

Dysautonomia and Multiple System Atrophy (MSA)

What is Dysautonomia?

The autonomic nervous system controls the “automatic” functions of the body. It helps regulate blood pressure, heart rate, bladder and bowel function, and many other bodily functions. When this system is disrupted, this is called dysautonomia. Dysautonomia occurs in people diagnosed with Multiple System Atrophy.

Common Signs and Symptoms of Dysautonomia

Symptoms can vary from person to person but can include:

- Dizziness or feeling faint upon standing (neurogenic orthostatic hypotension)
- Constipation, bloating, and nausea
- Urge to urinate more frequently
- Difficulty emptying your bladder
- Sexual dysfunction (erectile dysfunction)
- Leg swelling
- Abnormal sweating

Neurogenic Orthostatic Hypotension

When you stand up, your autonomic nervous system works to ensure that blood can get back up to your brain by increasing your blood pressure. This is achieved by narrowing blood vessels throughout your body. With orthostatic hypotension, however, these blood vessels do not receive the appropriate signal to constrict. As a result, blood pressure does not adjust accordingly with sudden position changes and this leads to dizziness.

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Neurogenic Bladder

To function normally, your bladder communicates with your spinal cord and brain. Abnormal communication between the nerves controlling bladder function and the brain and spinal cord lead to bladder symptoms like sudden urge to urinate, urinating more frequently, difficulty emptying your bladder, and incontinence. This is called neurogenic bladder. If not treated appropriately, neurogenic bladder can lead to infections and kidney damage.

Constipation and Gastroparesis

Dysautonomia can also cause the muscles in your gut to slow down, leading to trouble passing stool and a decrease in number of stools (constipation) as well as slower emptying of your stomach (gastroparesis). Constipation and gastroparesis can cause bloating, nausea, poor appetite, medication absorption issues, and life-threatening bowel obstructions.

Testing for Dysautonomia

Your medical provider can evaluate you for dysautonomia through a combination of history gathering, performing a physical exam, and checking your blood pressure and heart rate while you are laying, sitting, and standing. There are other tests that can be performed, if needed.

Managing Dysautonomia

Dizziness due to neurogenic orthostatic hypotension

- **Non-pharmacologic options:**
 - Taking your time when changing positions
 - Avoid sitting or standing for extended periods of time
 - Staying well hydrated and increasing salt intake
 - Elevating the head of the bed
 - Using compression stockings or abdominal binders
- **Medications:** Talk with your doctor about options like midodrine (amatine), fludrocortisone (florinef), droxidopa (northera), and pyridostigmine (mestinon)

Neurogenic Bladder

- **Non-pharmacologic options:**
 - Frequent, scheduled bathroom breaks to prevent the bladder from getting overfilled
 - Cranberry juice or similar supplements that help prevent urinary tract infections
- **Medications:**
 - Talk with your doctor about options like mirabegron (Myrbetriq), vibegron (Gemtesa)
 - Medications that are anticholinergic, such as oxybutynin, can be helpful but carry risk of worsening constipation, causing dry eyes or dry mouth, and cognitive side effects. Use of this class of medication should be discussed with your doctor
 - Another class of medications that includes tamsulosin (Flomax) can reduce blood pressure and worsen symptoms of neurogenic orthostatic hypotension. This class of medication is typically avoided in people with MSA.
- **Procedures:**
 - In severe cases, specialized botulinum toxin (e.g. botox) injections can be used to relax the bladder

Constipation

- Staying well hydrated is the single most important treatment
- Stool softeners like docusate (Colace)
- Physical activity also helps promote bowel motility
- Stimulant laxatives like senna (Senokot) and bisacodyl (Dulcolax), which act by stimulating the intestinal muscles
- Osmotic laxatives like polyethylene glycol (Miralax), lactulose, and Milk of Magnesia, that soften the stool by increasing the amount of water in the intestines
- Bulk-forming laxatives (fiber) like psyllium (Metamucil) that increase stool bulk, which then promotes bowel movement. However, fiber should be used with caution as, in some case, it can lead to increased chance of impacted stool
- Dried prunes or prune juice can also help when used regularly. Prunes work by a combination of osmotic and bulk-forming mechanisms
- Suppositories and enemas should be considered when constipation is not sufficiently controlled by the above options

**For more information, please visit Mission MSA's
website: missionmsa.org**