

## Understanding Orthostatic Hypotension

**What is it?** Low blood pressure leading to lightheadedness or dizziness when standing or upright

- Blood pressure may be normal or even high when you are sitting.
  - In the doctor's office, blood pressure is typically measured when you are sitting. If you have Orthostatic Hypotension, it is important to measure standing blood pressure, otherwise, a high blood pressure reading while you are sitting down may incorrectly lead to treatment for high blood pressure
- Blood pressure when lying down can sometimes be *extremely* high. "Supine hypertension" can cause heart disease or strokes. It also actually worsens the drop in blood pressure when you stand up\*. It is important to sleep with your shoulders elevated above your hips (e.g. on a wedge pillow) to prevent this.

**Why does it happen?** The nerves that control blood pressure are affected. When you stand up, gravity makes blood stay in the leg veins instead of returning to the heart. Normally, the veins in the legs constrict when we stand up to prevent this from happening. When the nerves that make the veins constrict degenerate, less blood gets back to the heart, and blood pressure drops. Sometimes heart rate can increase to compensate, although certain drugs may interfere with this response. Making sure you are well-hydrated can help blood pressure from dropping too low.

### **What can I do about it?**

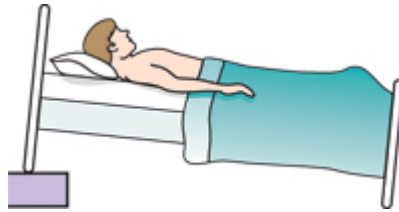
1. Reduce or eliminate medications and other substances that contribute to low blood pressure
  - Diuretics (water pills) (typically prescribed for high blood pressure or swelling in the legs)
    - People with heart disease may need to stay on certain medications in this category; the cardiologist, neurologist, and primary care doctor should work together to optimize the right medications
  - Certain medications for overactive bladder, erectile dysfunction, or enlarged prostate
  - Alcohol
  - Caffeine (acts as a diuretic)
2. **STAY HYDRATED**
  - Two liters (8 cups) per day is the typical recommended daily water intake.
3. Eat **small, frequent meals**. Large, carb-heavy meals can cause more symptoms because it increases blood pooling in the digestive tract.

#### 4. **Add salt** to your diet

- Water stays in the bloodstream as saline; more salt helps you hold on to more water.
- Your goal is about **3,000–5,000 milligrams of sodium per day**.  
That's about **1½–2 teaspoons of salt total**, including what's already in food.  
Check labels and add up the sodium numbers. Most people need to deliberately add salty foods or salt water to hit that range. You can have a ½ teaspoon of salt in a glass of water twice daily.

#### 5. **Elevate** your head/shoulders above your hips when sleeping

- Wedge pillow; blocks under the legs at the head of the bed; recliner or hospital bed



#### 6. Be **aware** of circumstances that a drop in blood pressure is most likely to happen:

- First thing in the morning
- After meals (blood is diverted to the stomach)
- Hot weather (sweating decreases blood volume; blood vessels are dilated to radiate heat)
- Standing after sitting for prolonged periods
- After going to the bathroom

#### 7. Other **preventive** interventions:

- Drink an 8 ounce glass of water before getting up to temporarily boost blood volume
- Squeeze the buttocks and leg muscles to pump blood back toward the heart.
- Be prepared to sit down immediately if you feel dizzy; “wait before you walk”
- Wear compression stockings or an abdominal binder (medical supply store)
  - These help prevent blood from pooling in the legs or belly.
  - Abdominal binder may be easier and more comfortable to use.
- Get enough sleep

#### 8. **Medications** that boost blood pressure

- These are generally reserved for patients who still have symptoms despite the above
  - Fludricortisone (Florinef), Droxidopa (Northera), Midodrine (ProAmatine), Pyridostigmine (Mestinon)
  - Beta blockers or Ivabradine can help those with POTS

\* One consequence of supine hypertension (very high blood pressure when lying flat) is “nocturnal diuresis” (making lots of urine at night). At night, the body tries to correct

the very high blood pressure that occurs when you are lying down. One way the body lowers blood pressure is to have the kidneys make more urine. This lowers the total blood volume, and while it helps the blood pressure while you are lying flat more normal (not as high), it means your blood pressure when you stand up will drop lower, too. Sleeping with head and shoulders elevated is important to minimize supine hypertension.

- \*\* Bladder symptoms are common in people with Orthostatic Hypotension, and there is a tendency to avoid drinking fluids to minimize the bladder symptoms. However, certain medications that relax the bladder also can lower blood pressure, making it an even greater challenge.
  - “Timed voids”, going to the bathroom on a regular schedule every few hours rather than waiting for Mother Nature to call, can help avoid accidents
  - Myrbetriq (mirabegron) and Gemtesa are bladder-relaxing medication that increase rather than lower blood pressure, and may be an option if overactive bladder symptoms require medication.
  
- \*\*\* Finasteride, a hormonal medication that shrinks the prostate, may be a useful alternative although it can take weeks to months for the prostate to shrink sufficiently to improve symptoms. There can be other issues causing urinary symptoms in PD (e.g. overactive bladder; nocturnal diuresis due to supine hypertension), and it is important to make sure treatment is directed at the specific cause.