



## Non-pharmacologic Management of Dysautonomia

Autonomic dysfunction, otherwise known as dysautonomia, includes common syndromes like POTS (postural orthostatic tachycardia syndrome), orthostatic intolerance, orthostatic hypotension, and vasovagal syncope.

The following guidelines are written for teens with dysautonomia; younger patients should adjust fluid and salt intake accordingly.

### 1. Increase fluid intake.

- Aim for 80 ounces of fluid per day, or more if you are participating in sports or spending time in the heat.
- Drink water and electrolyte drinks
- Avoid caffeine, and especially avoid energy drinks.

### 2. Increase salt intake.

*What is the difference between sodium and salt?*

**“Salt”** is the compound sodium chloride. It is what comes out of the salt shaker (table salt).

**“Sodium”** is a mineral. It makes up almost 40% of the weight of table salt. So, 1 gram of salt gives you almost 0.4 grams of sodium. Sodium occurs naturally in some foods, and is added to processed foods as a preservative. We lose sodium through sweat and in urine.

The recommended **salt** intake for POTS is **10 grams per day**, which means about **4 grams of sodium** per day. Some patients may need less, and some may need more. Sodium content is usually listed on food labels. There are several ways to increase salt intake:

- a. **Fluids.** Examples of sodium content of common drinks (some of these depend on the brand):

Drink	Amount	Sodium (g)
Knorr chicken bouillon cube	1 cube	1.27
Pickle juice	1 cup (8 oz)	1.00
V8 juice (Original)	1 cup	0.64
Pedialyte	1 cup	0.25
Coconut water	1 cup	0.25
V8 juice (Low Sodium)	1 cup	0.14
Gatorade	1 cup	0.11
Milk	1 cup	0.11
Powerade	1 cup	0.10
Orange juice	1 cup	0.01
Vitamin water	1 cup	0

- b. **Food.** Examples of sodium content of foods:

Food	Amount	Sodium (g)
Salami	2.5 oz	1.42
Bacon	2.5 oz (~3 slices)	1.26
Soy sauce	1 Tbsp	1.24
Black olives	½ cup	0.74
Table salt	¼ tsp	0.59
Bagel	1	0.58
Sauerkraut (canned)	½ cup	0.50
Primo Taglio turkey	3 slices	0.48
Salted pumpkin seeds	¼ cup	0.41
Cottage cheese	½ cup	0.37
Salted pretzel	1 oz	0.36
Cheddar cheese	2 slices	0.32
Dill pickle	1 small	0.30
Swiss chard	1 cup	0.30
Whole wheat bread	1 slice	0.21
Ketchup	1 Tbsp	0.14
Sauteed spinach	1 cup	0.13
Eggs	2 large	0.13
Planters salted peanuts	1 oz	0.10

- a. **Salt supplements.** Start with 1 added gram of sodium per day, and work up to 4 g sodium (10 g salt) if needed.

Brand	How many	Sodium (g)	# tabs/caps per day to make 4 g sodium (or 10 g salt)
Vitassium (saltstick.com) or Klaralyte	1 capsule	0.25	16
Thermotabs	1 tablet	0.18	22
S! Caps	1 capsule	0.34	12
Nuun Sport (caffeine-containing flavors NOT RECOMMENDED)	1 tablet	0.30	13

### 3. Exercise

- This is the **single most effective therapy for POTS**, but only if you stick with it! POTS has some similarities to being in space, where the body is not under the effect of gravity and the mass of the heart decreases. Exercise helps with reconditioning your body, increases the muscle mass of your heart, and helps reset your heart rate. In order to be effective, a POTS exercise program needs to be continued consistently for several months.
- If you get dizzy with exercise, start with activities that do not require you to be upright – e.g. swimming, recumbent biking, rowing machine
- The Modified Dallas exercise protocol for POTS:  
[https://www.dysautonomiainternational.org/pdf/CHOP\\_Modified\\_Dallas\\_POTS\\_Exercise\\_Program.pdf](https://www.dysautonomiainternational.org/pdf/CHOP_Modified_Dallas_POTS_Exercise_Program.pdf)

#### **4. Accessories**

- Compression stockings, tights, leg sleeves, and socks decrease the pooling of blood in your lower body.
  - Best ones are waist high with 20-30 mmHg compression, but others (e.g. soccer socks that don't offer as much compression) can be somewhat helpful as well
  - Available at sporting goods stores or online
- Cooling vest (e.g. polarproducts.com) helps with overheating
- See <https://www.awarenessforpotsies.org/helpful-items>

#### **5. Get your sleep!**

- Avoid screen time and stimulants in the evening
- Modify your daily schedule to ensure plenty of sleep!
- Aim for a consistent daily sleep schedule
- Talk to your health care provider if you are having trouble sleeping
- Consider raising the head of your bed using a cinder block or other bed riser. This will cause less formation of urine overnight, so you will have greater blood volume in the morning.
- Keep a large drink next to your bed, and drink it before standing up in the morning.
- Get up slowly; sit for a minute (and drink some fluids), and then stand.

#### **6. Avoid stress**

- Stress, anxiety, and depression can all make POTS worse, and vice versa. If you think this may be the case for you, talk to your provider about seeing a therapist who can help you break the cycle.

#### **7. Physical therapy** (not well studied, but has been helpful for some patients)

- A physical therapist who is experienced with POTS can help you with the Modified Dallas protocol (see "Exercise" section on preceding page)
- Water therapy has also helped our patients

#### **8. School**

- Dysautonomia can affect school performance for some patients. Talk to your provider if you feel this applies to you
- Some patients with dysautonomia need school accommodations until their symptoms are under better control

#### **9. Other**

- Avoid hot weather and other warm environments
- Avoid hot tubs, and turn down the water temperature of your shower
- Avoid prolonged standing; if you do need to stand for a long time, try crossing your legs or tensing your leg muscles to improve blood flow to the upper part of the body
- When you start to feel dizzy, sit with your head down, or lie down right away, in order to prevent fainting and possible injury