# Latest MS Research and News





#### THIS WEBINAR IS SPONSORED BY:







## **UPCOMING PROGRAMS**

Thursday, December 12
BLACK COMMUNITY MEETUP

Wednesday, January 8
WEBINAR

How to Turn Wellness Goals into Daily Habits

Thursday, February 6
CARE PARTNER MEETUP

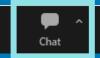
Tuesday, February 11
NEWLY DIAGNOSED MEETUP



CANDO-MS.ORG

#### How to Ask Questions During the Webinar

Type in your questions using the Questions Box











**NEW!** Closed captioning

Provide comments and engage with the speakers and audience using the **Chat Box** 

#### **YOUR SPEAKERS**



Jenny Feng Neurologist

Stephanie Buxhoeveden

Nurse Practitioner

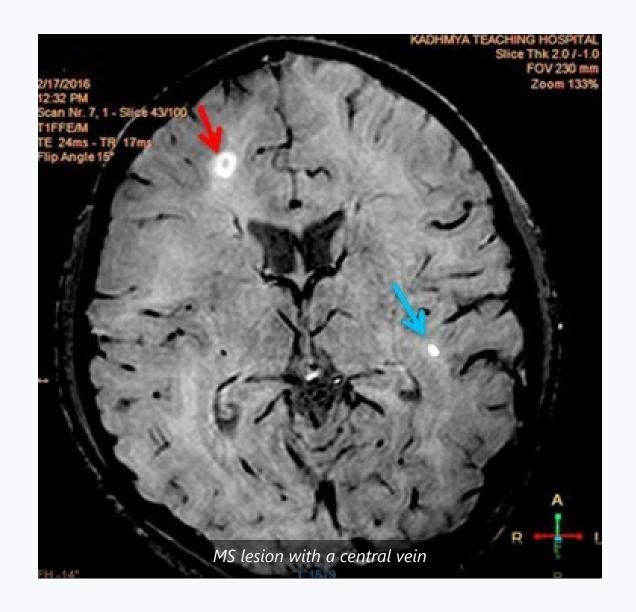
Louisiana Virginia

# Latest Research and News Topics

- New Diagnostic Criteria
- New in Treatment & Exercise
- New in Diet
- Biomarkers
- Underserved populations

#### 2024 Paved a Path to Diagnosing MS Earlier and More Accurately

- New MRI biomarkers can reduce misdiagnosis by distinguishing MS from other conditions.
- Optic nerve lesions now help establish dissemination in space.
- New CSF Biomarker, Kappa Free Light Chains (KFLC), included as an alternative to oligoclonal bands (OCBs), and may be faster and easier to measure in some labs.



# New and Emerging Disease Modifying Therapies

#### **New Approvals**

- Subcutaneous Ocrevus
- First Biosimilar

#### **Emerging Therapies**

- BTKi (Bruton's Tyrosine Kinase Inhibitors)
- CAR-T Therapy
- PIPE-307 &ESI-1 inhibitor

#### Simvastatin

 Found to be ineffective in a recent study

#### New Symptom Management Research



#### Cognitive Rehabilitation

- Remote cognitive rehab (TELE-Self-GEN) improved memory through six accessible online sessions.
- Combined cognitive training and aerobic exercise (CogEx trial) increased brain volume in areas tied to memory and focus.

#### Fatigue Management

 Cognitive Behavioral Therapy (CBT), alone or with medication, effectively reduces fatigue

#### New Symptom Management Research



#### **Exercise Benefits**

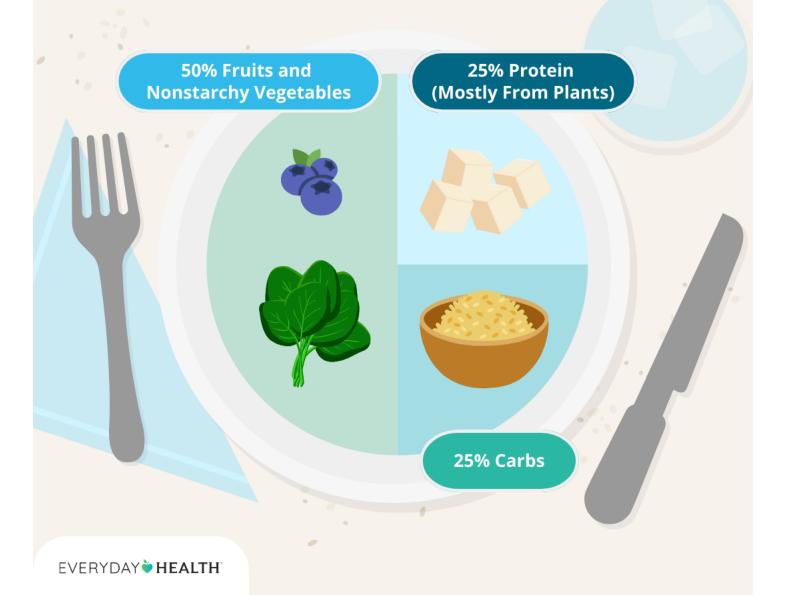
- Home-based programs (STEP for MS) improve mobility and quality of life for those with walking impairments.
- Resistance training is especially beneficial for middle-aged MS patients, improving strength and physical function.
- Regular exercise may stabilize the blood-brain barrier and reduce inflammation, offering long-term neuroprotection.

#### **Diet Related Research**



- Gut is the largest immune organ in the human body.
- Gut microbiome: trillions of bacteria, fungi, and viruses
  - Helps regulate immune response
  - Imbalanced gut microbiome → increases inflammatory immune response
  - Can be influence by diet
    - High fat and sugar → increase gut "leakiness"
    - High fiber → neuroprotective
- Transplanting microbiota from MS patients into mice can induce similar inflammatory reaction in brain
- Trials evaluation probiotics and fecal-transplantation ongoing

#### How to Build a Mediterranean Diet Plate



	Mediterranean	DASH	MIND
HIGH	Olive Oil (exclusive)	_	_
AMOUNTS	Fish	-	-
	<b>Grains</b> (non-refined)	Grains	<b>Grains</b> (whole)
	Fruits	Fruits	Berries
	Vegetables	Vegetables	Green leafy vegetables
	-	-	Other vegetables
	Potatoes	-	-
	Legumes	Legumes	-
	Beans	-	Beans
	Nuts	Nuts	Nuts
	Seeds	Seeds	-
	-	Low-fat dairy	-
MODERATE	Poultry	Poultry	Poultry
AMOUNTS	-	Fish	Fish
	Alcohol	-	Alcohol
	-	-	Olive Oil (primary)
	Full-fat dairy	-	-
SMALL	Red Meat	Red meat	Red Meat
AMOUNTS	Processed meat	-	-
	Sweets	Sweets	Sweets / pastries
	-	Saturated fat as a % of total	-
		fat	
	-	Sodium <2400 mg/d	-
RESTRICTED	-	-	Cheese
	-	-	Butter / margarine
	-	-	Fast / fried foods

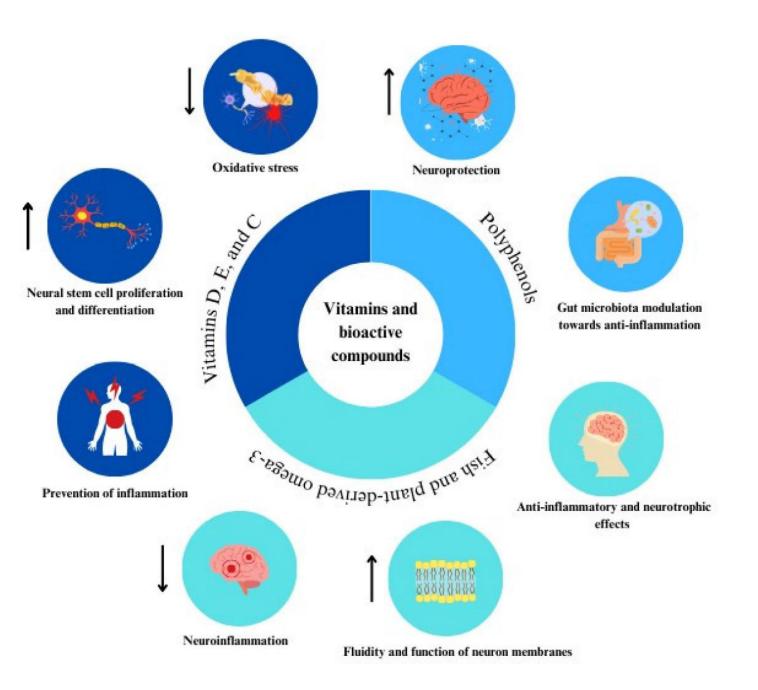
#### Diet Related Research

#### Study in thousands of older adults in US (>50yo) using data from Health and Retirement Study

- High adherence of either the Mediterranean, DASH, or the MIND diet
  - → better cognitive scores at baseline
- High adherence of Mediterranean and DASH diet
  - → slower cognitive decline over 6 years

#### Study on 5634 adult patients with MS at a single center

- High adherence to Mediterranean diet
  - → lower risk for disability
  - → lower risk of patient reported symptoms, especially depression





Detrimental effects on gut microbiota

#### Ultra-processed foods



Dysbiosis



Alteration of the immune system

#### Other Diets Investigated in MS

\*Summary of early, small clinical trial results



- Intermittent fasting
  - Improved patient reported symptoms
  - Improved disability
  - Well-tolerated
  - Improved brain volume and reduced neuroinflammation
- Ketogenic diet
  - Improved disability, quality of life, reduced fatigue
- Paleolithic
  - Reduced fatigue, improved mental and physical quality of life
  - Increased exercise capacity
- Low fat
  - Can decrease fatigue

#### Vitamin D



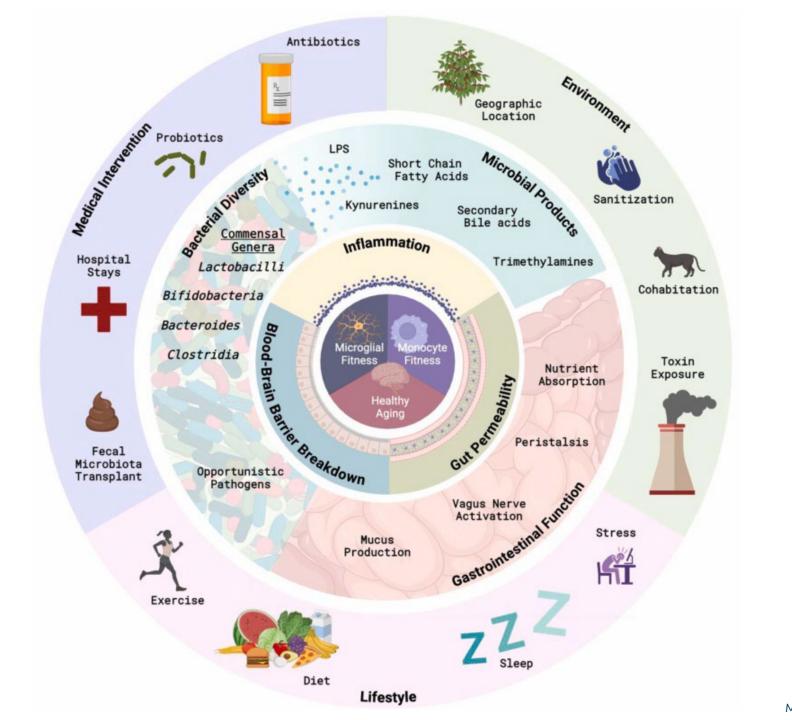
#### D-Lay MS Study:

Double Blind, Randomized, Placebo-Controlled, 24–Month Study, 316 CIS Patients

→ Oral cholecalciferol 100,000 IU or placebo every 2 weeks

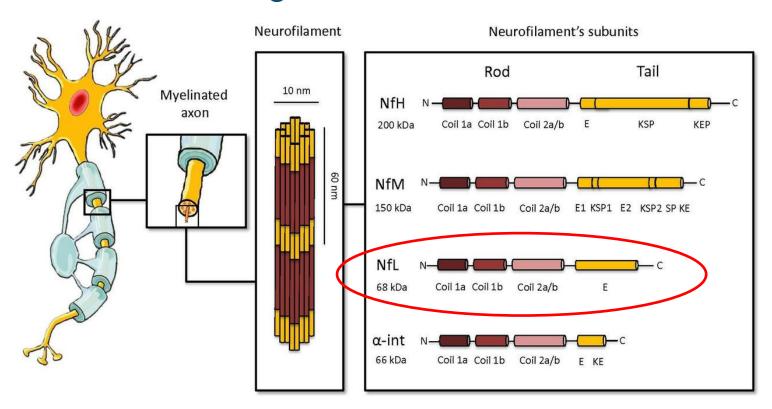


- Significant reduction in MRI activity: fewer new enlarging lesions, and fewer contrast enhancing lesions.
- No significant reduction of relapses.



#### Biomarkers

#### Neurofilament light chain (NfL)

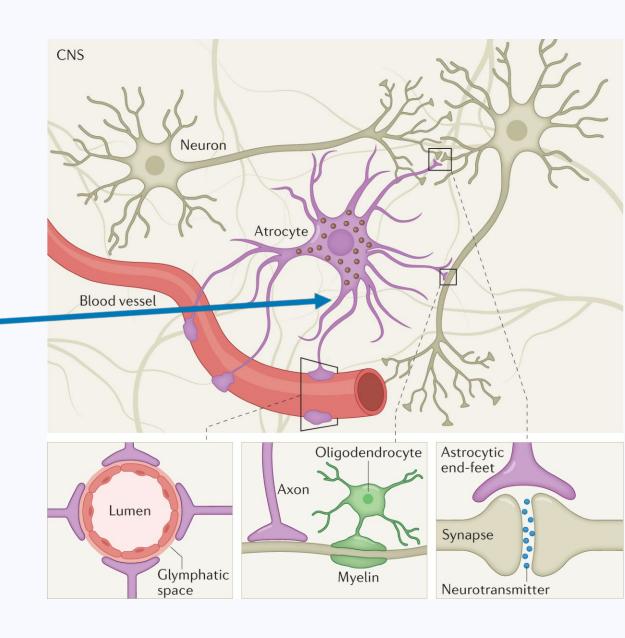


- Structural protein of axons
- Surrogate for neuroaxonal damage
- Not specific for MS
- Elevated during inflammatory activity
- Levels can decrease with treatment

#### Biomarkers

#### Glial fibrillary acid protein (GFAP)

- Structural protein in astrocytes
- Surrogate for astrocytic damage
- Not specific for MS
- High GFAP levels predicted disability progression
- Levels can decrease with treatment



## Focus On Underrepresented Research Populations

#### **CHIMES Study**

- Objective Evaluate the efficacy and safety of ocrelizumab (Ocrevus) in Black/African American and Hispanic/Latino patients with relapsing MS.
- **Findings** At 48 weeks, 50.5% of participants achieved No Evidence of Disease Activity (NEDA-3), aligning with outcomes observed in predominantly white populations.

#### **Ancestry-Specific Genetic Variants**

• **Discovery** - A large-scale study identified novel genetic loci associated with MS risk in African American and Hispanic populations.

# Get Involved in MS Research

#### Why Participate?

- Every contribution helps move MS research forward, bringing better treatments and improved quality of life closer to reality.
- Advance understanding of MS and help improve treatments and care.

#### How to Get Involved:

- iConquerMS
  - Share your health data, participate in surveys, and propose research topics.
  - Sign up <u>iConquerMS.org</u>
- Find ongoing MS trials using platforms like:
  - National MS Society Research Portal <u>NationalMSSociety.org/Research</u>
  - <u>ClinicalTrials.gov</u> for trials near you.

#### Other Resources:

- Can Do MS
- Ask your healthcare team about research opportunities

# Q+A

#### **CONNECT WITH US**











#### THIS WEBINAR IS SPONSORED BY:







### How to Turn Wellness Goals into Daily Habits





The preceding program is copyrighted by Can Do Multiple Sclerosis. It is provided for your personal educational and referential use only. Any repurposing or dissemination of its content requires the consent by Can Do Multiple Sclerosis.

#### © CAN DO MULTIPLE SCLEROSIS