

# Nutrition & PoTS

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# What is good nutrition

## The balance of good health

### 8 recommended top tips (British Nutrition Foundation)

- ▶ Base meals on starchy carbohydrates
- ▶ Eat at least 5 portions of fruit & veg per day
- ▶ Aim for two portions of fish
  - 1 portion should be oily
- ▶ Cut down on saturated fat & sugar
- ▶ Eat less salt (less than 6g per day)
- ▶ Keep hydrated 6-8 glasses of fluid per day
- ▶ Don't skip breakfast

## The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



# What are the issues of people with PoTS?

- ▶ Good Hydration
- ▶ High salt intake
- ▶ Gastro-intestinal disturbances
- ▶ Dysphagia
- ▶ Gluten intolerance
- ▶ Low histamine diet
- ▶ The top tips for PoTS

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## You are what you eat - a guide to healthy eating for patients with vasovagal syncope and PoTS

This information sheet has been designed for patients and carers to provide information and advice on their diet when suffering from syncope or PoTS.

Blood pressure and pulse rate can be influenced by what we consume. These changes can be quite dramatic in a patient with vasovagal syncope or postural tachycardia syndrome (PoTS). This can work to the advantage or disadvantage of the patient.

### Fluids

It has long been recognised that people who are dehydrated are prone to fainting. When fluid intake is insufficient, or fluid loss is excessive, the volume of blood circulating in blood vessels becomes reduced and blood pressure falls. An average healthy adult requires at least 2.5 litres of fluid per day. When exercising or in a hot environment, considerably more may be needed.

Patients with PoTS are often hypovolaemic. This means that their blood volume is reduced in relation to the capacity of their blood vessels. Blood has a tendency to pool (collect) in hands, feet and abdominal (splanchnic) blood vessels. Increased fluid intake can boost blood volume and improve symptoms. Patients with vasovagal syncope often also pool blood. In patients with these conditions, fluid intake of over a litre per day is generally recommended and more on a hot day. If exercising, it is probably best to boost your fluid intake even before you start.

**Monitoring:** You may find it helpful to drink from a refillable sports bottle. This allows you to keep track of how much you have consumed as it is very easy to underestimate this when you are busy. Younger patients are often advised to drink sufficient fluids so that their urine is clear, i.e. not yellow in colour.

**Alcohol:** It is important to avoid excess alcohol consumption as alcohol dilates (opens up) blood

vessels and can lower blood pressure and provoke syncope. Patients with PoTS are often alcohol intolerant. One glass can feel like two!

**Sports drinks:** Some patients find it useful to drink pre-packaged sports rehydration drinks containing electrolytes and glucose when they are at risk of developing symptoms. Alternatively, powders and tablets may be purchased from sports shops and websites. These are dissolved in water.

**Rapid water drinking:** Interestingly, in patients whose autonomic nervous system does not work properly, blood pressure can increase when drinking water, before the water leaves the stomach to enter the blood stream! This is called the 'pressor effect' and is thought to be triggered by stomach nerves sensing that the stomach has been stretched and triggering the sympathetic nervous system to raise blood pressure. If two glasses of water are swallowed rapidly, the effect will start within five minutes and may relieve symptoms of vasovagal syncope. In PoTS, the heart rate has been shown to drop.

**Caffeine:** Caffeine ingestion has been shown to produce a small rise in blood pressure. This may be of some use in patients with low blood pressure and syncope. However, it can also result in tachycardia (fast heart rate) and palpitations. It may encourage fluid loss. Patients appear to have mixed experiences with caffeine. Some find it helpful and some feel worse. Caffeine is found in coffee, tea, cola, Red Bull, Im-Bru and even chocolate. Experiment!

### Food

**Salt:** Patients with a tendency to low blood pressure and syncope are often advised to increase their salt intake. Patients with PoTS (except hyperadrenergic PoTS) may also benefit. Always ask your healthcare professional (e.g. your doctor) if this is advisable. No-one really knows how much salt is useful, but 6g per day may be recommended for an adult. There are 6g of salt in a level teaspoon.



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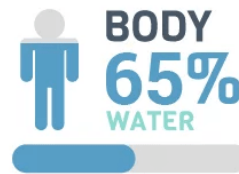
# Good Hydration

## Aim 3 litres of fluid daily (urine runs clear)

- ▶ Studies show water drinking improves ability to stand, less fainting & improves “brain fog”
- ▶ 70% of people with PoTS have reduced blood volume – 13% reduction
- ▶ PoTS intolerance to standing due to blood pooling
- ▶ Receptors in the legs gives feedback to the heart to increase heart rate & drop blood pressure
- ▶ Studies in ½ L. fluid & soup over 5 mins = improved symptoms, standing, blood pressure maintained & reduced heart rate (from 123 to 108).
- ▶ Drink more in the morning – “front load”
- ▶ Isotonic drinks have the same osmotic pressure as body fluids: provide energy

## BODY WATER

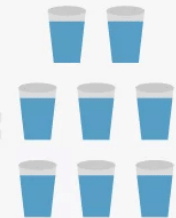
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HOW MUCH  
DO YOU  
REALLY  
NEED?



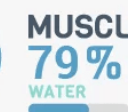
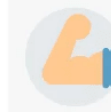
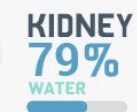
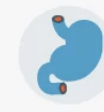
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**BODY**  
**WEIGHT**  
(lbs) / 2

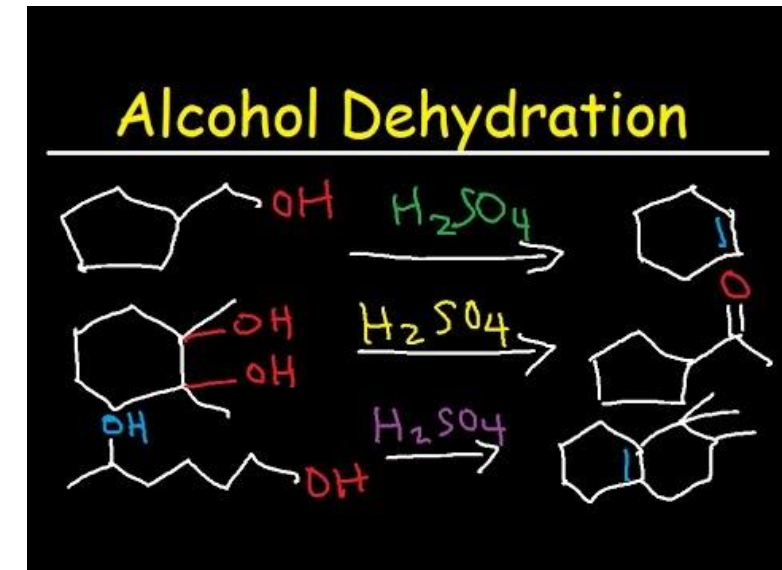
**1** = 8  
OUNCES

**WATER**  
**NEEDED**  
PER DAY



# Alcohol, Caffeine & Energy drinks

- ▶ Avoid Alcohol
  - ▶ Causes fainting in healthy people
  - ▶ Evidence: blunts normal muscle & blood vessel response to standing, & drops blood pressure
  - ▶ Strong diuretic – makes you wee
- ▶ Caffeine
  - ▶ No clear evidence: avoid & see if symptoms improve, limit intake
  - ▶ Avoid in hyperadrenergic PoTS: level of natural stimulants are high
- ▶ Energy & soda Drinks
  - ▶ AVOID completely
  - ▶ Energy drinks have caffeine & Gurana (stimulant contains twice caffeine found in coffee beans)
  - ▶ Case study Red Bull caused PoTS

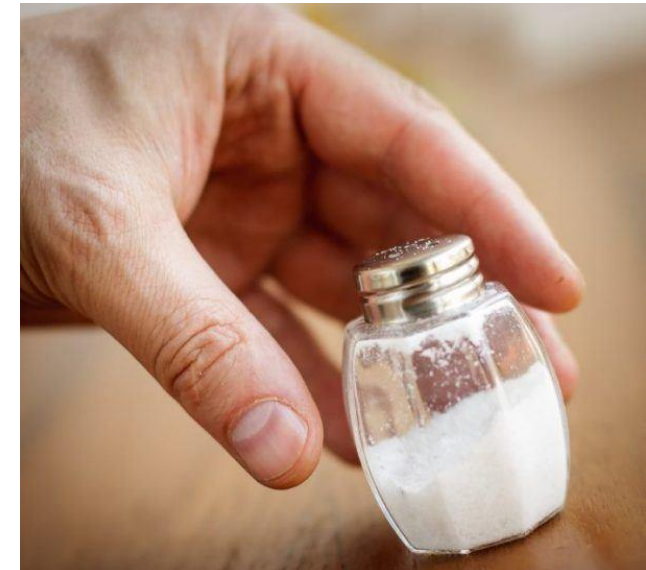


# Increase Salt

## Aim: 5-10 grams / day

Check with your Doctor

- ▶ High blood pressure, heart or kidney disease need to avoid salt
- ▶ Migraines estimated in 27% of people with PoTS – high salt diet associated with reduced migraines
- ▶ Salt helps the body retain fluids and the blood vessels to tighten
- ▶ Studies have shown high salt intake in PoTS, expands blood plasma volume, adrenaline was lower, improved symptoms & reduced standing heart rate (9-13 beats per minute)
- ▶ Hyperadrenergic PoTS possibly do not benefit from salt increase
- ▶ Tip: have your own salt shaker at meal times
- ▶ Foods high in Salt
  - ▶ Canned Soups
  - ▶ Stock cubes
  - ▶ Salted nuts
  - ▶ Smoked / cured / canned beans with salt





# Little & Often

## Small meals, Low Carbohydrates

Worsening of orthostatic symptoms after food

- ▶ Post prandial (after eating) syncope
- ▶ After eating Increased blood flow to the digestive system
- ▶ In PoTS there is already problem with blood pooling
- ▶ Eating diverts more blood for digestion
- ▶ Studies shows carbohydrates lowers blood pressure in orthostatic intolerance
- ▶ Autonomic dysfunction affects GI – in PoTS delayed gastric emptying
- ▶ 1 study in PoTS found increase in heart rate & drop in blood pressure following a liquid meal
- ▶ 1 study drinking ½ L water before a meal reduced post prandial syncope
- ▶ Gastrointestinal issues & difficulty swallowing consider soft diet, sitting up

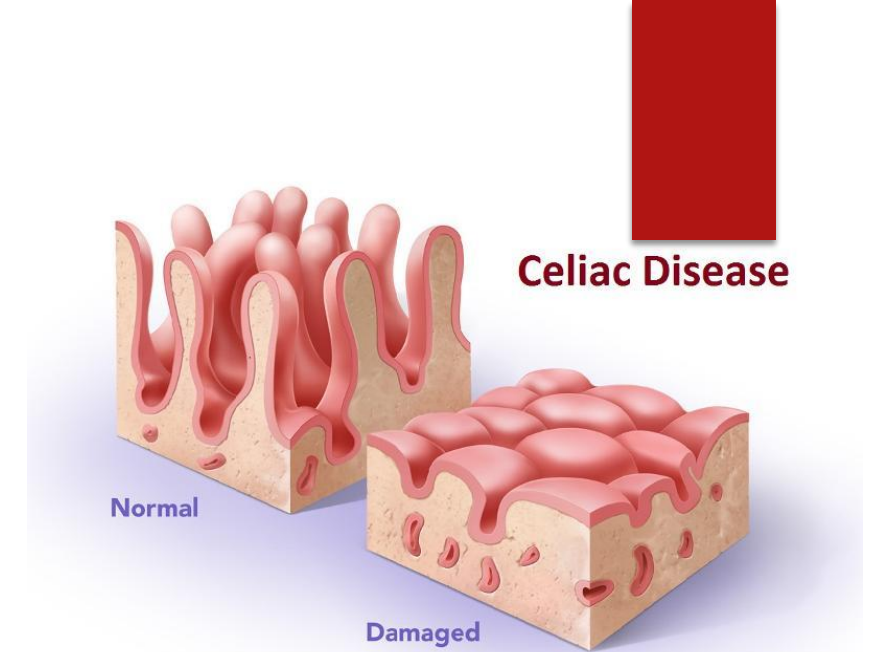


Keep carbohydrates low



# Gluten free diet for Gluten Intolerance/ Coeliac disease

- ▶ Coeliac disease is an immune mediated small bowel disease affecting about 1%
- ▶ Coeliac symptoms include abdominal pain, bloating & diarrhea
- ▶ 100 PoTS screened for coeliac disease – 4% had coeliac disease
- ▶ 15-40 % people with PoTS report: nausea, bloating, abdominal pain, constipation & diarrhea
- ▶ Blood test diagnoses Coeliac disease
- ▶ Gluten Free diet excludes foods containing gluten (wheat, barley, rye, oat and related grains)
- ▶ Gluten free alternatives





# Low-histamine diet Mast Cell Activation Disorder

Flavanoids have an important role

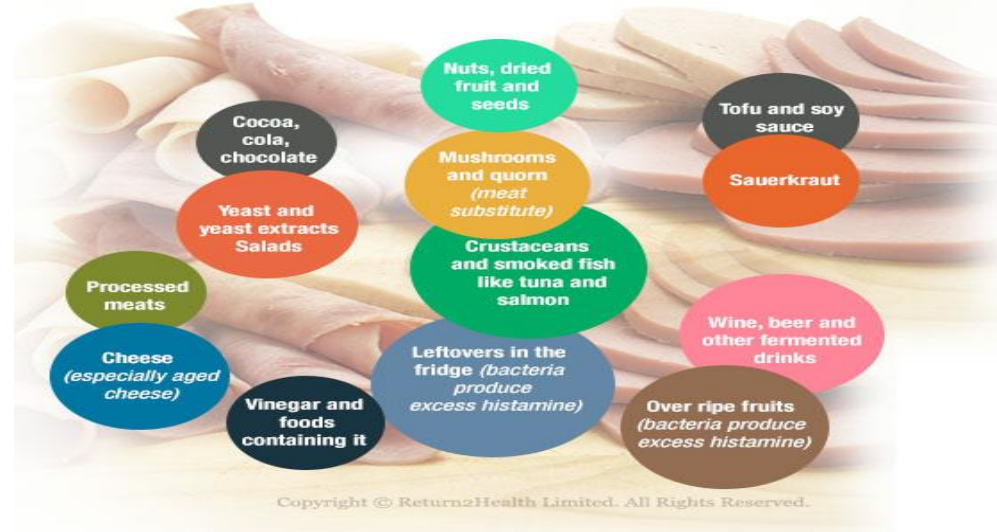
- ▶ Found in fruit & veg: contain anti-inflammatory & immune benefits
- ▶ Found to reduce Brain fog in a number of conditions

## GENERAL RULES

- ▶ fermented foods
- ▶ cured foods
- ▶ dyes
- ▶ preservatives / additives
- ▶ Sulphites (preservative)
- ▶ refrigerated leftovers
- ▶ alcohol

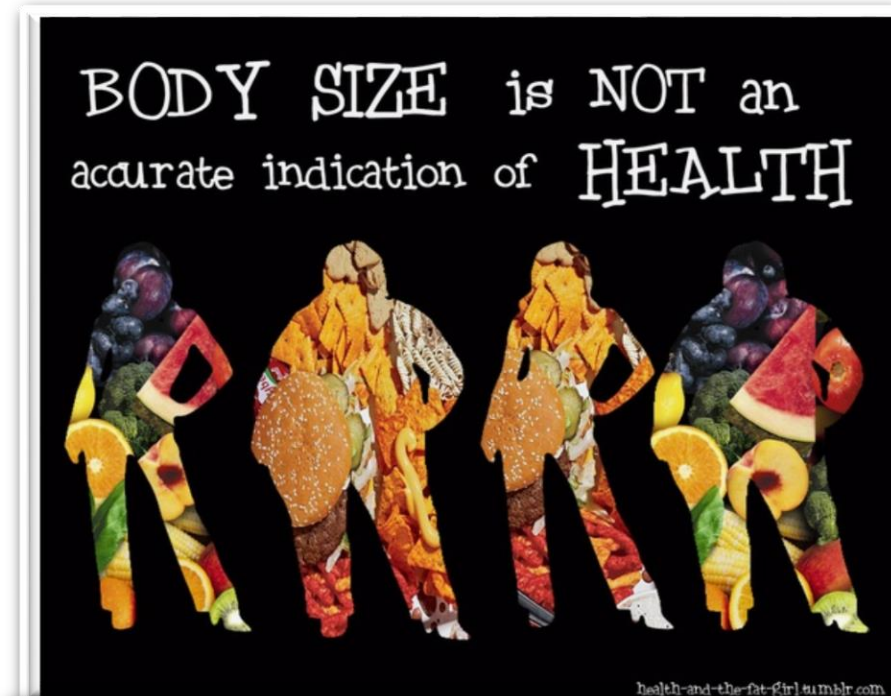


## Histamine Rich Foods:



# Eating healthy & healthy weight

- ▶ Health at any size
- ▶ Body mass index traditionally used: does not account for muscle mass or healthy eating
- ▶ Underweight unhealthy as is overweight
  - ▶ Depression
  - ▶ Anaemia
  - ▶ Tiredness
  - ▶ Low immunity
- ▶ Need energy for exercise, mood stabilizer
- ▶ Focus on eating healthy rather than weight





# Preparing Meals & Cooking Tips

- ▶ Sit down whilst preparing food
- ▶ On a good day cook larger batches and freeze
- ▶ Use energy saving device (slow cookers / electric chopper)
- ▶ Plan & Pace yourself
- ▶ Stick to a routine
- ▶ Get someone else to do the washing up



# Deliciously Ella

## WITH VANILLA'S FRIENDS

By Alexis McLaren

Too often, when we want to be healthy, it can leave us feeling deprived and feeling like we can't socialise. But Ella Mills wanted to prove just the opposite could happen.

Back in 2011, Ella was diagnosed with a condition called Postural Tachycardia Syndrome, which affected her autonomic nervous system and left her mostly bedbound, struggling with a whole host of physical symptoms she couldn't control – her heart rate, blood pressure, digestion, circulation, immune system and lots more. Ella also really struggled with depression and felt isolated from those around her.

With the hope to help manage some of her symptoms, Ella became interested in the power of diet and lifestyle, and began exploring that area and learning to cook – and at the same time began documenting her journey on a blog: [deliciouslyella.com](http://deliciouslyella.com)

Within two years Ella had managed to stabilise her condition using a whole foods, plant-based diet, alongside an exercise program from her doctor and help from a nutritionist.

For Ella it has been a crazy few years – challenging but incredible. We all know we should eat our five a day, and Ella has now given people a way of doing this in a way that they love and that they're excited to share with their friends and family.



Photo: Sophia Spring

## Tops Tips

Pay attention to the simple things  
– everything counts

- ▶ 2-3 Litres of fluid - front loaded
- ▶ Up to 10 grams salt (medical advised)
- ▶ Eat small portions often
- ▶ Low carbohydrate foods
- ▶ High in fruit / veg / nuts /seeds
- ▶ Try different foods – see if they work
- ▶ Everyone is different – find your triggers

