audiology department.



**BAHA 4 Sound Processor** - This is the latest upgrade from the BAHA 3 Sound Processor. BAHA is a bone anchored hearing instrument that conducts sound via bone conduction through the skull. It is applicable to either conductive hearing losses where the inner ear is not impaired but there is a conductive transfer loss OR for unilateral sensorineural hearing losses where the bone conduction thresholds in the better ear are within range to receive the sounds from the opposite side. BAHA has been around for several years, but with the release of the BAHA 4, this bone conduction instrument now has wireless technology and several new accessories that can make the listening situations even better. Some of these accessories include a MiniMic, Phone Clip, or Remote Control. The MiniMic is an accessory microphone that lets you position the microphone in a noisy situation to improve the clarity of the things that you do want to hear (for example, putting the microphone on the table in a restaurant so that you may hear the table discussion and not as much room noise). The Phone Clip let you wirelessly stream your cell phone directly into your sound processor. The Remote Control lets you never have to touch your BAHA. You can change programs or raise/lower the volume control discreetly in a meeting or at church and watching TV at home becomes easier as you can adjust your own remote to your instrument. These are just some of the advantages of the BAHA 4, but as with updates and technology, new tiers provide more programming and tuning flexibility. If you are wearing an older BAHA, you may be eligible for an upgrade if several years have passed.



**UNITRON and PHONAK Hearing Instruments** - all Unitron and Phonak hearing aids have many accessories available to improve your communication and depending on the level of instruments, many of the accessories are included with your purchase at no additional charge. Options include remote controls, TV accessories, phone accessories, dri-aid boxes, etc. Our audiologists will discuss these options with you if we are considering these instruments. In addition, we have improved soft silicone solid sleeve earmolds for receiver in the canal technology instead of using domes/tips. For many this is an advantage as it is molded to the patient's ear canal, it is very soft, and comfortable, and gives better retention.



**CUSTOM MOLDS** for Swimming and Noise Protection - we have been doing these for years, but we have several different types available and encourage swimmers to consider them early, long before that beach trip or the pool opens. Adding rush fees and FedEx makes these more costly, so if we do these early, it is a savings for our patients.