Patient Guide to
Postural Orthostatic Tachycardia Syndrome (POTS)
**What is Postural Orthostatic Tachycardia Syndrome (POTS)**

One of the jobs of the autonomic nervous system is to adjust how your blood flows through your body. With POTS, this part of the nervous system does not work correctly, which may cause symptoms due to problems with the control of blood flow. In POTS, the veins become too relaxed, causing the blood to pool in the lower extremities. The heart will try to keep the blood returning to your heart instead of pooling in the veins, which may make a POTS patient's heart beat faster than normal. While blood pressure is typically normal, some POTS patients may experience blood pressure changes.

POTS is most common in teenagers and young adults. It is seen more often in females than males and may affect as many as 1 in every 100 teens in the United States. There are also some people who may be more at risk for POTS, such as people with Ehlers-Danlos syndrome, a condition that affects connective tissue.

There is not one known cause of POTS. Sometimes POTS symptoms start after a viral illness, a trauma or a surgery. POTS can be slow to develop or come on quickly.

**POTS Symptoms**

Symptoms may vary from person to person and can change on a daily basis. Some of the more common symptoms include:

- A rise in the heart rate of 40 beats per minute or more when changing from laying to standing
- A rise in the heart rate to 120 beats per minute or more when upright
- Dizziness or lightheadedness when standing (which improves after laying down)
- Palpitations (feeling like the heart is skipping beats or racing)
- Chest discomfort
- Fainting/near-fainting
- Becoming easily tired with exercise
- Hard time concentrating (“brain fog”)
- Stomach problems (pain, constipation, vomiting)
- Sensitive to temperature changes

**To Diagnose POTS**

Most cases of POTS can be diagnosed with a basic physical exam and a few tests. These tests may include an ECG (electrocardiogram), a 24 hour ECG (Holter) monitor, and blood pressure monitoring.

In some cases, further testing can be done to look for the cause of POTS. These tests may include further blood or urine tests, an echocardiogram (ultrasound of the heart) or further neurologic testing.

**POTS Treatment**

There is no single POTS treatment that works for all patients. In general, the most important parts of treatment include:

- Drinking more water in a day
- Adding salt to foods and eating salty snacks each day, which helps your body hold onto the extra water
- If dizzy/lightheaded in the morning, drink 8 ounces of water and have a salty snack even before getting out of bed
- Physical activity every day

Many patients try a few of these treatments to see what helps their symptoms:

- Wear compression stockings (thigh high)
- Get enough sleep every day
- Avoid laying down during the day
- Talk with a counselor about how these symptoms affect you and your life
- Eat small, frequent meals instead of large meals

Sometimes medicine can be used to help.

**Physical Activity/Exercise**

Exercise may be one of the most helpful parts of treatment in patients with POTS. In some cases, exercise has been shown to help people with POTS even more than medicines. Exercise helps the heart become stronger and increases blood flow to the heart, brain, and kidneys. Exercise also helps control your heart rate and blood pressure, and improves blood vessel tone which helps keep your blood from pooling in your legs and feet. Because symptoms may be worse with activity, some patients with POTS may have difficulty with exercise.

When your health care provider recommends that you exercise, here are some tips:

- Be physically active every day, even if only for 5 minutes twice a day (slowly increase the time you are active)
- Drink plenty of water before and during exercise
- Avoid caffeine
- Don’t skip meals
- Do exercises that allow you to keep your head lower to improve blood flow to the brain, and decrease dizziness. This can include swimming, recumbent biking, rowing and core exercises
- Include resistance exercises: squats, hip raises, calf raises and leg presses
- Some patients will be sent to physical therapy to help develop an exercise routine

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Goals for POTS Treatment

Many patients with POTS have improvement of symptoms with the above treatments. It is important to have realistic goals and realize that the symptoms may not fully resolve. Typical goals are:

- Improvement of symptoms to a manageable level
- Regular school attendance
- Ability to do activities with families and friends

By maintaining a healthy lifestyle, staying active, and staying well hydrated, most patients will see improvements with their symptoms, although this can sometimes take months. Many patients can manage more effectively as they better understand their condition and the triggers of their symptoms.

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