

## WE NEED YOUR HELP AND THERE IS ROOM FOR EVERYONE! *by Michelle Sawicki*

*Dysautonomia News exists to inform and educate. The content should not be used as a substitute for professional medical advice, diagnosis or treatment. Readers are encouraged to confirm all information with other sources and a physician. Please keep in mind that research is evolving and future discoveries may change or disprove some currently held beliefs.*

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Hello everyone!

It is hard to believe that 2009 is upon us already! 2008 was so busy, it passed in the blink of an eye. I



helped to create DINET's documentary on POTS, and I am happy to report that after much effort and contemplation the documentary is close to being finished. I also updated our member database and condensed areas in the Meet Others Program so that hopefully, fewer of our emails get filtered as spam. I helped mail out t-shirts this year when Amy Vanderkamp was unable to do so due to poor health. Aside from these projects, I performed my usual duties of reviewing new literature and updating the website, filling out and filing our required paperwork,

answering emails, helping DINET members, assisting our forum administrator and moderators, filling volunteer positions, ordering supplies and about a million and one other things that I won't bore you with. In other words, volunteering is a busy life!

It is challenging to find the time to complete this newsletter. Heather Thompson has gone back to school and we need help. If you are interested in the position of NEWSLETTER EDITOR contact me at [staff@dinet.org](mailto:staff@dinet.org). People applying for the newsletter editor position should be able to meet deadlines and have good spelling, grammar, and follow-through.

We also need someone to put the newsletter into HTML format for our website. Melanie

Bassett is no longer able to create the "Meet the Member" portion of our newsletter, and we are searching for a new columnist or two as well. I would personally love to see someone create a column focusing on the positive aspects in member's lives that help them get through each day, be they family members, pets, teachers, yoga, etc. I am also open to other suggestions for columns, so if you have an idea that you think would catch on, please email me and share it. This position also requires good grammar, spelling, commitment and the ability to meet deadlines.

Above all, I would be thrilled to find a new leader for DINET. DINET's next leader should be compassionate, understand the



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**“Above all,  
I would be  
thrilled to  
find a new  
leader for  
DINET.”**

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**FAST FACT:**

POTS patients with Ehlers-Danlos syndrome are not candidates for LASIK eye surgery. Some of the more common ocular symptoms of EDS are keratoconus, angioid streaks, and myopia.

## We Need Your Help cont.

basics of running a business, have some fundraising knowledge, have good listening and people skills, be able to research online and have a general understanding of medical terminology. If you would like to be considered for this position, please send your cover letter and resume to: [staff@dinet.org](mailto:staff@dinet.org).

Those of you who are a bit shy of time can still have a positive impact by volunteering right out of your own home. DINET desperately needs people to “adopt” a page or more of our website and check it for broken links. All it takes is a click of the mouse to discover if a link is working or not. Broken link reports are sent to [staff@dinet.org](mailto:staff@dinet.org) with an account of which page the broken link is on and where the link is located within that page. Volunteers are encouraged to search for broken links once a month and attempt to find the correct link when one is discovered to be broken. If the correct link cannot be found, volunteers are encouraged to submit

to DINET an appropriate substitute link when workable. Remember we want the best website ever!

We are also looking for people to update some of our entire physician list page. This requires a phone call to each doctor’s office to verify that the information we have listed on our website about the doctor is still correct. A couple of phone calls each day and this job is done!

Along similar lines, we need a person to update our support group list. This involves simply emailing each of the support groups listed on our website to see if they are still in existence.

The [“Assistance”](#) page on our website could use some work, too. We would like help in searching for places and programs that may be of assistance to our members.

If you are unable to assist in the above ways but would still like to do something to help others, please consider [buying a t-shirt](#) or making a donation to

DINET. The Dysautonomia Information Network is run completely by volunteers! One hundred percent of your donation goes toward our mission to raise awareness of autonomic nervous system dysfunction and to promote dysautonomia education, support and networking. We need your support. If you have never donated to DINET, please remember us this New Year. Donations can be made online by debit or credit card via Network for Good by [clicking here](#). If you’d like to mail in a check, your donation can be sent to:

DINET  
P.O. Box 55  
Brooklyn, MI 49230

Thank you!

*Does your place of business or family give to charity? If so, please let them know about the Dysautonomia Information Network, [www.dinet.org](http://www.dinet.org). DINET is completely funded by member's donations and can't exist without them. Thank you!*

*Dysautonomia News is a quarterly publication of the Dysautonomia Information Network. Subscribe to Dysautonomia News at [www.dinet.org/join.htm](http://www.dinet.org/join.htm)*

## The Patient's Voice

### I just want to wake up....

I want to wake up from  
this bad dream,  
From this life where I  
daily lose control of my  
own body.  
I want to wake up and  
feel **awake**, alive, and nor-  
mal.  
I have caught myself  
watching my family walk  
to the car  
Or bending over and real-  
ize they put no thought  
into it.  
They do it with ease.  
For that **I am grateful!**  
Then, I wonder when the  
last time I walked  
or stooped without  
thought was.  
I **JUST** want to wake up...  
and not need to lay down  
before my first cup of  
coffee.  
I want to **drive** again,  
**Work** again,  
I want to **play** in the yard  
with my **children**.  
I want to ride a roller  
coaster without **fear** of  
passing out.  
I want my **husband** to be  
**free** of **worry**.  
I **JUST** want to wake up  
and not feel gravity **pull-**  
**ing** me down,  
wearing me out before I  
can even start my day.  
I want to go to Wal-Mart  
and not see much older

folks  
looking at me wondering  
why is this  
**seemly healthy young**  
**lady**  
in the wheelchair.  
I want to not have  
**clouded/ slow**  
thoughts or the wrong  
words come out of my  
mouth.  
I want my legs and arms  
to work when they should.  
I am **blessed**. I **KNOW!**  
I am cancer free, it could  
always be **worse**.  
I want my **old** life back.  
I am **lost**.  
I am **tired**.  
**I am so tired!**  
I just want to **wake up**  
from this life with **POTS**  
it is simply the **pits!!**

-Heather Frazier

### I stand here naked

Looking in the mirror  
Sad because  
My body is not what it  
used to be  
It was once so tough  
A dancer's body both  
soft and strong  
Now it has been weak-  
ened by this  
It is not the body I know  
Legs that won't hold me  
up  
Shape I wish I did not  
see  
But it has survived  
I am still alive  
And one day  
I pray  
It will be  
My art again

-Stacey Yount

### Share your experiences in The Patient's Voice!

The Patient's  
Voice is a  
newsletter  
column where  
patients can  
express  
themselves  
while writing  
about  
experiences  
relating to  
dysautonomia  
- both positive  
and negative.  
It is a place to  
share medical  
experiences,  
suggestions,  
short stories  
and poetry,  
etc. Send  
contributions  
to:

[staff@dinet.org](mailto:staff@dinet.org)

## Those Who Gave Their Time

DINET would like to thank the generous people who volunteered and graciously gave to others amiss their own struggles in 2008:

Jane Bennett, Meet Others Program Leader  
Nina Wilde, Forum Administrator and Wish List Donor  
Melissa Mambort, Forum Moderator  
Rachel Lundy, Forum Moderator  
"Flop," Forum Moderator  
Amy Van Der Kamp, T-Shirt Fundraiser  
Kristen Fouts, Story Editor  
Stephanie Beans, Local Fundraiser, Data Entry and mailer of receipts  
Heather Thompson, Newsletter Editor  
Judith Pettibone, Newsletter Copy Editor  
Melanie Bassett, Meet the Member newsletter column  
Pam Frogale, Newsletter Designer  
Valerie Fenston, Physician Survey Coordinator  
Katherine Munson, Creator and Updater of the Faces of DINET photo album  
Stacey Yount, Link Checker

*Thank You*

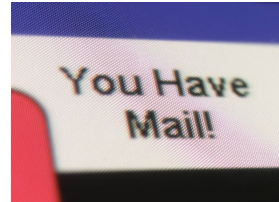
## Meet Others Member, Are you Missing in Action?

Our Meet Others Program has grown to include thousands of people, not only from the United States but from around the world. It has spurred numerous physician referrals and some fabulous friendships. However, some people who sign up for the Meet Others Program miss the opportunity to be put in touch with others. The following are the most common reasons members miss their opportunity to meet others:

### 1. Your email box is full.

It is always disappointing (not to mention time consuming) when I open up my own email box to find numerous returned Meet Others messages because the recipient's email box was full. If you are one of our members who might go over your quota of allotted emails, consider opening up a free web based email account specifically for the Meet Others Program. Gmail and some other free web based email accounts

allot tremendous storage space. You will probably never have to worry about deleting emails again.



### 2. You have not set your email client to receive messages from DINET.

If you are one of our members who approves email senders before you will accept email from them, please make sure to approve email from the following addresses: [meetothers@dinet.org](mailto:meetothers@dinet.org), [staff@dinet.org](mailto:staff@dinet.org) and [potsplace@hotmail.com](mailto:potsplace@hotmail.com). Most of our emails will come from Jane Bennett at [meetothers@dinet.org](mailto:meetothers@dinet.org), but occasionally I fill in for Jane and use one of these other email addresses to send out Meet Others matches. Please note that DINET volunteers do not have the time to fill out forms requesting to be approved as email senders.

### 3. You have changed your email address.

Sometimes our members forget to inform DINET when their email address changes. Please note that if your email bounces back to us as undeliverable twice in a row, you will be removed from the Meet Others Program.

### 4. We're sitting in your junk mail.

Please remember to check your junk mail for emails from DINET's Meet Others Program. Because we send emails to multiple recipients, our messages are sometimes perceived as spam and filtered as junk mail.

**So there you have it,** the top four reasons why DINET members sometimes miss the opportunity to correspond with other members in their area through our Meet Others Program. Please do your part to make sure you receive our correspondence and we'll do our part and keep delivering them to you.

Thank you.

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**“Some people who sign up for the Meet Others Program miss the opportunity to be put in touch with others.”**

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## Question & Answer with the Doctors

### Ask a Question!

Do you have a question for one of DINET's medical advisors?

Visit <http://www.dinet.org/q&a.htm> to ask your question today.

#### Question:

Hello. I'm so glad to have found you. I am the mother of a 17 year old girl who was diagnosed with vasovagal syncope last November. She went through beta blockers, florinef and midodrine. Then all that was discarded this past summer after she began treatment for anorexia. She has improved eating-wise, but after a second tilt test the doctors felt she may have POTS. She began taking pyridostigmine and klonopin for anxiety at that time. I haven't seen much improvement. She responds more quickly after an episode when taking a beta blocker, which she is no longer prescribed. Without it sometimes she could sleep for 45 min. I am not sure if this could be due to her eating disorder or if she needs a beta blocker. The vasovagal episodes began first, then after that she had to stop all sports and then she

began restricting her food. Thank You for being out there to talk to.

-L. Peden, Pennsylvania

#### Answer:

Eating disorder: Although anorexia and bulimia at their worst are often associated with bradycardia (slow heart rates) we have seen young people in whom there is not critical anorexia and in whom there is a definite POTS response. This is associated with low blood volume, constricted blood vessels and peripheral acrocyanosis (purple fingers and toes). I do not know how food per se relates to this but the findings are substantially improved once weight increases. This needs therefore be the primary focus of therapy.

I hope this helps.

Sincerely,

- Dr. Julian Stewart,  
New York Medical  
College



#### Question:

I am as of yet undiagnosed, but have had the following symptoms for about 6 months: chest pain, inappropriate sinus tachycardia (heat and lying down make this worse), occasional low blood pressure, difficulty with balance when getting up from lying or seated position, tremors in hands, legs, and sometimes head and core (any increase in heart rate or cold cause this to worsen), severe shortness of breath, and occasional lethargy.

I am 32, female, and used to participate in yoga, kickboxing, and ran 3 miles every other day until symptoms got too bad to exercise. I am otherwise extremely healthy, and all tests from my internist, neurologist, and cardiologists come back normal to excellent with the exception of the sinus tachycardia.

I have visited a holistic chiropractor who believes I had endocarditis that turned into a sympathetic/parasympathetic imbalance that is now

in sympathetic overload. None of my other doctors agree with this.

Since then I still do not have a diagnosis but have just been put on a beta-blocker to lessen the symptoms. My doctors have run MRI's, multiple blood tests to rule out thyroid problems and tumors, etc. They are now out of ideas other than "searching for zebras" with exotic tests for unlikely diseases.

Are there any tests to confirm dysautonomia? Or are there some problems we should definitely rule out in order to say for sure if I have dysautonomia or not?

-H. O'Dell, South Dakota

#### Answer:

The diagnosis of autonomic dysfunction, such as POTS, neurocardiogenic syncope and others - a.k.a dysautonomia - is not a diagnosis of exclusion. Rather, it's based on symptoms/signs, physical exam and a tilt table

## Question & Answer with the Doctors cont.

test. There is a set of criteria that makes the diagnosis of POTS or NCS objective. Have you had a tilt table test? If not, then you need to ask your doctor to have one in order to confirm or refute the diagnosis of POTS or NCS. Furthermore, there are additional autonomic studies performed at several academic centers around the country that can further assess the status of the autonomic nervous system, this being valsalva maneuver, deep breathing test, a sweat test and others. In addition, it's important to rule out other conditions that can mimic autonomic disorders, such as anemia, thyroid disease, dehydration and pheochromocytoma, to name a few, and it looks like your doctors have done a number of tests to rule out some of these conditions.

If you do get a tilt table test, keep in mind that passing out during the test or having a drop in blood pressure is not a requirement for a diagnosis of POTS. You can read more about criteria for POTS diagnosis in the following paper: [http://](http://www.ncbi.nlm.nih.gov/pubmed/7746369?ordinal-pos=91&itool=EntrezSystem2.PEntrez.Pubmed.PubMed_ResultsPanel.PubMed_DefaultReportPanel.Pubmed_RVDocSum)

[www.ncbi.nlm.nih.gov/pubmed/7746369?ordinal-pos=91&itool=EntrezSystem2.PEntrez.Pubmed.PubMed\\_ResultsPanel.PubMed\\_DefaultReportPanel.Pubmed\\_RVDocSum](http://www.ncbi.nlm.nih.gov/pubmed/7746369?ordinal-pos=91&itool=EntrezSystem2.PEntrez.Pubmed.PubMed_ResultsPanel.PubMed_DefaultReportPanel.Pubmed_RVDocSum)

- Svetlana Blitshteyn, Kinkel Neurologic Center, LLP, Buffalo, NY



### Question:

My daughter is 21 years old and was just diagnosed with POTS. She has complained since she was in second grade of fatigue and tiredness, migraine headaches, weak feeling, and muscle pain in her legs. She had previously also been diagnosed with Gastric Paresis (stomach emptying digestive paralysis). Could the POTS have caused the stomach issue or vice versa?

-S. Kraft, Michigan

### Answer:

GI complaints are common in those with POTS, and some people have both POTS and gastroparesis. Since

the autonomic nervous system controls not only blood pressure and heart rate, but also the function of the digestive system, both disturbance in blood pressure/heart rate and gastrointestinal problems can occur together. Rather than thinking that POTS has directly caused gastroparesis, it is better to think of it in terms of the autonomic dysfunction as an underlining process for both POTS and gastroparesis.

- Svetlana Blitshteyn, Kinkel Neurologic Center, LLP, Buffalo, NY

### Question:

Has anyone had any correlation with POTS and kidney stones? I have become a major stone former and am wondering if there could be any relationship with the POTS.

-B. Halberstadt, Ohio

### Answer:

We have not noticed the complaint of kidney stones in many of our POTS patients. Our patient population, however, may not represent the "typical doctor's office" patient population. It may be

interesting to survey DINET patients to see if this is a common problem. I would guess that kidney stones would be relatively less common (and not more common). While there can be different underlying causes for stones, the treatment in many cases is "flushing the kidney" with fluids. I suspect that many patients with POTS already drink a lot of water and thus are already "flushing" their kidneys.



-Dr. Satish Raj, Vanderbilt University Medical Center, TN

### Question:

I know I've always had a mild form of POTS and neutrally mediated hypotension throughout my life. At age 31 I tried lexapro and it literally crippled me by making my symptoms unbearable. Is this common? I then tried zoloft...still the same...yet with prozac a few years back...it was just chronic fatigue and nausea. Any thoughts or research done on this? (I have to

## Question & Answer with the Doctors cont.

take it for OCD and PTSD). I would love to find something I can take for this that won't cause me to be bedridden.

### Answer:

Generally speaking the truly selective serotonin receptor inhibitors (SSRIs) like citalopram (Celexa), levo-citalopram (Lexapro) and sertraline (Zoloft) are quite well tolerated in our patients with POTS. In fact, there is even at least one randomized controlled trial showing that paroxetine (Paxil) decreases the recurrence of fainting in NMS.

We have noted that several patients with POTS find that their tachycardia gets worse when using anti-depressant drugs that are "SNRIs" or serotonin-norepinephrine receptor inhibitors. Blockade of the norepinephrine transporter can worsen both tachycardia and orthostatic tachycardia. Drugs in this class include venlafaxine (Effexor) and duloxetine (Cymbalta). We do not recommend these drugs to our patients

with POTS.

- Dr. Satish Raj, Vanderbilt University Medical Center, TN

### Question:

I have been diagnosed with CFS and post-viral POTS. As of the last two years I have been plagued by severe xerostomia--most recently accompanied by salivary stones--despite the fact that I have stopped all the medication that could contribute over a year ago. I drink nothing but water and suck on spry mints habitually. It is my understanding that POTS patients have trouble regulating body fluids... does this commonly effect the salivary glands? I searched for "dry mouth" and "xerostomia" on DINET's website but found no matches. I would greatly appreciate any help you can give me.

-M. Setchell, Ohio

### Answer:

To the best of my knowledge there is no known relationship between xerostomia and POTS. You'll want to contact a rheumatologist for a work up of collagen

vascular disease that can present with POTS or xerostomia or both.

-Dr. Suleman, The Heartbeat Clinic, Texas



### Question:

I was just recently diagnosed with dysautonomia, POTS, and NCS. My doctor has put me on 100mg of metoprolol in am and 50 mg in the eve. Also, I am on Midodrine 5 mg three times daily. I am still feeling very ill. Do these medications take time to have a positive effect, or should I consider trying another medication or doctor?

-K. Branon, Texas

### Answer:

Beta blockers and midodrine are both used in POTS. There is more data with bisoprolol or propanolol. Other options include floninef, salt therapy diet or exercise. I think you should talk with your doctor about it. Sometimes it may be worth getting another opinion.

- Dr. Suleman, The Heartbeat Clinic, Texas

## Research in Review

-Autonomic dysfunction in fibromyalgia syndrome: postural orthostatic tachycardia.

-Psychiatric Profile and Attention Deficits in Postural Tachycardia Syndrome.

-Postural orthostatic tachycardia syndrome is an under-recognized condition in chronic fatigue syndrome.

-Reversible postural tachycardia syndrome due to inadvertent overuse of Red Bull.

-The effect of orthostatic training in the prevention of vasovagal syncope and its influencing factors.

-Hemodynamic parameters and heart rate variability during a tilt test in relation to gene polymorphism of renin-angiotensin and serotonin system.

-Autonomic modulation and cardiac contractility in vasovagal syncope.

-Differences in skin sympathetic involvement between two chronic autonomic disorders: Multiple system atrophy and pure autonomic failure.

## Research in Review cont.

### **Autonomic dysfunction in fibromyalgia syndrome: postural orthostatic tachycardia.**

Curr Rheumatol Rep.  
2008 Dec;10(6):463-6.

Staud R.

Department of Medicine,  
University of Florida College of Medicine, PO Box 100221, D2-39, Gainesville, FL 32610, USA.  
staudr@ufl.edu

Although fibromyalgia (FM) syndrome is defined by chronic widespread pain and tenderness, additional symptoms, including disabling fatigue and dizziness, are often reported by patients with this chronic illness. Although nonrestorative sleep may play an important role for chronic fatigue in FM, other mechanisms, including dysfunction of the autonomic nervous system (ANS), need to be considered. Many important biological functions, such as heart rate, blood pressure, respirations, and bowel function, are tightly regulated by the ANS. However, dysfunction of

the ANS is common in FM and often becomes quite apparent after positional changes from supine to upright.

Although such positional changes sometimes result in syncope, they are more often associated with palpitations and dizziness. Head-up tilt table testing can be used to evaluate autonomic dysfunction and is frequently helpful for the work-up of FM complaints, including fatigue, dizziness, and palpitations. One of the most common events experienced by FM patients during tilt table testing is postural orthostatic tachycardia syndrome, which is defined as a heart rate increase of more than 30 beats per minute after more than 3 minutes of standing upright.

PMID: 19007537



### **Psychiatric Profile and Attention Deficits in Postural Tachycardia Syndrome.**

J Neurol Neurosurg Psychiatry 2008 Oct 31.

Raj V, Haman KL, Raj SR, Byrne D, Blakely RD, Biaggioni I, Robertson D, Shelton RC

Vanderbilt University,  
United States.

**OBJECTIVES:** Patients with postural tachycardia syndrome (POTS) often appear anxious and report inattention. We formally assessed patients with POTS for psychiatric disorders and inattention and compared them to patients with attention deficit hyperactivity disorder (ADHD) and control subjects.

**METHODS:** Patients with POTS (n=21), ADHD (n=18) and normal control subjects (n=20) were assessed for DSM-IV psychiatric disorders and completed a battery of questionnaires that assessed depression, anxiety and ADHD characteristics.

**RESULTS:** Patients with POTS did not have an increased prevalence of major depression or anxiety disorders, including panic disorder, compared to the general population. Patients with POTS had mild depression. They scored as moderately anxious on the Beck Anxiety Inventory, but did not exhibit a high level of anxiety sensitivity. Patients with POTS scored significantly higher on inattention and ADHD subscales than control subjects. These symptoms were not present during childhood.

**CONCLUSIONS:** Patients with POTS do not have an increased lifetime prevalence of psychiatric disorders. Although they may seem anxious, they do not have excess cognitive anxiety. They do experience significant inattention, which may be an important source of disability.

PMID: 18977825

## Research in Review cont.

### Postural orthostatic tachycardia syndrome is an under-recognized condition in chronic fatigue syndrome.

QJM, 2008 Dec;101 (12):961-5. Epub 2008 Sep 19.

Hoad A, Spickett G, Elliott J, Newton J.

Northern CFS/ME Clinical Network, Equinox House, Silver Fox Way, Cobalt Business Park, Newcastle upon Tyne.

**BACKGROUND:** It has been suggested that postural orthostatic tachycardia syndrome (POTS) be considered in the differential diagnosis of those with chronic fatigue syndrome/myalgic encephalomyelitis (CFS/ME). Currently, measurement of haemodynamic response to standing is not recommended in the UK NICE CFS/ME guidelines.

**OBJECTIVES:** To determine prevalence of POTS in patients with CFS/ME.

**DESIGN:** Observational cohort study.

**METHODS:** Fifty-nine patients with CFS/ME (Fukuda criteria) and 52 age- and sex-matched controls underwent formal autonomic assessment in the cardiovascular laboratory with continuous heart rate and beat-to-beat blood pressure measurement (Task Force, CNSystems, Graz Austria). Haemodynamic responses to standing over 2 min were measured. POTS was defined as symptoms of orthostatic intolerance associated with an increase in heart rate from the supine to upright position of >30 beats per minute or to a heart rate of >120 beats per minute on standing.

**RESULTS:** Maximum heart rate on standing was significantly higher in the CFS/ME group compared with controls (106 +/- 20 vs. 98 +/- 13; P = 0.02). Of the CFS/ME group, 27% (16/59) had POTS compared with 9% (5)

in the control population (P = 0.006). This difference was predominantly related to the increased proportion of those in the CFS/ME group whose heart rate increased to >120 beats per minute on standing (P = 0.0002). Increasing fatigue was associated with increase in heart rate (P = 0.04; r(2) = 0.1).

**CONCLUSION:** POTS is a frequent finding in patients with CFS/ME. We suggest that clinical evaluation of patients with CFS/ME should include response to standing. Studies are needed to determine the optimum intervention strategy to manage POTS in those with CFS/ME.

PMID: 18805903

### Reversible postural tachycardia syndrome due to inadvertent overuse of Red Bull.

Clin Auton Research 2008 Aug;18(4):221-3. Epub 2008 Aug 5.

Terlizzi R, Rocchi C, Serra M, Solieri L, Cortelli P.

Dept. of Neurological Sciences, University of Bologna, Via Ugo Foscolo 7, 40123, Bologna, Italy. rossanaterlizzi@libero.it

Postural tachycardia syndrome associated with a vasovagal reaction was recorded in a young volleyball player after an excess intake of Red Bull as a refreshing energy drink. Considering the widespread use of Red Bull among young people who are often unaware of the drink's drug content, this case report suggest Red Bull be considered a possible cause of orthostatic intolerance.

PMID: 18682891



## Research in Review cont.

### **The effect of orthostatic training in the prevention of vasovagal syncope and its influencing factors.**

Int Heart J. 2008  
Nov;49(6):707-12.

Zeng H, Ge K, Zhang W, Wang G, Guo L.

Department of  
Cardiology, Peking  
University Third  
Hospital.

Recently orthostatic training has been proposed as an effective treatment for vasovagal syncope, even though some patients may relapse. This study was undertaken to assess the effect of orthostatic training on patients with vasovagal syncope and its influencing factors. The study group comprised 125 consecutive patients (51 males and 74 females), aged 40 +/- 19 years, with a history of syncope and a positive head-up tilt test. They were randomized into an

orthostatic training group (64 patients) and a no treatment group (controls, 61 patients). The training program consisted of daily 30-minute sessions of upright standing against a vertical wall 6 days a week for at least 4 weeks. After one year of follow-up, 45 (72.6%) of 62 orthostatic trained patients reported no syncopal recurrence, while only 22 of 61 controls (36.1%,  $P < 0.05$ ) reported the same. Furthermore, in the training group, the patients with recurrence were older, and the number of syncopal spells in the preceding year was less than in the patients with no recurrence in the same group. Orthostatic training is an effective therapy for the prevention of vasovagal syncope. This kind of therapy was of greater benefit to patients who were younger or experienced frequent spells of syncope.

PMID: 19075486

### **Hemodynamic parameters and heart rate variability during a tilt test in relation to gene polymorphism of renin-angiotensin and serotonin system.**

Pacing Clin Electro-  
physiol. 2008 Dec;31  
(12):1571-80.

Mitro P, Mudráková K, Micková H, Dudás J, Kirsch P, Valocik G.

Clinic of Internal  
Medicine III, Medical  
Faculty, P.J. Safarik  
University, Kosice,  
Slovakia.  
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**PURPOSE:** The aim of the study was to evaluate the renin-angiotensin system and serotonin transporter gene polymorphisms in relation to hemodynamic parameters and heart rate variability during a head-up tilt test (HUT) in patients with vasovagal syncope.

**METHODS:** DNA was collected from 191 pa-

tients (mean age 44 +/- 18 years, 61 men, 130 women). The following gene polymorphisms were determined in genomic DNA: angiotensin-converting enzyme insertion/deletion polymorphism (I/D ACE), angiotensinogen gene polymorphism (M 235), angiotensin II receptor type 1 (ATR1) polymorphism (A 11666C), and polymorphism of serotonin transporter gene (5HTTLPR). Heart rate variability during HUT was assessed in 5-minute intervals by low frequency, high frequency, standard deviation of the normal-to-normal (SDNN), and root mean square successive difference parameters.

**RESULTS:** AA genotype of A 1166C polymorphism was associated with lower minimal systolic blood pressure (SBP) and diastolic blood pressure (DBP) during HUT compared with other genotypes (minimal SBP: AA 59.6 +/- 21.8, AC 79.9 +/- 22.7, CC 65.4 +/- 22.7 mmHg,

## Research in Review cont.

P=0.007), (minimal DBP: AA 36.4+/-22.7, AC 52.3+/-22.9, CC 45.4+/-19.5 mmHg, P=0.007). AA genotype was also associated with higher SDNN compared to other genotypes in the early phase of HUT (SDNN in 5 minutes of tilt: AA 59.7+/-24.6, AC 50.6+/-20.6, CC 46.0+/-13.2, P=0.01) and at syncope occurrence (SDNN: AA 71.0+/-20.9, AC 58.2+/-17.9, CC 58+/-10, P=0.04)

**CONCLUSION:** AA genotype of A 1166C polymorphism in the ATR1 gene may be associated with hypotension and decline in sympathetic tone during HUT. Its role in genetic predisposition to vasovagal syncope cannot be excluded.

PMID: [19067809](#)



### **Autonomic modulation and cardiac contractility in vasovagal syncope.**

Int J Cardiol. 2008 Dec 1.

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**BACKGROUND:** Previous studies proposed as one of the main mechanisms involved in neurally mediated syncope, the stimulation of ventricular mechanoreceptors as the final trigger for vagal discharge.

**OBJECTIVES:** This study aimed to verify the presence of a sympathetic driven increase of cardiac contractility before vasovagal syncope.

**METHODS:** We studied 23 patients with recurrent syncope. All underwent a 60 degrees tilt with pharmacologic challenge (sublingual

spray nitrate). Two conditions were used to assess autonomic activity by heart rate variability analysis: in a supine position after 5 min of rest and after 15 min of tilt. Simultaneously, cardiac contractility was quantified by tissue-Doppler echocardiography at the base of the free walls of left ventricle. The peak myocardial velocities during systole (Sw) and late diastole (Aw) were considered.

**RESULTS:** Passive tilt induced a significant increase of the low frequency component (LF) as well as a decrease of the high frequency component (HF) in positive patients (LF: from 49+/-18 to 65+/-18 nu, p<0.05; HF: from 41+/-21 to 26+/-16 nu, p<0.05). Tissue-Doppler showed a similar increase in Sw in both positive and negative patients but showed a significant decrease of Aw in syncopal subjects (p<0.005).

**CONCLUSIONS:** Our results do not show an

increase in ventricular contractility before tilt-induced syncope, or in presence of a valuable increase of sympathetic activity. Instead, we observe a reduction of atrial contractility, which may be a contributory component in the pathogenesis of vasovagal syncope.

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### **Differences in skin sympathetic involvements between two chronic autonomic disorders: Multiple system atrophy and pure autonomic failure.**

Parkinsonism Relat Disord. 2008 Sep 18

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**OBJECTIVE:** Certain stimuli evoke increased sweat secretion (sympathetic sweat response; SSwR) and re-

## Research in Review cont.

duced skin blood flow (skin vasomotor reflex; SkVR) in the palm/sole. We evaluated SSWR and SkVR in patients with multiple system atrophy (MSA) and pure autonomic failure (PAF).

**METHODS:** SSWR and SkVR on the palm in response to deep inspiration and mental arithmetic were recorded in 11 MSA patients, 11 PAF patients, and 11 healthy controls. In addition, the head-up tilt test was performed, and the coefficient of variation of R-R intervals (CV(R-R)) was obtained.

**RESULTS:** SSWR amplitudes were significantly lower in the MSA and PAF patients than the controls. SkVR amplitudes in the PAF patients were significantly lower than the controls, but preserved in the MSA patients. In head-up tilt tests, all MSA and PAF patients showed orthostatic hypotension, with similar severity. CV(R-R) was low in the MSA and PAF patients, but a significant difference was

found only between the PAF and control groups.

**CONCLUSION:** In the MSA patients, SkVR was preserved, but SSWR was diminished. In the PAF patients, both SkVR and SSWR were attenuated. The combination of SkVR and SSWR tests may differentiate MSA and PAF.

PMID: 18805037

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## Continually Searching

We are still searching for DINET's next leader. This is a volunteer position you can perform out of your own home. If you would like to make an incredible difference in people's lives, please send your cover letter and resume to Michelle Sawicki at [staff@dinet.org](mailto:staff@dinet.org).

Thank you!

Dysautonomia News is a quarterly publication of the Dysautonomia Information Network. Subscribe to Dysautonomia News at [www.dinet.org/join.php](http://www.dinet.org/join.php)

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