Multiple System Atrophy (MSA)

**MSA is a degenerative disorder of the brain with no cure at present.** The difficulty in diagnosing MSA has led to the creation of red flags to act as warning signs that may raise clinical suspicion of MSA.

- Rare neurodegenerative disease affecting multiple brain circuits (“systems”), especially movement control, balance, and autonomic reflexes.
- First described in the 1960s as Shy-Drager syndrome.
- Pathologically classified as a synucleinopathy (accumulation of the protein alpha synuclein)
- Subclassified into three types, each of which includes elements of the others:
  - MSA-P (Parkinsonian) – striatonigral degeneration implies Parkinsonism with some degree of cerebellar dysfunction.
  - MSA-A (autonomic) – Shy-Drager syndrome reflects a predominance of autonomic failure
  - MSA-C (cerebellar) – olivopontocerebellar atrophy indicates primarily cerebellar defects with minor degrees of parkinsonism.
- Three to four cases per 100,000 people.
- Average age of onset is 54 years, younger than PSP or CBD.
- More common in men
- Life expectancy averages 7 years after symptom onset, with a wide range.
- No cure or way to slow disease progression, but some of the symptoms respond to medication or other therapies.

### Signs and Symptoms

- Rigidity
- Several types of tremor can occur.
- Myoclonic jerks (very rapid, isolated jerks that can occur anywhere in the body.)
- Bradykinesia
- Freezing of gait
- Early postural instability and falls
- Orthostatic hypotension
- Erectile dysfunction
- Bladder dysfunction: urgency, frequency, incontinence
- Constipation
- Speech and swallow difficulties – mixed dysarthria tends to emerge earlier in MSA than PD, is more severe, and deteriorates more rapidly
- REM Behavioral Disorder (RBD) – acting out dreams while sleeping due to lack of atonia
- Gait and limb ataxia