

St. Catherine University

**SOPHIA**

---

Antonian Scholars Honors Program

School of Humanities, Arts and Sciences

---

5-2023

## **Multiple System Atrophy: Bridging the Gap Between Science and Humanities**

Hannah Affolter

Follow this and additional works at: [https://sophia.stkate.edu/shas\\_honors](https://sophia.stkate.edu/shas_honors)



Part of the [Arts and Humanities Commons](#)

---

# Multiple System Atrophy

Bridging the gap between science and humanities

Hannah Affolter

# CONTENT

01

Topic Choice

02

Background

03

Science and  
humanities

04

Poetry and Art

# INTRODUCTION

MSA is a progressive neurodegenerative disease with symptoms resulting from the loss of function of nerve cells located in the central nervous system.

# MSA

## Cause

- Risk factor: SCNA gene
- Increased amounts of alpha-synuclein in neurons
- Risk factor: COQ2 gene
- CoQ2 → COQ10
- Environmental factors

# MSA

## Symptoms

- Stiffness
- Ataxia
- Swallowing
- Speech
- Bladder control
- Hypotension

2 types

Parkinsonian: Most common

Cerebellar: Associated with the cerebellum

# MSA

## Diagnosis

- Neurological Exam
- MRI/ PET scan
- Dopamine Assessment
- Levodopa
- Lifespan: 7 years after diagnosis

# MSA

## Treatment

- Ataxia: Levodopa, Physical therapy, Occupational therapy
- Swallowing: Feeding tube
- Speech: Speech therapy
- Bladder control: Anticholinergic drugs
- Orthostatic Hypotension: Increased water and salt intake, Medication, Compression stockings



# MSA

## Clinical Trials

- 14 studies at the Mayo Clinic
  - Stem cell
  - Sex specific hormone factors
  - Rifampicin
  - Biomarkers

# References

Wenning, G. K., Colosimo, C., Geser, F., & Poewe, W. (2004). Multiple System Atrophy. *The Lancet Neurology*, 3(2), 93–103. [https://doi.org/https://doi.org/10.1016/S1474-4422\(03\)00662-8](https://doi.org/https://doi.org/10.1016/S1474-4422(03)00662-8)

Mayo Clinic. (2022). *Multiple system atrophy (MSA)*. Mayo Foundation for Medical Education and Research. Retrieved April 3, 2023, from <https://www.mayoclinic.org/diseases-conditions/multiple-system-atrophy/symptoms-causes/syc-20356153>

Multiple System Atrophy (MSA). (n.d.). *What is multiple system atrophy?: MSA Symptoms & Treatment*. Multiple System Atrophy Coalition. Retrieved April 3, 2023, from <https://www.multiplesystematrophy.org/about-msa/>

U.S. Department of Health and Human Services. (2023). *Multiple system atrophy*. National Institute of Neurological Disorders and Stroke. Retrieved April 3, 2023, from <https://www.ninds.nih.gov/health-information/disorders/multiple-system-atrophy>

Cleveland Clinic. (2022). *Multiple system atrophy (MSA): Symptoms & treatment*. Retrieved April 3, 2023, from <https://my.clevelandclinic.org/health/diseases/17250-multiple-system-atrophy>

MedlinePlus. (2016). *Multiple system atrophy*. Retrieved April 18, 2023, from <https://medlineplus.gov/genetics/condition/multiple-system-atrophy/#causes>

Multiple System Atrophy (MSA) Clinical Trials - Mayo Clinic Research. (2019). *Clinical Trials*. Retrieved April 18, 2023, from [https://www.mayo.edu/research/clinical-trials/diseases-conditions/multiple-system-atrophy-\(msa\)](https://www.mayo.edu/research/clinical-trials/diseases-conditions/multiple-system-atrophy-(msa))



Emotion



