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Managing POTS

A guide to postural orthostatic
tachycardia syndrome



Postural orthostatic tachycardia syndrome (POTS) is a disorder characterized by orthostatic intolerance, which causes difficulty with standing. There are an estimated 1-3 million Americans with POTS. About 85-90% of people with POTS are female, and the majority of them are between 12 and 50 years of age.

POTS and the Autonomic Nervous System (ANS)

POTS is a disorder of the autonomic nervous system. The **autonomic nervous system (ANS)** is like the behind-the-scenes manager of your body that controls things you don't even think about, such as your heartbeat, breathing, and digestion. It can be described as the wiring that connects your brain to important organs, like your heart and stomach.

The ANS helps your body function smoothly. It consists of three parts:

- **Sympathetic Nervous System:** This kicks in during emergencies or stressful situations helping you react quickly.
- **Parasympathetic Nervous System:** This is the opposite of the sympathetic nervous system—it helps you relax and rest.
- **Enteric Nervous System:** This part manages how your body digests food.

One of the main issues of POTS is pooling of blood in the lower extremities. When you stand up, your blood sometimes stays in your legs instead of moving toward your heart like it should. This triggers your body's autonomic response, which is like an alarm system, to increase adrenaline into your body. An increase in adrenaline causes many of the symptoms of POTS which include feeling dizzy and weak, stomach and digestive upsets, fatigue, heart palpitations, brain fog, anxiety, headaches, shortness of breath or a tight chest. About half of POTS patients have a loss of autonomic nerve fibers which control the ability to sweat and regulate body temperature. POTS can also occur with other forms of neuropathy.



Diagnosing POTS

The causes of POTS are not yet well known. Triggers for POTS include standing up, heat, and warm showers. There are many therapies that include pharmaceuticals and other methods to manage symptoms but there is currently no cure or FDA approved drugs to treat POTS.

A POTS diagnosis is based on:

- **An increase in heart rate** by at least 30 beats/minute (40 beats/minute for patients under the age of 20) within 10 minutes of standing up.
- **An absence of blood pressure drop** (more than 20mmHg) with standing (orthostatic hypotension)
- **Frequent symptoms during standing** that improve when returned to a sitting or lying down position. Symptoms include feeling dizzy and weak, stomach and digestive upsets, fatigue, heart palpitations, brain fog, anxiety, headaches, shortness of breath or a tight chest.
- **At least three months of symptoms**
- **Absence of other conditions explaining the symptoms of heart palpitations**, including pain, fever, infection, hyperthyroidism, general anxiety disorder, anorexia nervosa, pheochromocytoma, anemia, use of cardioactive drugs (such as some medications for ADHD, nasal decongestants)
- **An autonomic test called a tilt table test** can be performed to check the way your heart behaves when you stand up but it's not required for diagnosis.

Treatment Strategies

Water and salt intake

Drink more water and increase your salt intake. Aim to drink about 96 ounces of water (that's about six big water bottles) and eat around two teaspoons of salt each day. You can find salt in table salt, sports drinks like Gatorade, sports tablets, and some soups.

To ensure you're getting enough salt, put two teaspoons of table salt in a Ziplock bag and sprinkle it on your food throughout the day. You can also increase your salt intake by adding some salt to water and drinking it as a saltwater shot.

Salt tablets are usually not needed but if you do take them, choose the more expensive gel-coated tablets such as Vitassium. Salt tablets can cause nausea and the gel-coated variety is better tolerated.

Body positioning

To help with some of the symptoms, cross your legs, squeeze your hands together, and shift your weight. It's like waking up your body's "muscle pump."

Sleep and eating habits

Aim to improve your sleep. Try to establish a regular bedtime and wake-up time. Avoid spending time in bed during the day. Relax before you go to sleep and create a comfortable bedroom environment. getting enough sleep can help with the symptoms and may improve your overall quality of life. Large meals can cause the blood to pool in your gut and worsen your symptoms. Try to eat small meals frequently.

Exercise

Regular exercise helps train the brain to maintain a lower heart rate when having higher levels of adrenaline.

Good exercises for patients with POTS include a recumbent bike, using a rowing machine, and swimming laps. Resistance training for your thighs is helpful and how you position yourself during these exercises can help the blood flow back to the heart.

Try to avoid exercises that involve being upright as this will make your symptoms worse.

It takes up to six weeks for exercise to start improving your symptoms. Gradually increase your exercise time until you can tolerate 30 minutes of exercise a day at least four times a week.

Compression socks

While knee high compression socks are helpful there is still a lot of blood that can pool in your thighs and abdomen. Waist high compression (leggings) are recommended, with a compression pressure of 20-40.

Saline infusions

Saline boluses are given through an IV for patients who are low on fluids and can't tolerate fluids by mouth. Usually, one to two liters of normal saline is given at a time and will help with symptoms of dizziness when you stand up, for up to two days. It's only a short-term solution that will help with symptoms and enable you to try other treatments including lifestyle changes and exercise. Long term IV saline can cause clots or infections, so it's considered a last line of treatment.

Medical management


Medicine options include:

- **Propanolol:** It's like an adrenaline blocker that keeps the heart calm.
- **Midodrine:** Squeezes the veins to stop blood from pooling.
- **Fludrocortisone:** Boosts salt levels to increase blood volume.
- **Pyridostigmine:** Increases parasympathetic tone to keep your heart calm – helps with muscle fatigue.


Other medications that can be used include clonidine, guanfacine, ivabradine, and droxidopa.

Every patient is unique and responds differently. The medication and dose differs from each person and may need to be adjusted or changed until relief from the symptoms is achieved.

Scan the QR codes below to learn more.



StandingUpToPOTS.org



DysautonomiaInternational.org