



WEBINAR   
WEDNESDAYS

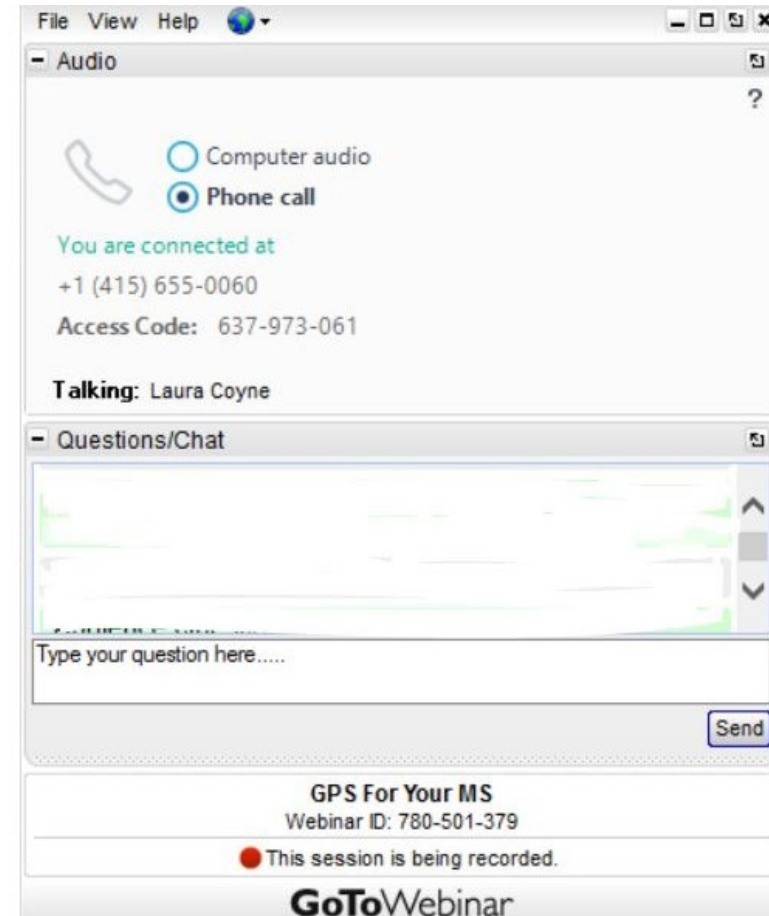
# How to Stay Steady When Sensory Symptoms Throw You Off Balance

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# How to Ask Questions During the Webinar

Type in your questions using the  
**Questions/Chat** box



# Augusto Miravalle, MD



Neurologist  
Fort Collins, CO

# Mandy Rohrig, PT, DPT, MSCS



Physical Therapist  
Elmwood, NE

# Learning Objectives

1

Assess personal fall risk and factors that challenge balance

2

Learn strategies to optimize balance

3

Recognize how balance problems can impact family members

# Overview of Sensory Symptoms

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Relapses versus Pseudo relapses

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Overheating

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Falls

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How sensory symptoms impact  
balance and gait

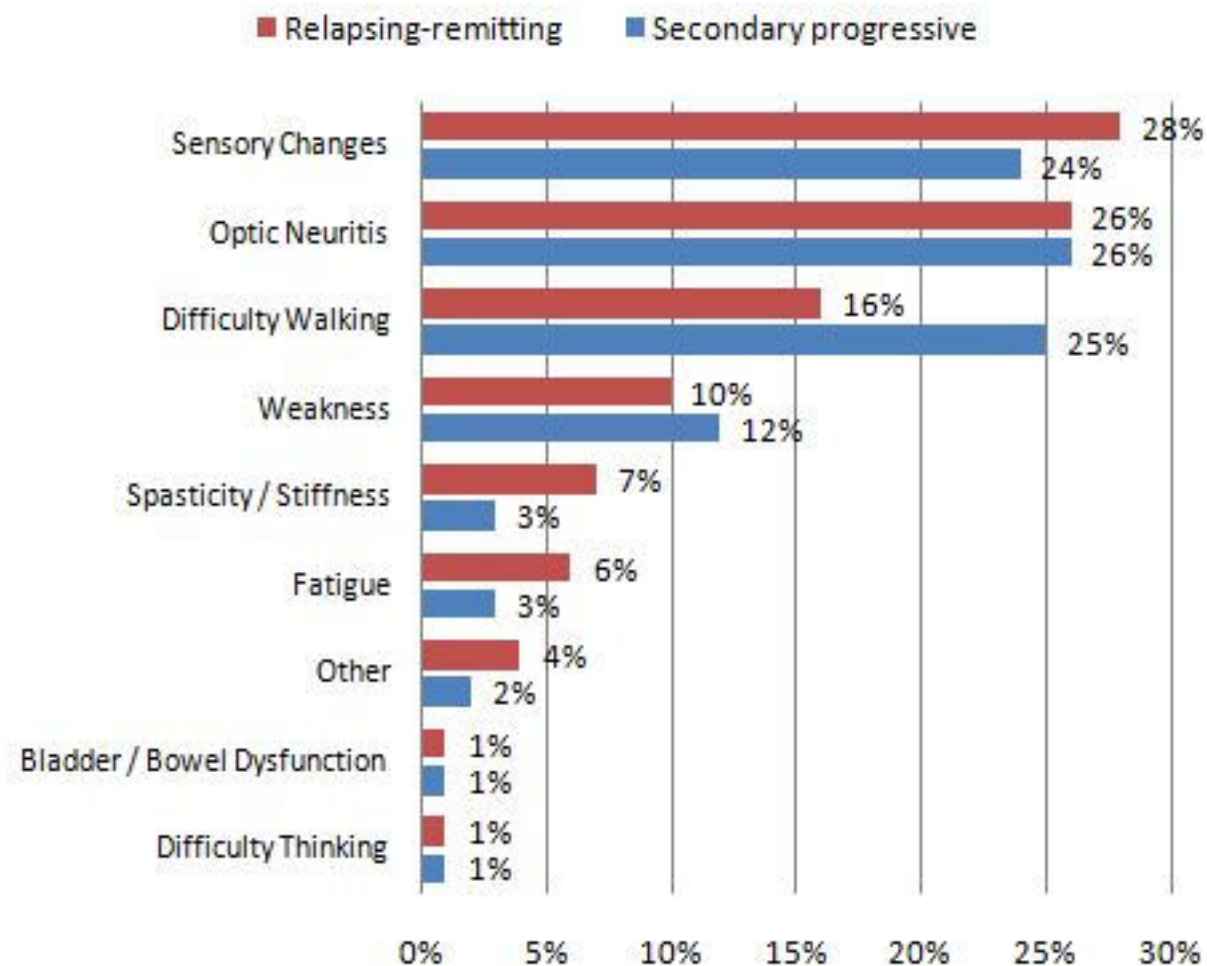
# Relapses

- Symptoms + Signs
- More than 24 hours
- Deficits
- Absence of Infection

# Pseudo Relapses

- Symptoms > Signs
- Less than 24 hours
- Often associated with infections, heat, menses, stress
- Symptoms improve when the trigger is resolved

## Distribution of First MS Symptoms for two Types of MS



# Temperature Sensitivity in MS

Highly prevalent (60–80%)

## Pseudo Relapses

- Temporary worsening of neurological symptoms often associated with underlying processes
  - Infections, heat, menstruation, stress, etc.
- Symptoms often improve when the trigger is resolved.

### Cool Tips:

- When outdoors, find a shady area to rest or head indoors to a fan or air conditioning
- Hydrate with cool water
- Take a cool bath or shower
- Apply a cold compressor ice pack to your neck, wrists, and feet
- Have a cooling vest or scarf handy for when you may be in a hot area



# Conversation Starters: Balance Challenges

My vision shakes; it's like watching a bad home movie"

" I have to look at my feet when I am walking"

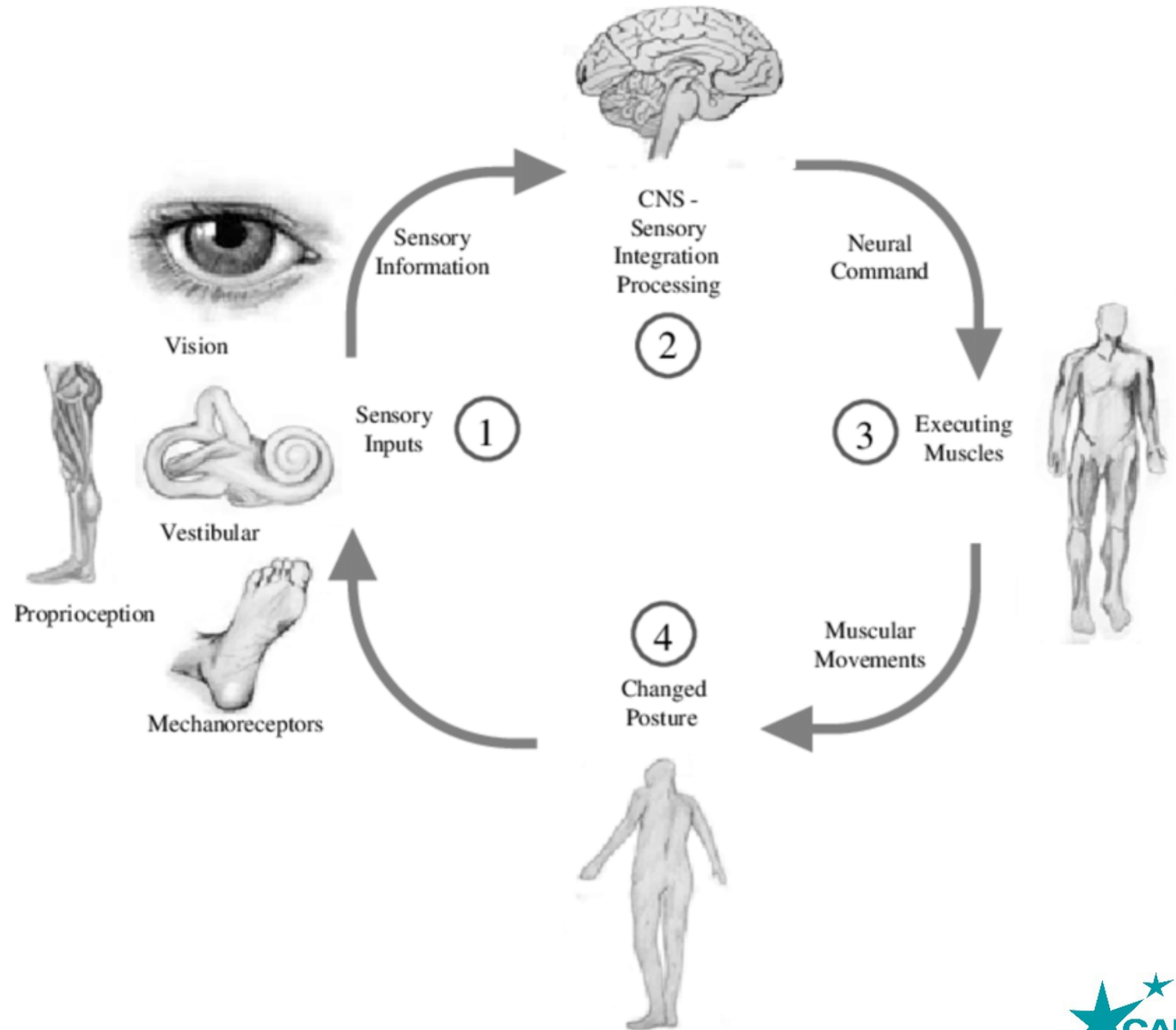
"As long as I focus on something, I can keep my balance"

" I feel dizzy and off balance when I am shopping, especially in a grocery store"

"I feel off balance when I walk in grass"

"I lose my balance when walk in the dark at night to use bathroom"

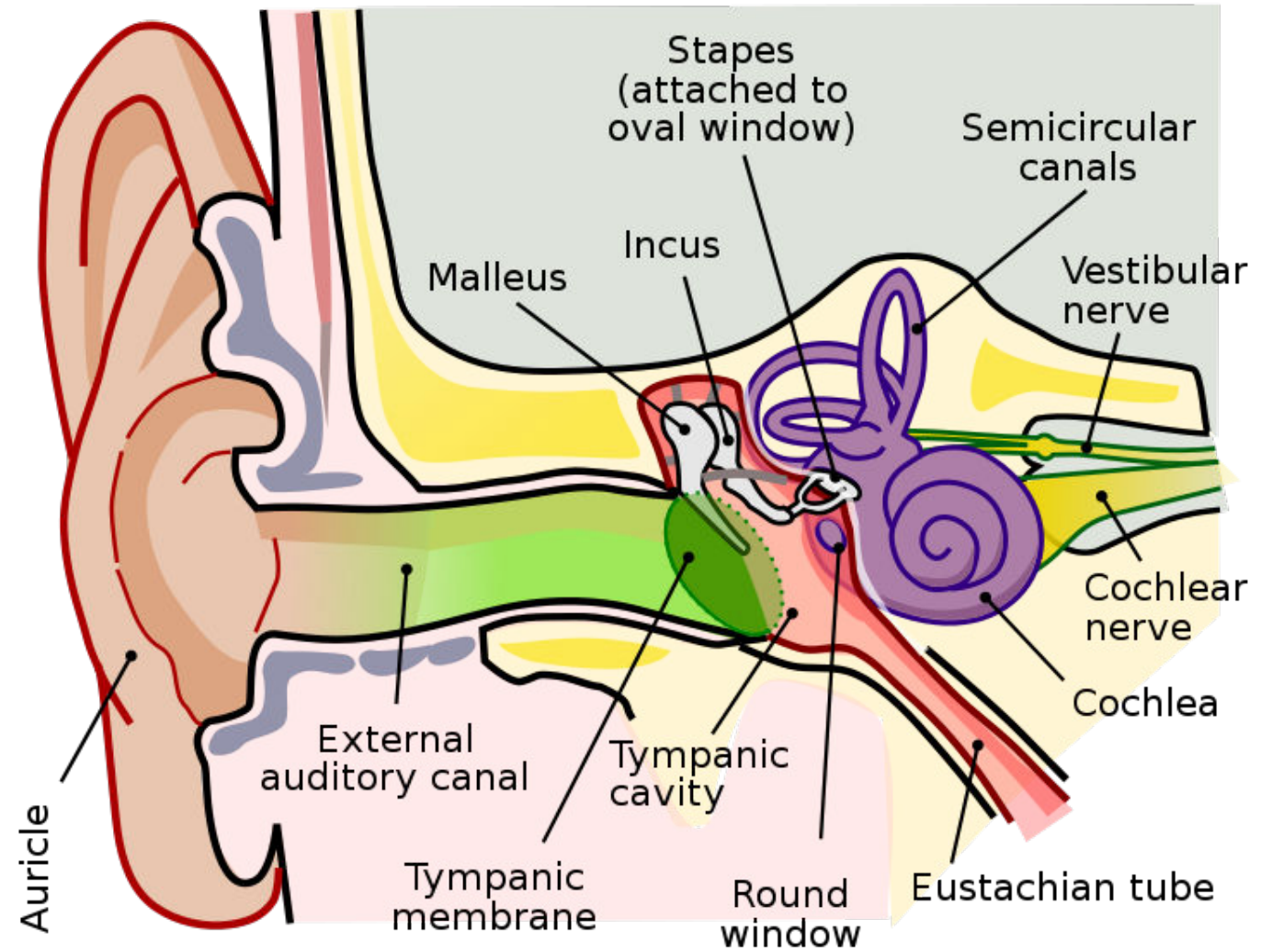
# How Sensation Impacts Balance:



# Visual Symptoms, Causes, & Impact

Characteristic	Likely Cause	Potential Impact on Balance	You May Say and Feel...
Visual Acuity	Optic neuritis  Age-related eye conditions	Difficulty seeing, anticipating, reacting to environment  Incomplete visual field	"My vision isn't so sharp anymore"
Double Vision	Decreased nerve conduction of the muscles that control eye movements  Brainstem lesions	Inability to focus Slowed movements	"I have blurred vision"  "If I close one eye I can see clearly"

# The Vestibular System



# Vestibular Symptoms, Causes, & Impact

Characteristic	Cause	Potential Impact on Balance	You may say and feel...
Gaze Instability - Oscillopsia - Nystagmus	Lesion in vestibular system pathways or cerebellum or inner ear	Dizziness  Difficulty focusing  Challenges in dynamic environments with visual movement (i.e. crowds), turning head and/or body, reading, etc.	"I feel dizzy and off balance when I am shopping, especially in a grocery store"  "Watching an action movie with lots of fast movements, makes me feel off balance"

# Sensation Symptoms, Causes & Impact

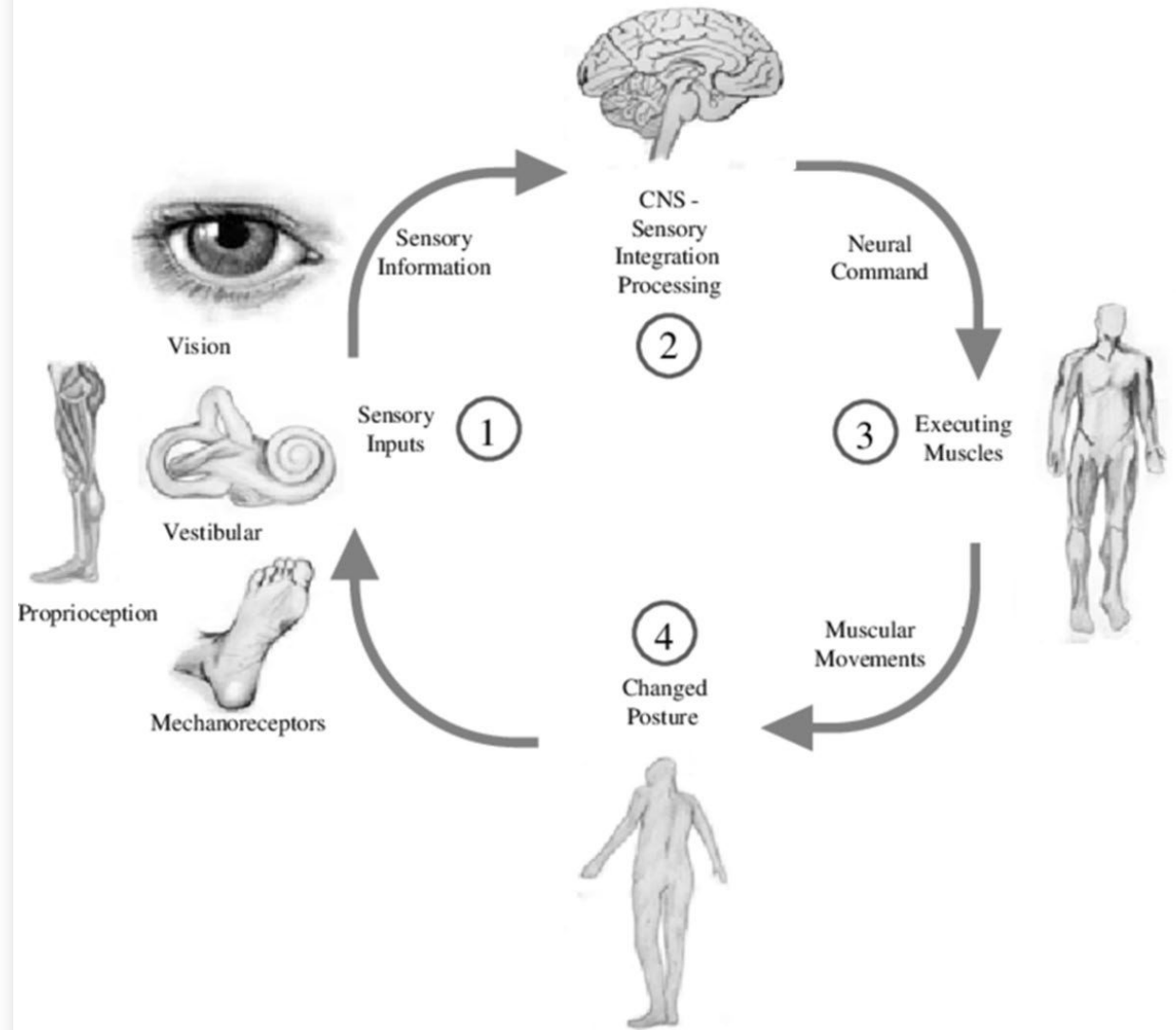
Characteristic	Cause	Potential Impact on Balance	You May Say and Feel...
Numbness/tingling	Demyelination	Unable to feel changes in surfaces	"My partner says I shuffle my feet"  "I can't feel my feet well"
Loss of position/orientation (proprioception)	Demyelination	Challenges with walking in dark/dim light or uneven surfaces	"I have to look down at my feet when I am walking"
Pain	Lesions	Avoidance pain movement patterns  Changes in base of support	"I lean forward on my walker because my back hurts"

## Balance Optimization:

Sensory Input Affects Motor Output



Motor Output Affects Sensory Input



# What You *CAN Do* to Help Your Balance

## **Balance Exercises**

Sitting, standing, and walking activities that are consistent with changes to sensory input (i.e. eyes open/closed, varying surfaces)

## **Strengthening Exercises**

Examples: Strengthening of hips, core, and ankle muscles

## **Flexibility Exercises**

Examples: Flexibility of calf and hip muscles

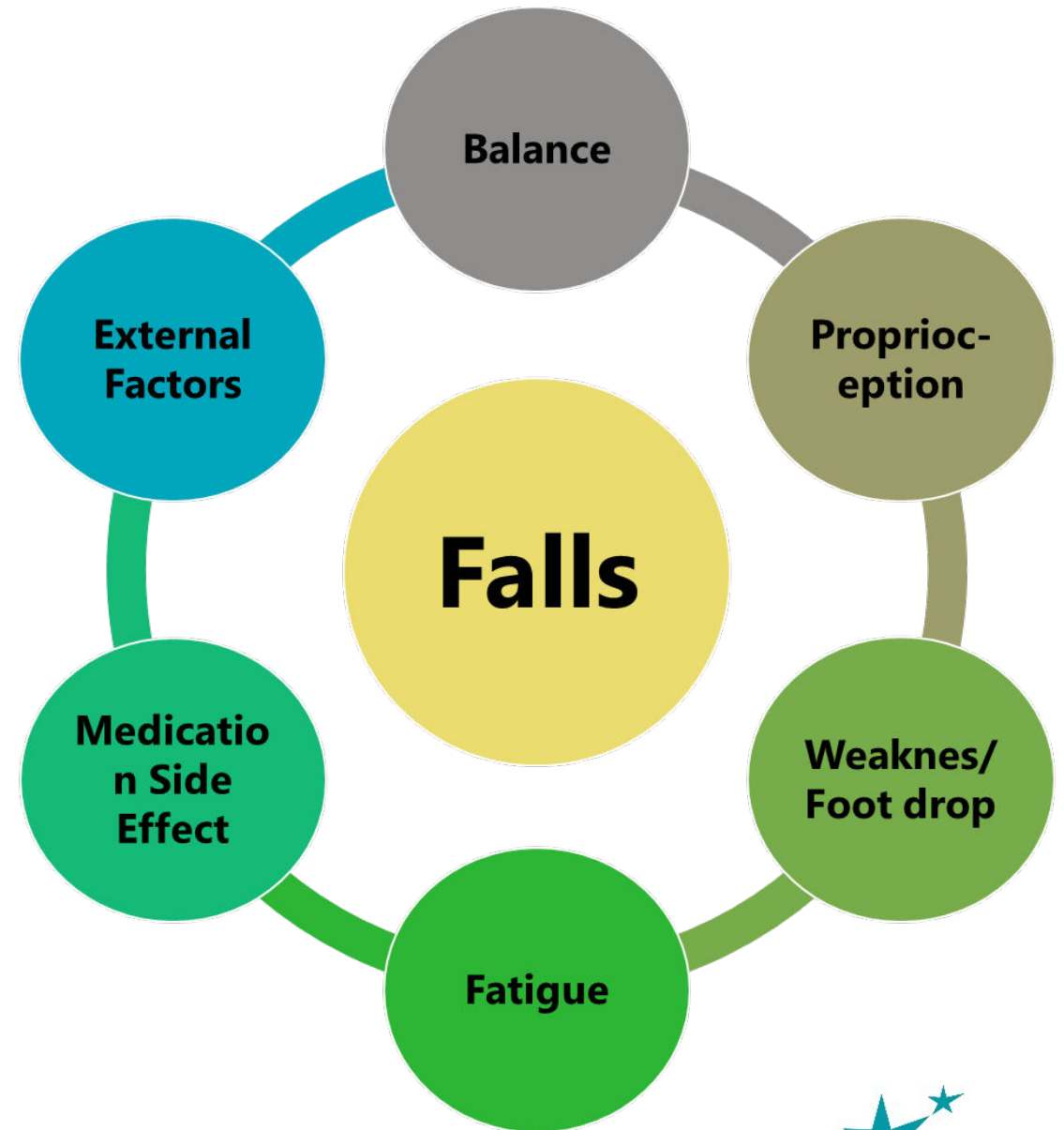
## **Vestibular Exercises**

Focus: Vestibular ocular reflex



# Falls in MS

- Occur in more than **50% of MS patients**, similar to that in adults older than 80 years
- A single fall in the past 12 months has an **82% probability** of falling again in the following 6 months
- Falls can have significant physical, social, and psychological consequences for the individual *and* family





# **Apply Your Knowledge**

# Scenario 1

- 45-year-old woman with MS
- Inside a lot through pandemic
- Depressed and isolated
- Feels numbness is getting worse, difficulty walking, increased falls
- However, exam is unchanged
- Slower, shuffling walk and finds herself looking at her feet to stay balanced

# Poll

*Which sensory symptom is most likely affecting her balance:*

- a) Vision
- b) Vestibular
- c) Sensation (proprioception) of the legs

# Exercise and Brain Health

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*Pre-habilitation*

**vs**

Rehabilitation

*Prevention*

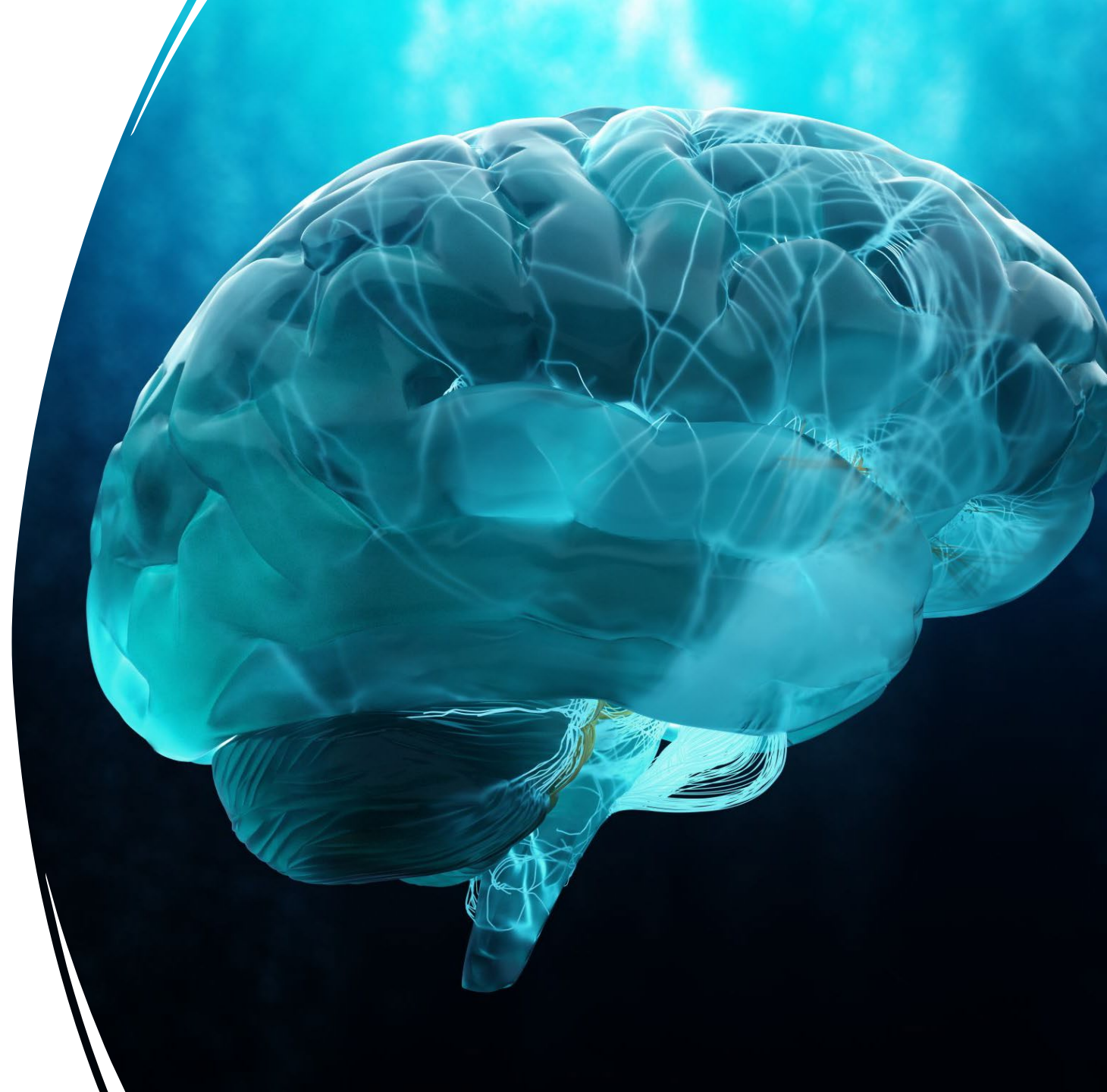
**vs**

Treatment

*Building Reserve Capacity*

**vs**

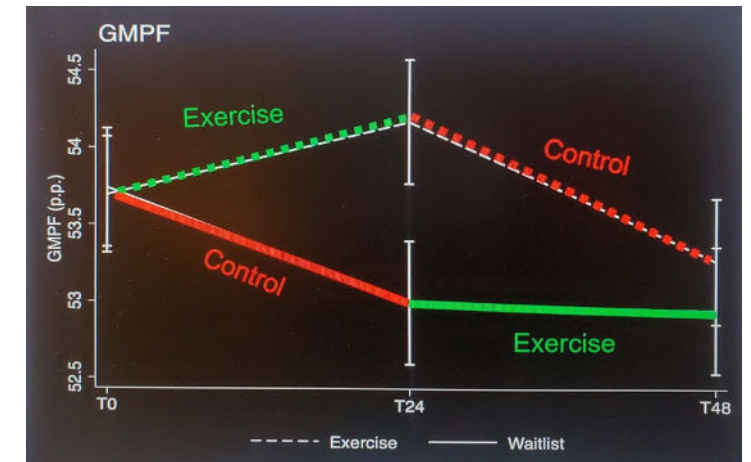
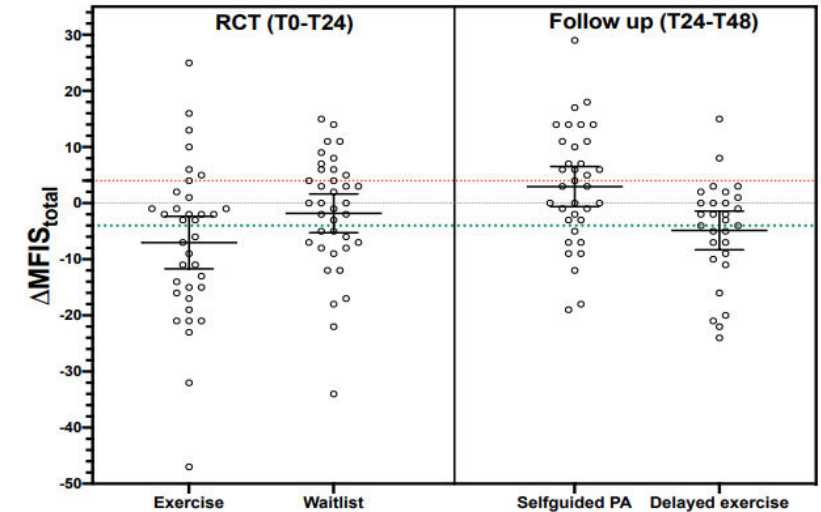
Restoring Capacity



# Exercise as Medicine

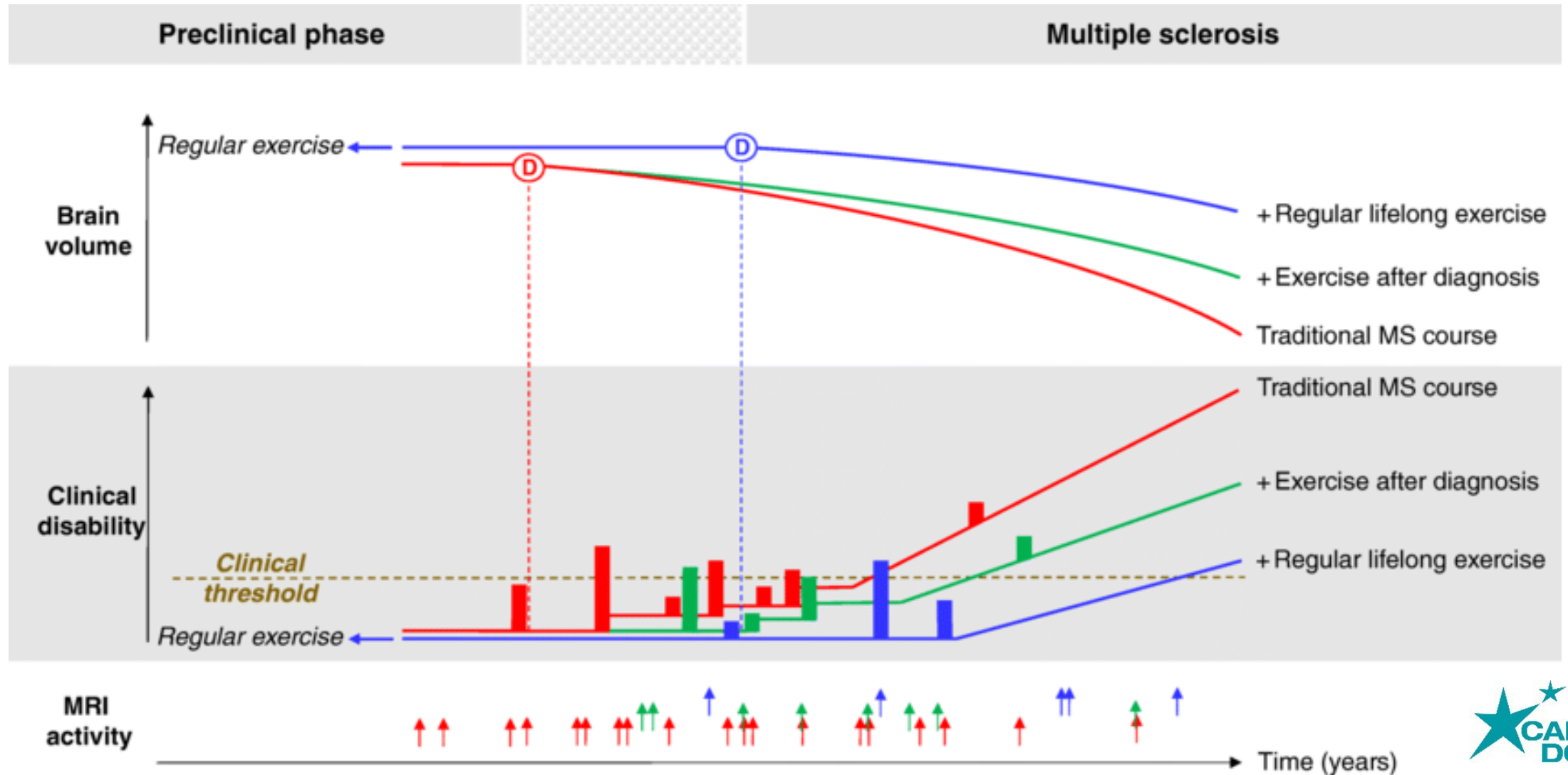
A study of 86 mildly to severely impaired individuals with MS compared progressive aerobic activity and self-guided exercise.

- **Results showed improvements in:**
  - Fatigue (MFIS)
  - Cardiorespiratory Fitness (VO2max)
  - 6-Minute Walking Test (6MWT)



Symptom	MS vs Non-MS	General Exercise	Aerobic Training	Resistance Training	Yoga and Pilates
Fatigue	↑	↓	↓	→	↓ OR →
Pain	↑	↓	→		↓
Depression	↑	↓	↓	↓	↓ OR →
Function	↓	↑	↑	↑ OR →	→
Balance	↓	↑	→	↑ OR →	↑
Cognition	↓	→			→
Muscle Strength	↓	↑	↑ OR →	↑	↑
Cardiorespiratory Fitness	↓	↑	↑	→	
Relapse Rate	↑	↓			
Disease Progression	↑	→		→	
Quality of Life	↓	↑	↑	→	→

# Theoretical Model







# **Apply Your Knowledge**

## Scenario 2

- 55-year-old-man with MS
- He increasingly struggles standing in the kitchen to help with meal preparation
- His support partner is concerned about him falling and MS progression as he seems to “wilt” if he stands too long

# Poll

*Which sensory symptom is most likely affecting his balance?*

- a) Vision
- b) Vestibular
- c) Sensation (proprioception) in legs
- d) Heat sensitivity

# Poll

*After this Webinar, what will you do to help manage your sensory symptoms and mobility?*

- a) Digest all this new information!
- b) Discuss my balance challenges with my doctor
- c) Explore new exercises or assistive devices with my physical therapist
- d) Other (put it in the chat box!)

# Q & A



# UPCOMING PROGRAMS

## **BLACK COMMUNITY TAKE CHARGE**

This program is designed to uplift, foster connection, and help with the unique challenges of the black community

July 22 - 23

## **VETERANS TAKE CHARGE**

This program is designed for Veterans with MS to find friendship, support, and a fresh start

September 16 - 17

## **FINDING SUPPORT AS A SUPPORT PARTNER**

4-Part Coaching Series for Support Partners

Starting Thursday, July 28

**CanDo-MS.org**





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WEBINAR   
WEDNESDAYS

# How to Make Daily Life Easier With MS

Wednesday, August 3 at 8pm ET

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