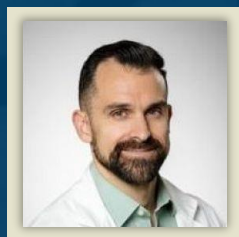


BEACON 2026



Microvascular Brain Health

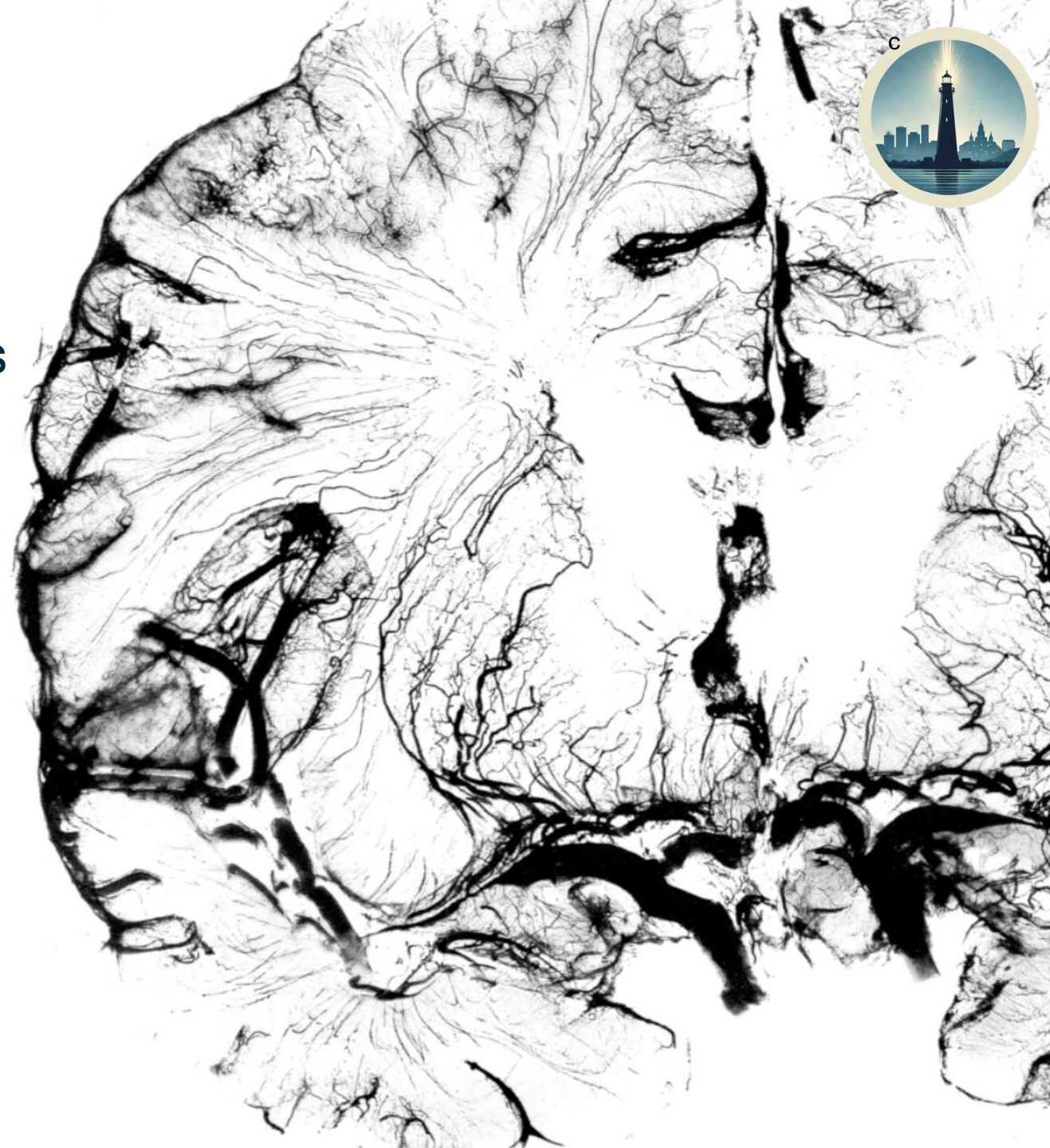
Vascular Contributions to
Cognitive Impairment & Dementia



A PRESENTATION BY
JOSEPH TARSIA, MD

Agenda

- What is "Vascular Contributions to Cognitive Impairment and Dementia (VCID Spectrum)"?
- What is "Microvascular Disease"?
- Risk Factor Modification – How We Can Make a Difference



The Global Burden of **Dementia**



Living with Dementia in 2019



5.8 Million | **13.9 million**

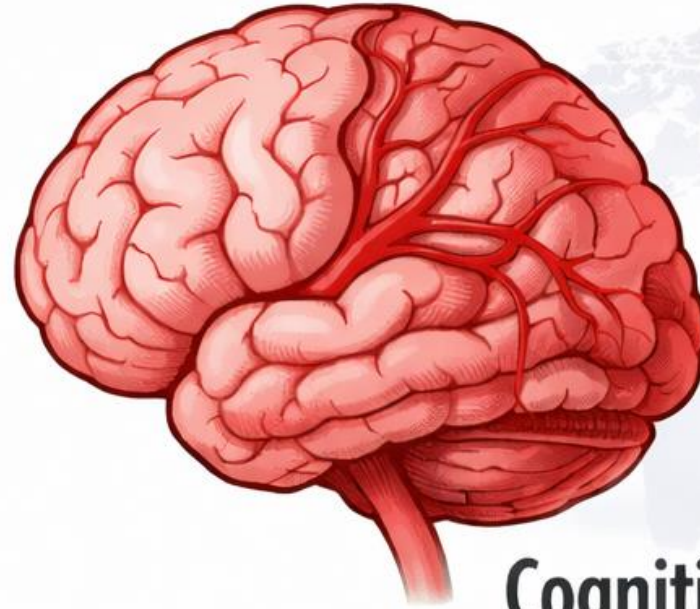
Currently Living with Dementia in the U.S.

By 2060, this figure is expected to increase to
13.9 million or **3.3%** of the population

VASCULAR DISEASE & DEMENTIA



**Pure Vascular
Dementia**



50%-75%

**Cognitive Decline Linked to
Cerebrovascular Disease**

MIXED PATHOLOGY

1. Goodall LS, Lennon MJ, Sachdev PS, Gorelick PB, Kovicic JC, Samaras K. Current and Emerging Therapeutic Approaches for Vascular Cognitive Impairment and Dementia. *J Am Coll Cardiol.* 2026;87(1):77–100. doi: 10.1016/j.jacc.2025.09.1502. PubMed PMID: 41498480.
2. Sachdev PS, Bentzen AC, Kochan NA, Jiang J, Hosoki S, Koncz R, et al. Revised Diagnostic Criteria for Vascular Cognitive Impairment and Dementia—The VasCog-2-WSO Criteria. *JAMA Neurology.* 2025;82(11):1103. doi: 10.1001/jamaneurol.2025.3242.
3. Dao E, Barha CK, Zou J, Wei N, Liu-Ambrose T. Prevention of Vascular Contributions to Cognitive Impairment and Dementia: The Role of Physical Activity and Exercise. *Stroke.* 2024;55:812–21. doi: 10.1161/STROKEAHA.
4. Wardlaw JM, Smith C, Dichgans M. Small vessel disease: mechanisms and clinical implications. *Lancet Neurol.* 2019;18(7):684–96. Epub 20190513. doi: 10.1016/S1474-4422(19)30079-1. PubMed PMID: 31097385.



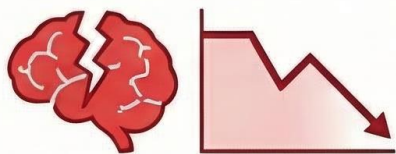
THE VCID SPECTRUM:

Sudden Strokes vs. Silent Microvascular Decay

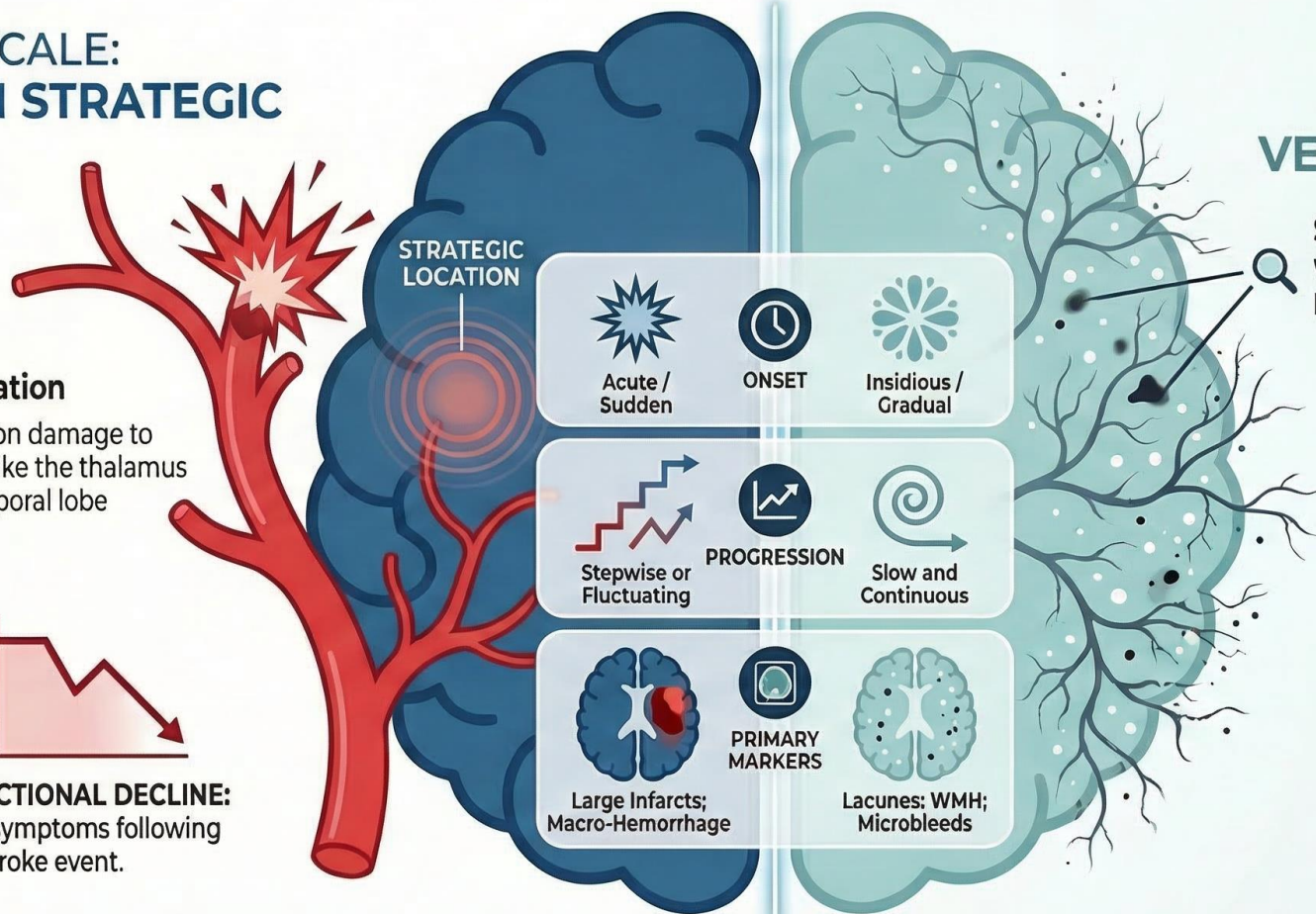
MACROSCALE: SUDDEN STRATEGIC STROKE

The Power of Strategic Location

Deficits depend on damage to specific regions like the thalamus or left frontotemporal lobe



STEPWISE FUNCTIONAL DECLINE:
Abrupt onset of symptoms following a documented stroke event.



MICROSCALE: CHRONIC SMALL VESSEL DISEASE (cSVD)

Subcortical Silent Markers

WMH (White Matter Hyperintensities), LACUNES, and MICROBLEEDS

Insidious & Covert Progression

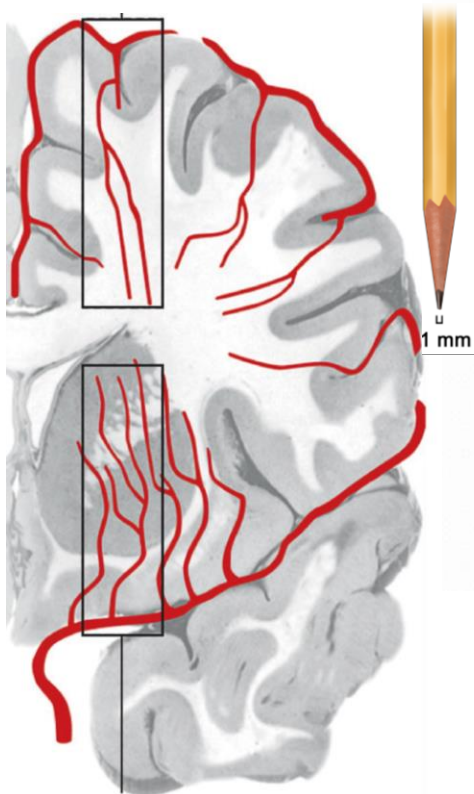
Gradual reduction in the integrity of arterioles, capillaries, and venules.



SLOW COGNITIVE EROSION:
Slow decline in processing speed and executive function.



“SILENT” MICROVASCULAR DISEASE



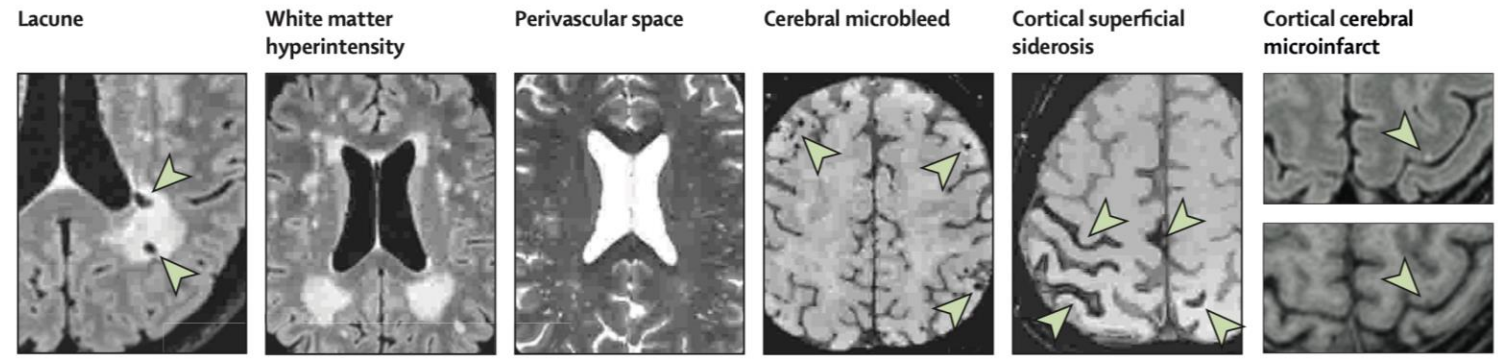
72%

Middle-Aged Adults



90%

Older Adults



1. Goodall LS, Lennon MJ, Sachdev PS, Gorelick PB, Kovacic JC, Samaras K. Current and Emerging Therapeutic Approaches for Vascular Cognitive Impairment and Dementia. *J Am Coll Cardiol.* 2026;87(1):77–100. doi: 10.1016/j.jacc.2025.09.1502. PubMed PMID: 41498480.
2. Wardlaw JM, DeBette S, Jokinen H, De Leeuw FE, Pantoni L, Chabriat H, et al. ESO Guideline on covert cerebral small vessel disease. *Eur Stroke J.* 2021;6(2):CXI–CLXII. Epub 20210511. doi: 10.1177/23969873211012132. PubMed PMID: 34414301; PubMed Central PMCID: PMC8370079.
3. Duering M, Biessels GJ, Brodtmann A, Chen C, Cordonnier C, de Leeuw FE, et al. Neuroimaging standards for research into small vessel disease—advances since 2013. *Lancet Neurol.* 2023;22(7):602–18. Epub 20230523. doi: 10.1016/S1474-4422(23)00131-X. PubMed PMID: 37236211.



White Matter Hyperintensities



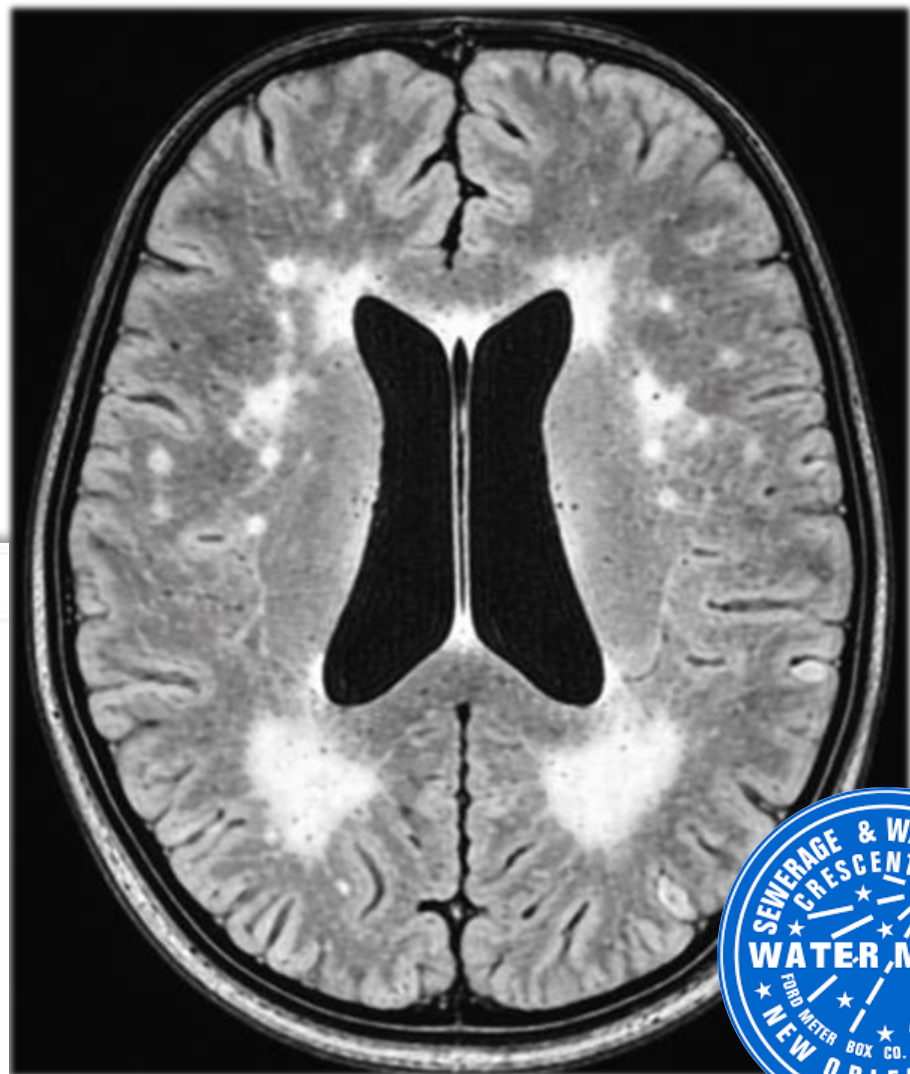
SEWERAGE & WATER BOARD
CRESCENT BOX
WATER METER
FOOD METER BOX CO. WABASH, IND.
NEW ORLEANS, LA.

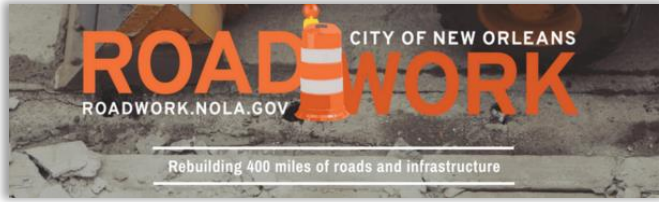
Precautionary Boil Water Advisory
Issued for a Portion of Marlyville-Fontainebleau, Broadmoor, Hoffman Triangle and B.W. Cooper

For Immediate Release: Wednesday, February 25, 2026 6:07 PM

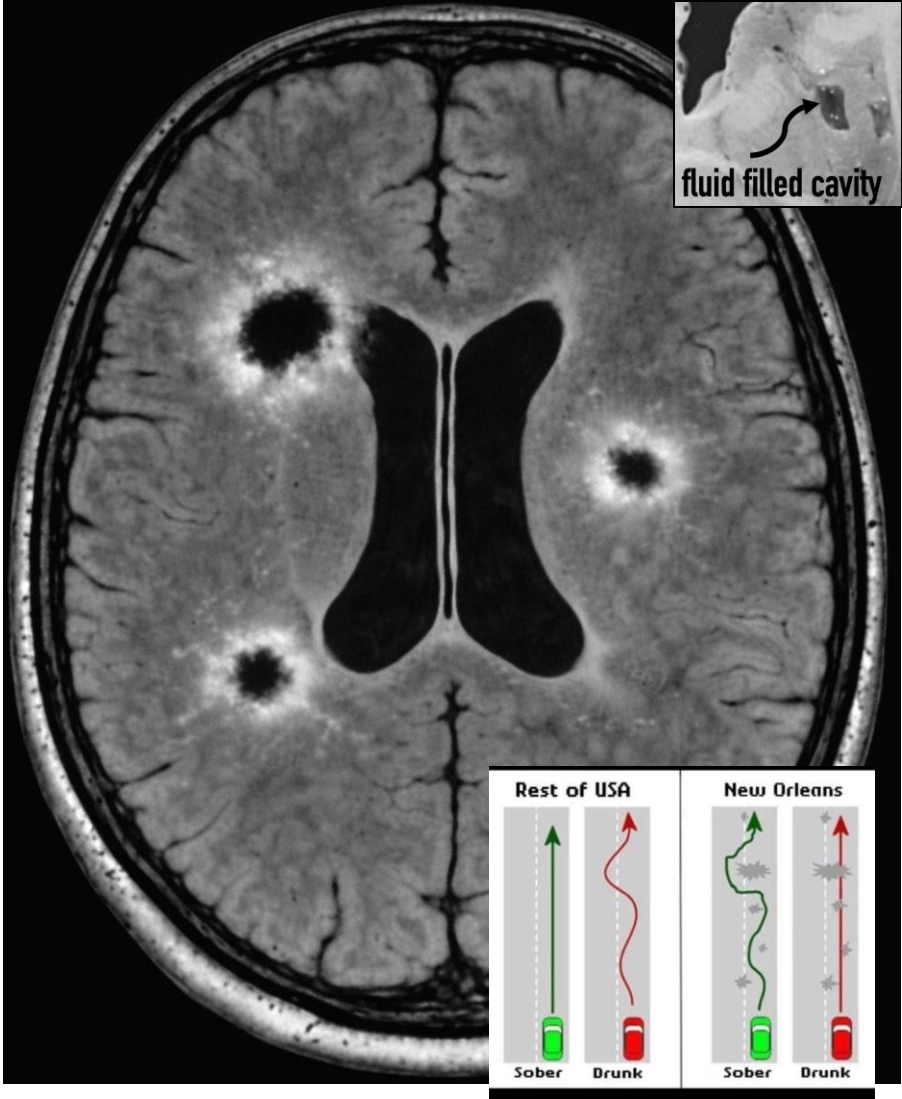
New Orleans, LA - The Sewerage and Water Board of New Orleans (SWBNO), in consultation with the Louisiana Department of Health (LDH) has issued a precautionary boil water advisory (BWA) for a portion of Marlyville-Fontainebleau, Broadmoor, Hoffman Triangle and B.W. Cooper neighborhoods which includes:

- S. Carrollton Ave from S. Claiborne Ave to Earhart Blvd
- Earhart Blvd from S. Carrollton Ave to S. Claiborne Ave
- S. Claiborne Ave from S. Carrollton Ave to Earhart Blvd



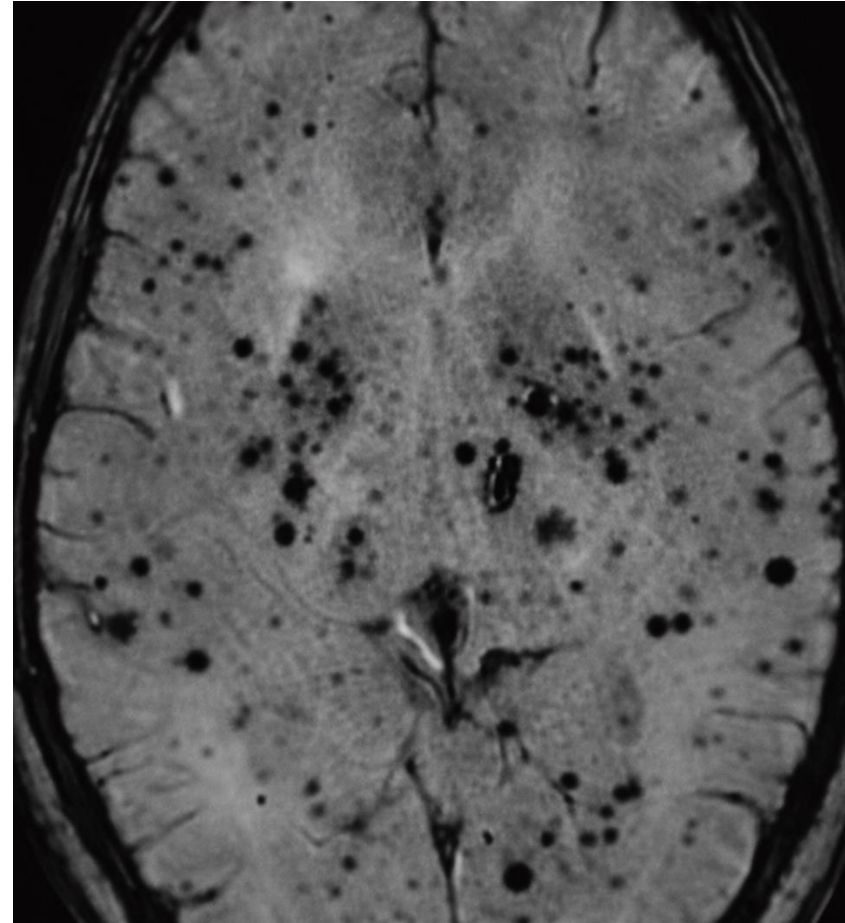


Lacunar Infarcts





Cerebral Microbleeds





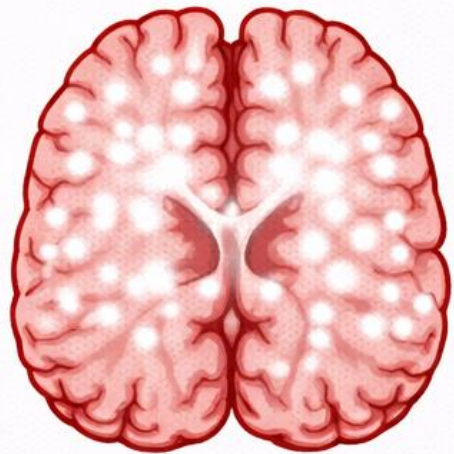
THE SHEER **VOLUME OF SILENT BRAIN INJURY** IS MASSIVE:

Among the US population over 65, an estimated...



11.3 MILLION

Covert Brain Infarcts



11.1 MILLION

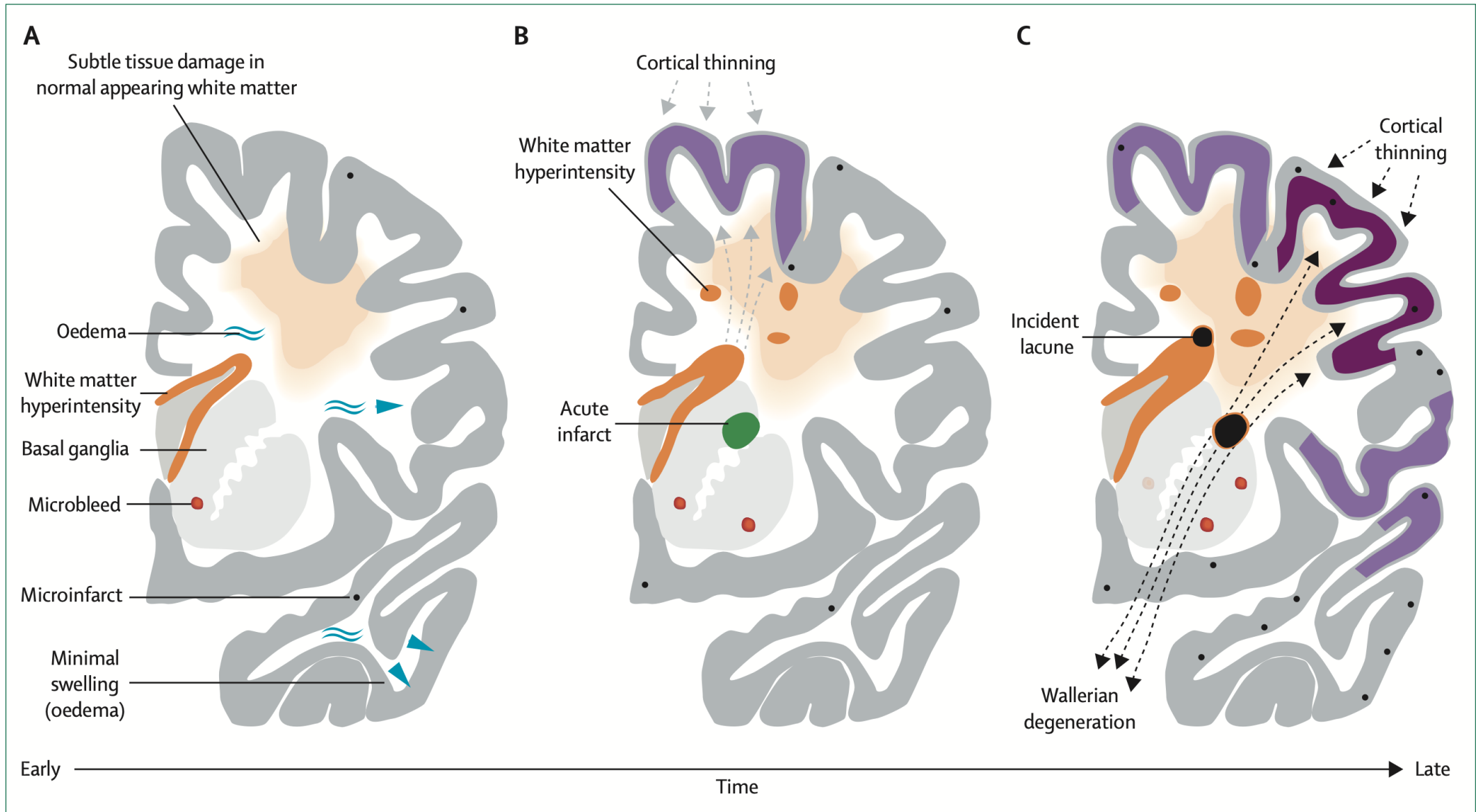
White Matter Damage



NEARLY 20 MILLION

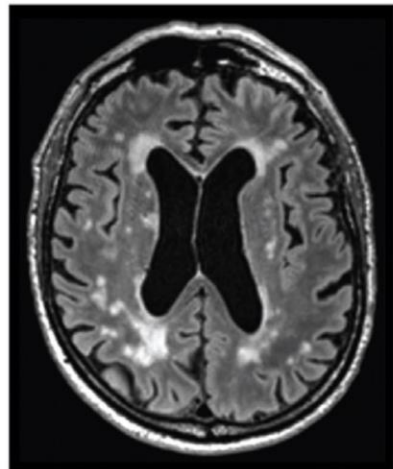
Cerebral Microbleeds

Microscopic infarcts in an individual patient can number in the thousands, covertly disrupting brain networks required for healthy cognition.

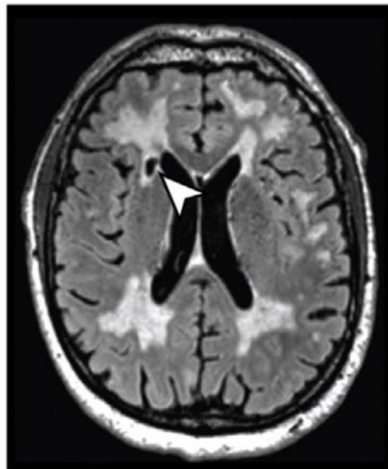




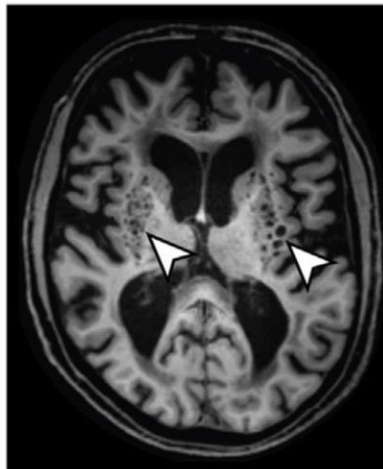
A White matter hyperintensities



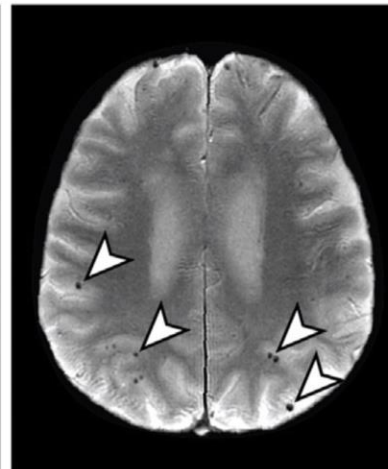
Lacune



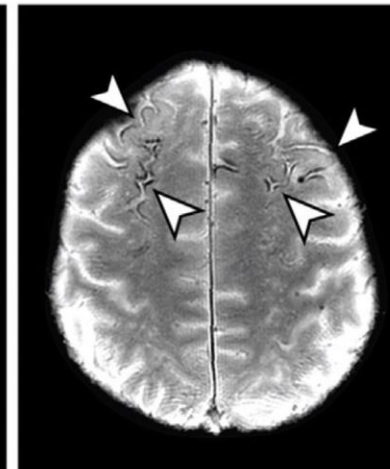
Perivascular spaces



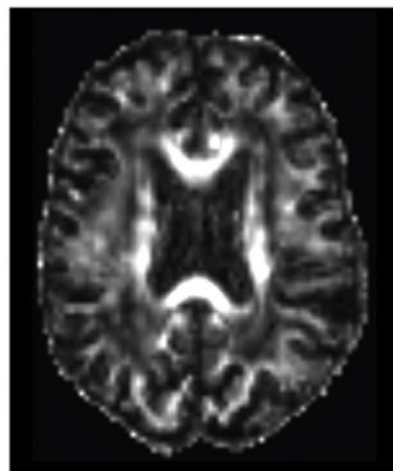
Cerebral microbleeds



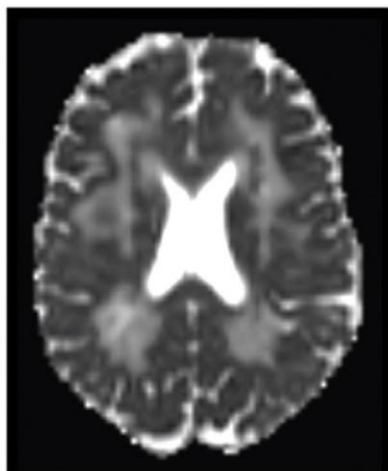
Cortical superficial siderosis



B Diffusion tensor imaging

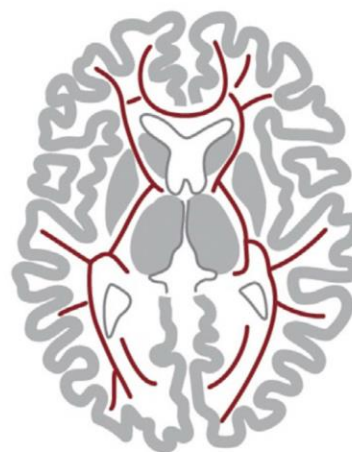


Fractional anisotropy

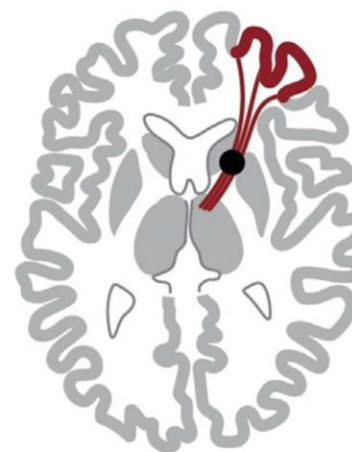


Mean diffusivity

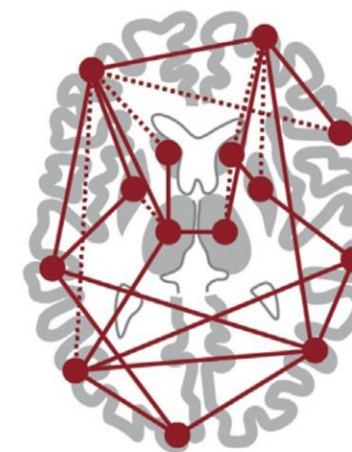
C Diffusion-based analysis concepts



Skeleton-based tract analysis



Identification of connected structures



Altered whole brain network connectivity

Signs and Symptoms of Vascular Contributions to Cognitive Impairment and Dementia



MOOD DISORDERS



Prevalence
Depression & Anxiety affect ~half of individuals

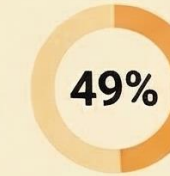


Early Warning Sign
Late-life depression frequently an early clinical marker

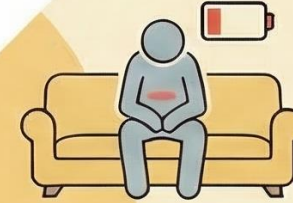


Risk Multiplier
Depression associated with 2.5-fold increased risk of progressing to vascular dementia

PROFOUND APATHY



Point Prevalence
Nearly half of patients experience clinical apathy



Loss of Motivation
Significant lack of goal-directed activity & drive



Disabling Symptom
Often more disabling than cognitive loss, frequently resists conventional treatment

CHANGES IN GAIT & MOTOR FUNCTION



"Magnetic" Gait
Characterized by small-step, parkinsonian-like walking pattern & increased falls



Subcortical Origin
Linked to lesions in basal ganglia, thalamus, or deep white matter



Physical vs.
Gait abnormalities can be as prevalent and disabling as cognitive deficits



SLEEP & AUTONOMIC DISRUPTIONS



Disturbed Sleep
One-third of patients experience insomnia, sleep apnea, or restless leg syndrome

Supporting Fact:
Insomnia & sleep apnea prevalent, contributing to reduced clearance of brain toxins



Early Urinary Incontinence
Premature loss of bladder control/frequency is a classic supportive feature



BEHAVIORAL & PSYCHOTIC SYMPTOMS



Agitation Rate
Intitability and agitation common dishealing features

Neurobehavioral Syndrome
Symptoms result from damage to frontal-subcortical circuits regulating emotion & behavior



Delusions

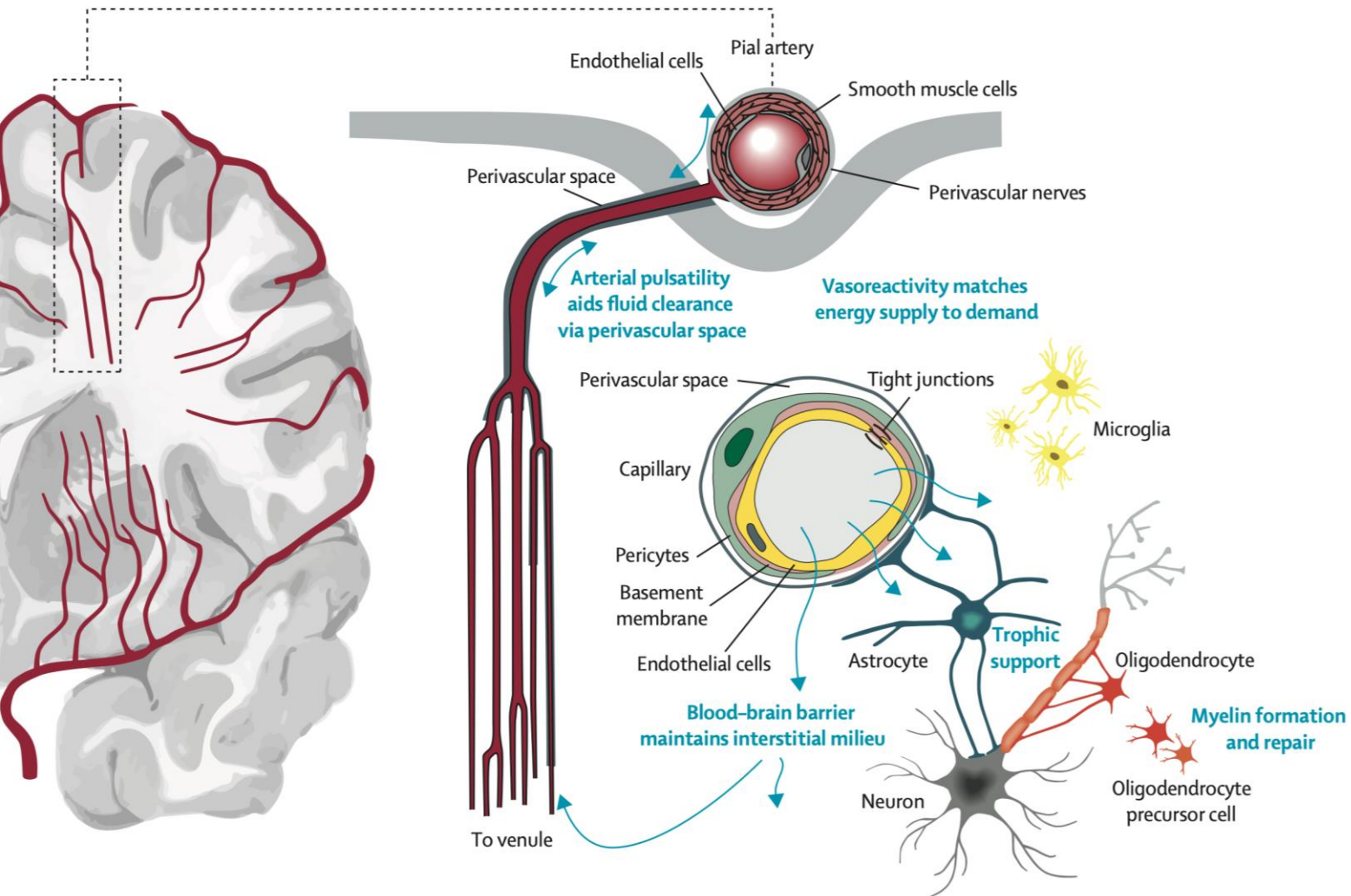


Hallucinations

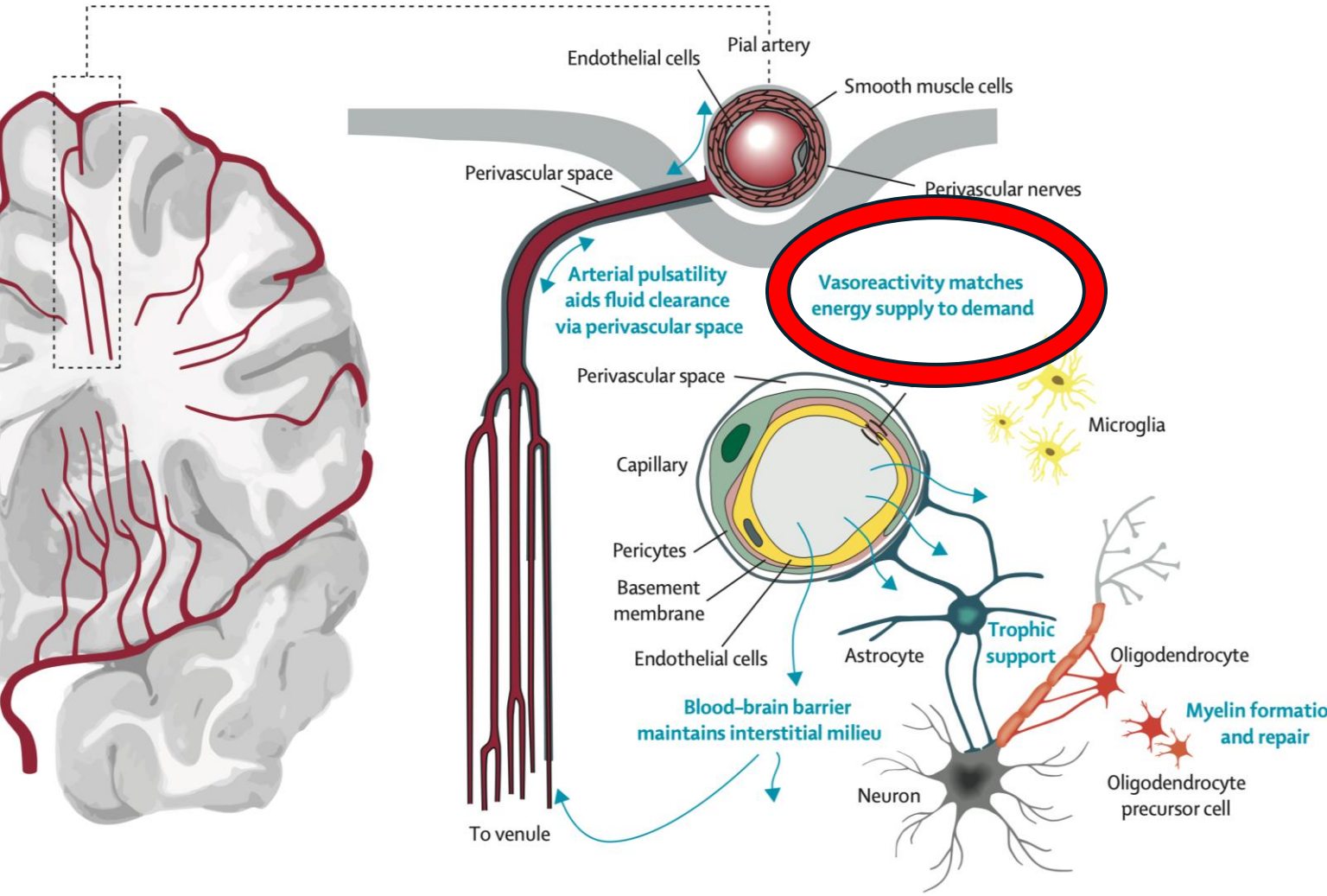


Psychosis in Late Stages
Delusions (~20%) & hallucinations (~11%) occur as disease progresses

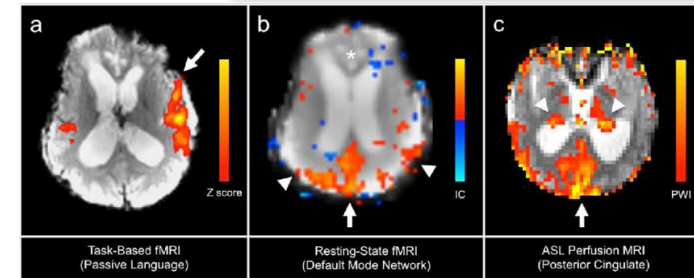
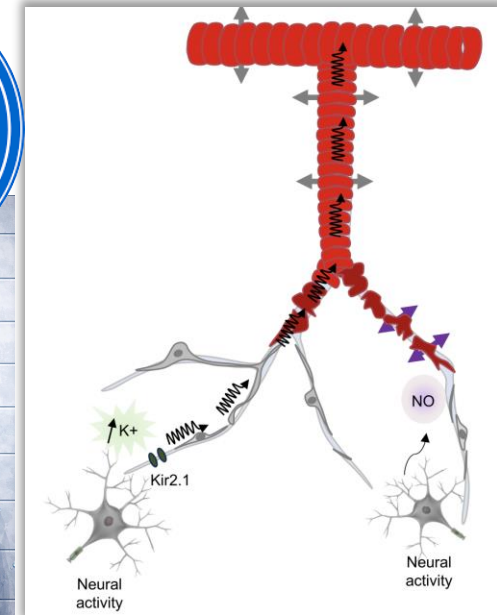
The Neurovascular Unit



The Neurovascular Unit



Precision Supply and Demand A Coupled Collaborative Unit

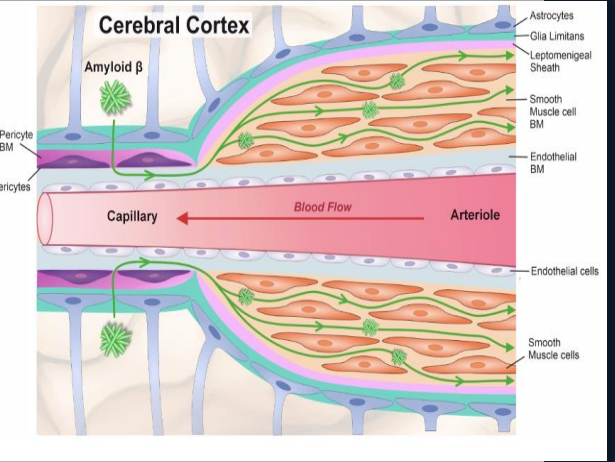
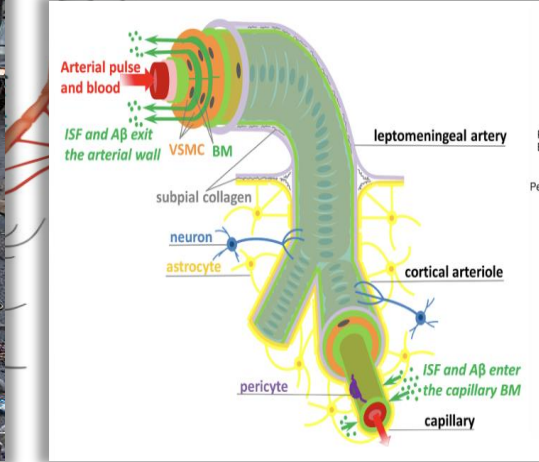
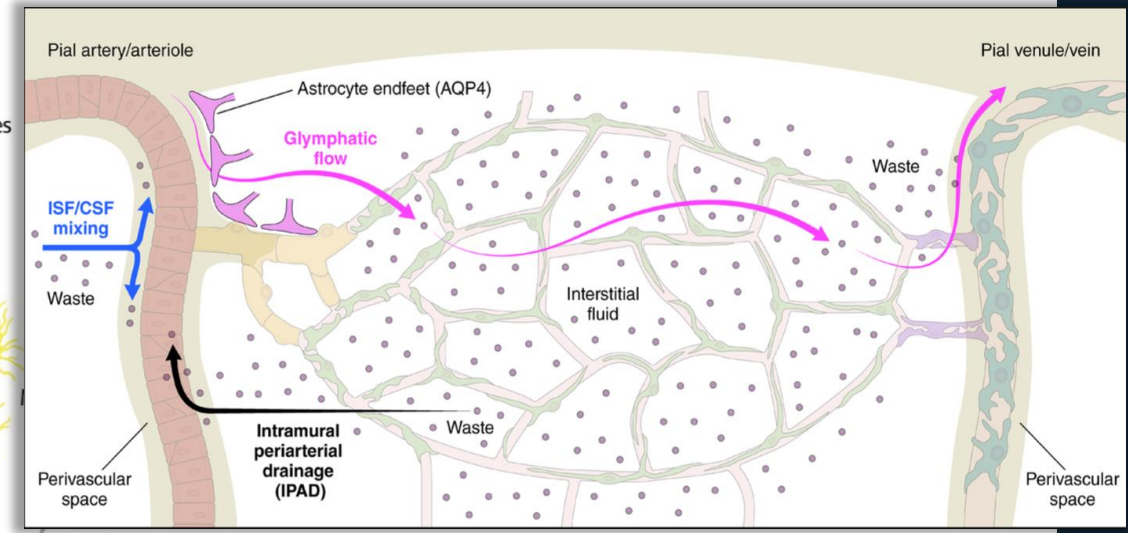
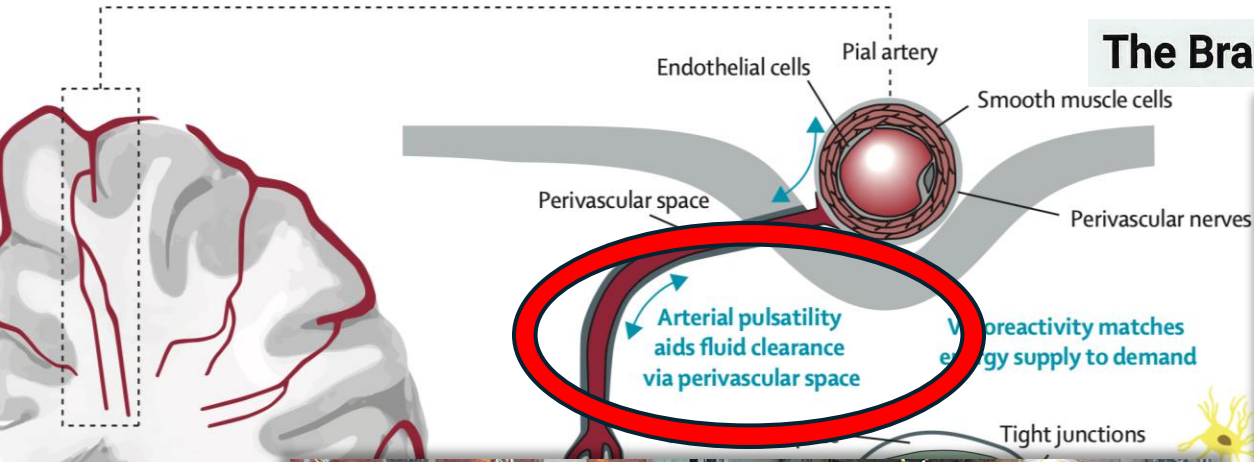


1. Wardlaw JM, Smith C, Dichgans M. Small vessel disease: mechanisms and clinical implications. *Lancet Neurol.* 2019;18(7):684–96. Epub 20190513. doi: 10.1016/S1474-4422(19)30079-1. PubMed PMID: 31097385.
 2. Markus HS, Joutel A. The pathogenesis of cerebral small vessel disease and vascular cognitive impairment. *Physiol Rev.* 2025;105(3):1075–171. Epub 20250218. doi: 10.1152/physrev.00028.2024. PubMed PMID: 39965059; PubMed Central PMCID: PMC12182829.
 3. Edlow, Brian & Rosenthal, Eric. (2015). Diagnostic, Prognostic, and Advanced Imaging in Severe Traumatic Brain Injury. *Current Trauma Reports.* 1. 10.1007/s40719-015-0018-7.

The Neurovascular Unit



The Brain's Cleaning Service: How Vasculature Clears Neurotoxic Waste



The Neurovascular Unit

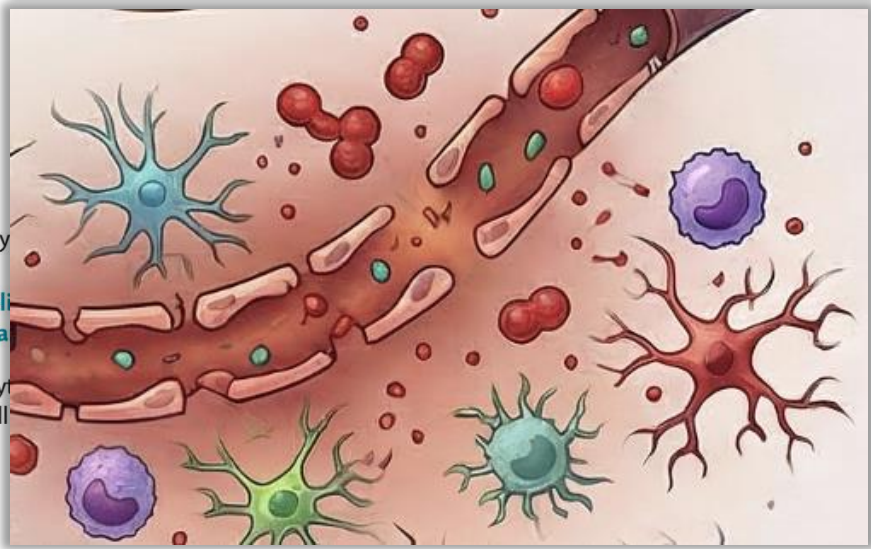
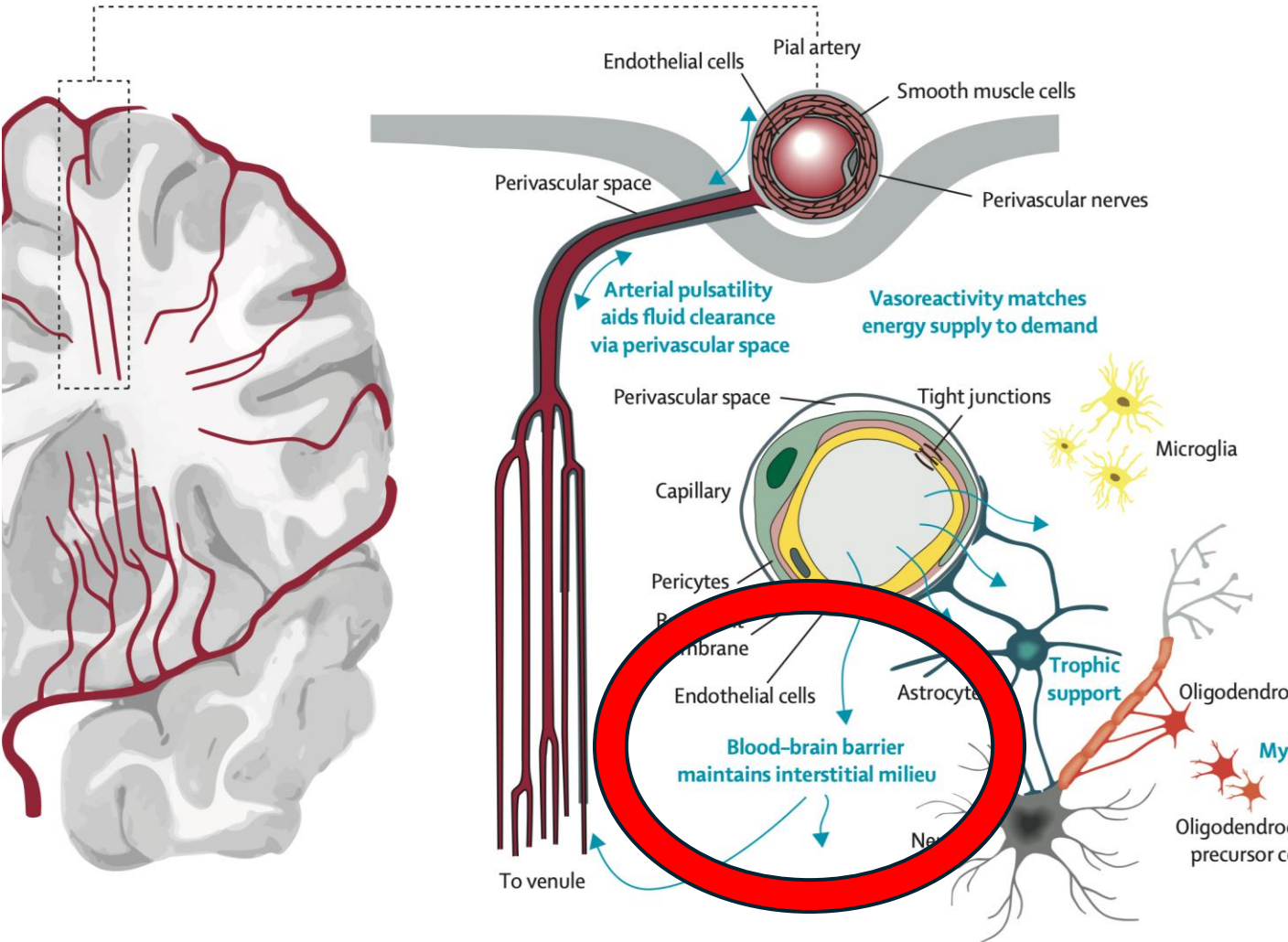
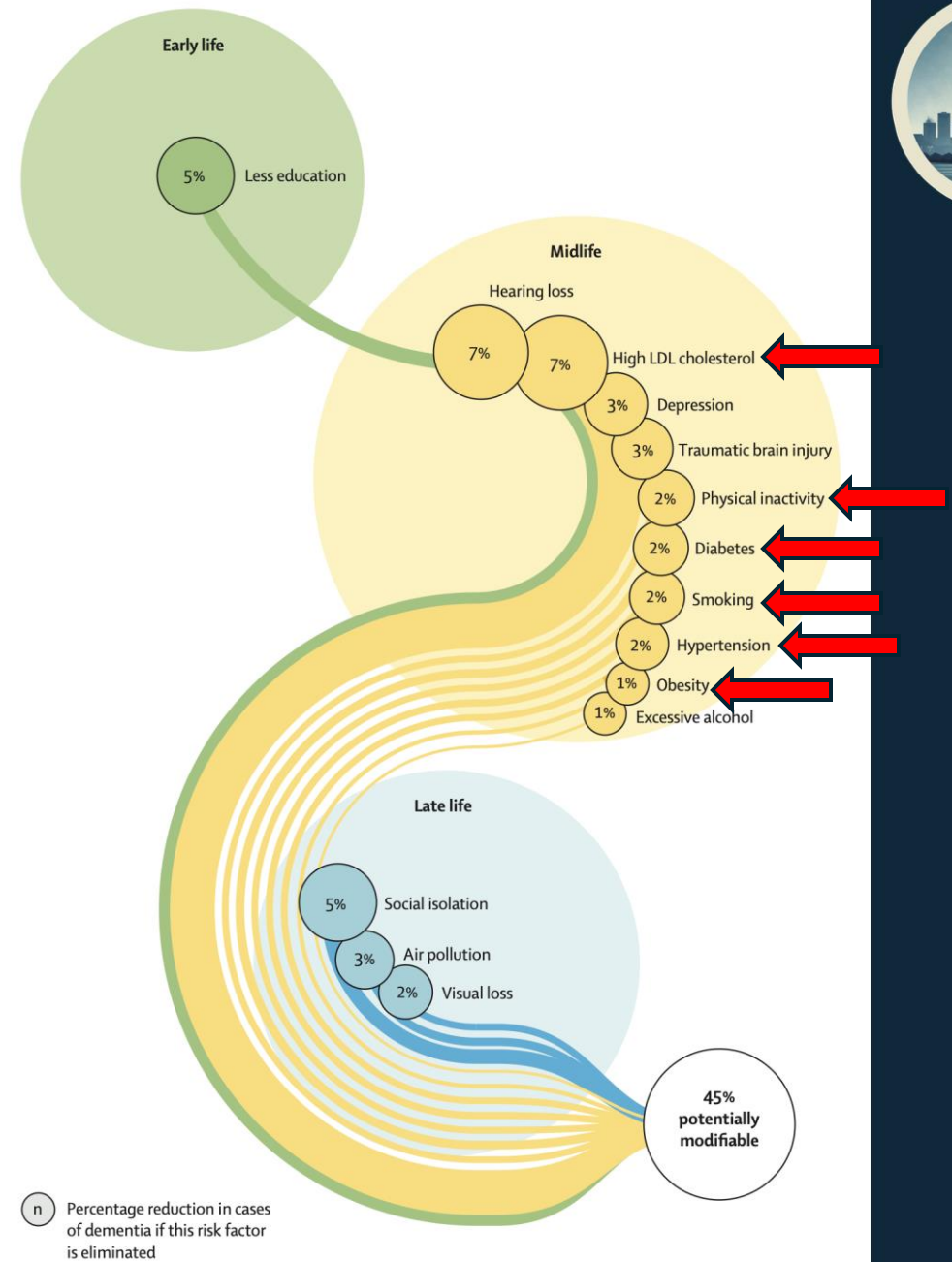




Table. Key Modifiable Vascular Risk Factors for Stroke, cSVD, AD, and Dementia

Stroke ^{68,70,73}	cSVD ^{26,27}	AD ⁷⁴	Dementia ^{71,72,75}
Hypertension	Hypertension	Hypertension	Hypertension
Diabetes	Diabetes	Diabetes	Diabetes
Hyperlipidemia	Hyperlipidemia	Obesity	Hyperlipidemia
Physical inactivity	Smoking	Hyperhomocysteinemia	Physical inactivity
Obesity	Hyperhomocysteinemia	Education	Obesity
Nutrition		Cognitively inactive	Nutrition
Smoking		Depression	Smoking
Air pollutants		Stress	Air pollutants
		Head trauma	Alcohol
		Orthostatic hypotension	Trauma brain injury
			Social isolation
			Depression
	Hearing loss		
	Education		

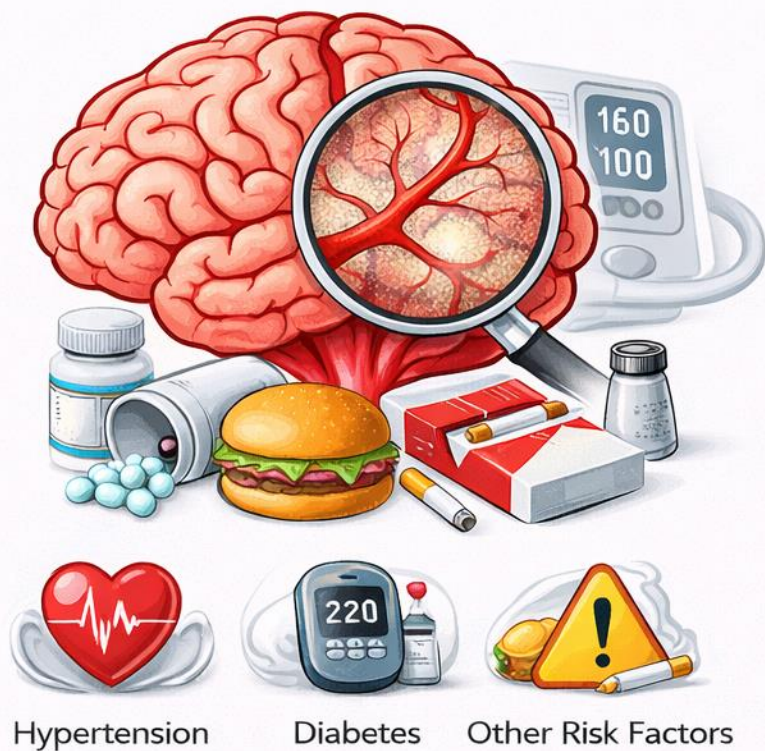


1. Livingston G, Huntley J, Liu KY, Costafreda SG, Selbaek G, Alladi S, et al. Dementia prevention, intervention, and care: 2024 report of the Lancet standing Commission. *Lancet*. 2024;404(10452):572–628. Epub 20240731. doi: 10.1016/S0140-6736(24)01296-0. PubMed PMID: 39096926.
 2. Ip B, Ko H, Lam BYK, Au LWC. Current and Future Treatments of Vascular Cognitive Impairment. *Stroke*. 2024;55:822-39. doi: 10.1161/STROKEAHA.



TARGETING UNDERLYING CEREBROVASCULAR DISEASE IS OUR MOST POWERFUL OPPORTUNITY FOR PREVENTION:

Because cerebrovascular disease and all-cause dementia share highly modifiable risk factors like hypertension and diabetes...



27%-33%
OF ALL DEMENTIA CASES



TRANSLATING TO:
1.5 to 1.8 MILLION
FEWER AMERICANS SUFFERING
FROM DEMENTIA

Life's Essential 8: Building Brain Capital and Preventing Dementia

MANAGE BLOOD PRESSURE

The Strongest Factor

40% RISK REDUCTION
in dementia

Intensive management (SBP <120 mm Hg) reduces MCI and dementia risk by 19%

OPTIMIZE HEALTHY SLEEP

Brain Clearance System

UP TO
50% REDUCTION
in dementia risk

Quality sleep and psychosocial interventions assist brain in clearing toxic waste

ELIMINATE NICOTINE EXPOSURE

Potent Vascular Driver

ALMOST
80% HIGHER RISK
(RR 1.78) of Vascular Dementia for current smokers

Smoking is a major driver of vascular brain injury

PRIORITIZE PHYSICAL ACTIVITY

Neuroplasticity Booster

30% to 50% RISK REDUCTION

≥150 minutes of moderate-to-intense exercise per week enhances neuroplasticity



CONTROL BLOOD GLUCOSE

Major Risk Factor

137% RISK INCREASE
for Vascular Dementia (VaD)

Long-term glucose-lowering strategies preserve brain volume

MANAGE CHOLESTEROL

Additional Risk Driver

7% RISK INCREASE
with High LDL

Healthy HDL levels are protective against amyloid deposition

MAINTAIN A HEALTHY BMI

Midlife Impact

31% HIGHER RISK
(RR 1.31) of all-cause dementia with midlife obesity

Maintaining weight in late-life is critical to avoid frailty-related decline

EAT A BRAIN-HEALTHY DIET

Dietary Defense

35% to 53% REDUCTION
in dementia risk

Adherence to Mediterranean, DASH, or MIND diets (rich in berries, leafy greens)



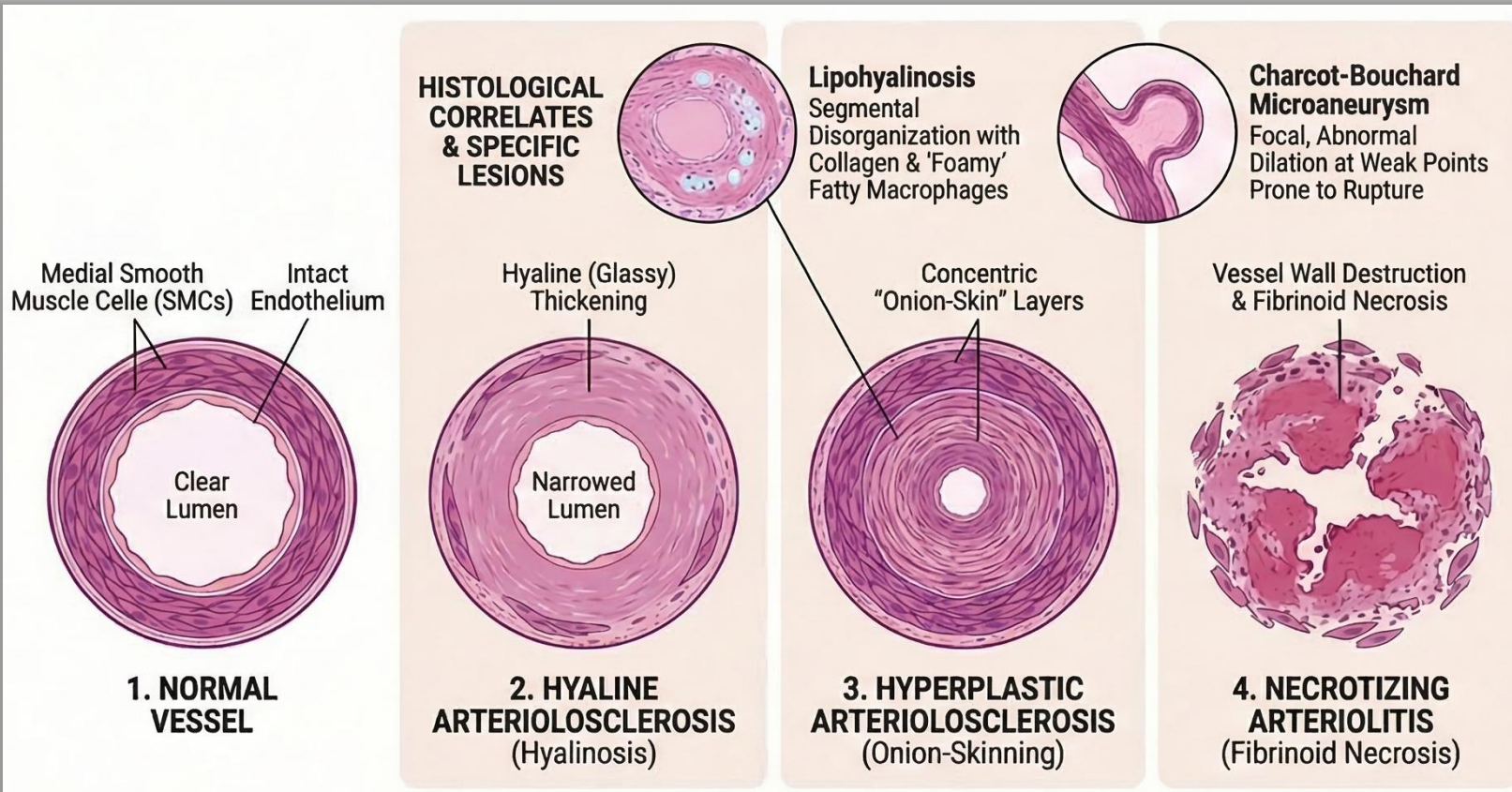
Blood Pressure Categories



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120-129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130-139	or	80-89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

heart.org/bplevels

The Pressure of Progression: Understanding Hypertensive Arteriopathy (Type 1 Arteriolosclerosis)



CLINICAL CONSEQUENCES & OUTCOMES

Lacunar Strokes (Ischemic)
Small, deep brain infarcts (<15–20 mm) caused by total occlusion.

White Matter Disease (Leukoaraiosis)
Widespread damage to brain's 'wiring' (WMH) from chronic hypoperfusion.

Microhemorrhages & Rupture
Vessel wall failure leads to 'black spots' (microbleeds) or deep-brain hemorrhages.



< 120 mmHg: Target for Brain Health? - Results from the SPRINT-MIND Trial

< 140 mmHg



< 120 mmHg



Results of Intensive Control (<120 mmHg)



19% Reduction in MCI Risk

Intensive control lowered incidence of new Mild Cognitive Impairment.



15% Lower Risk: MCI & Dementia

Combined risk of developing MCI or probable dementia significantly reduced.



Slower Progression of Brain Lesions

MRI showed marked reduction in expansion of white matter hyperintensities.



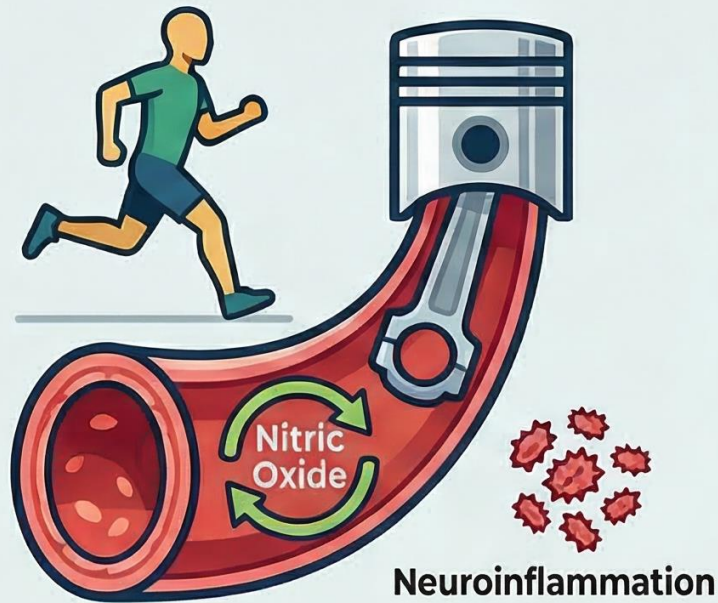
Durable Effects After 7 Years

Follow-up data confirms cognitive benefits persist long-term.

Lifestyle Pillars of Microvascular Resilience

The brain's internal cleaning and maintenance systems are powered by daily lifestyle choices.

Exercise: Powering the Endothelial Engine



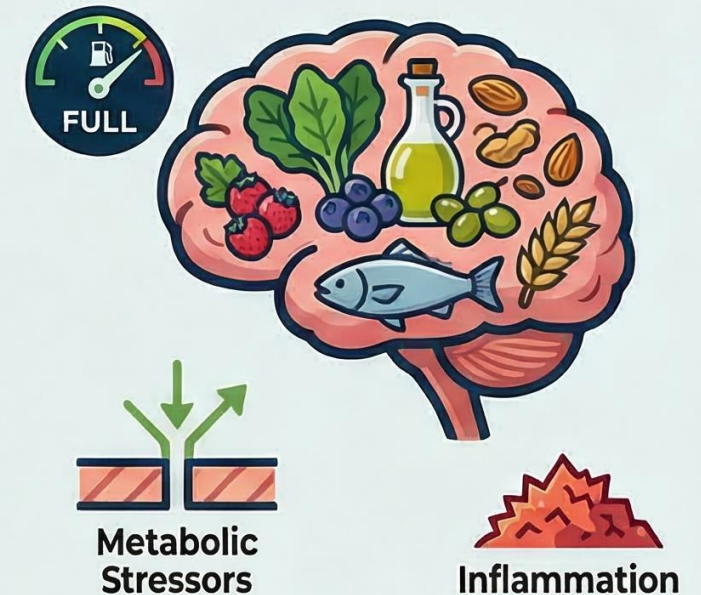
Physical activity enhances endothelial function by increasing nitric oxide and reducing neuroinflammation to preserve brain plasticity.

Sleep: Activating the Glymphatic Flush



Deep sleep drives the glymphatic system to flush metabolic waste, like beta-amyloid, from the brain's interstitial space.

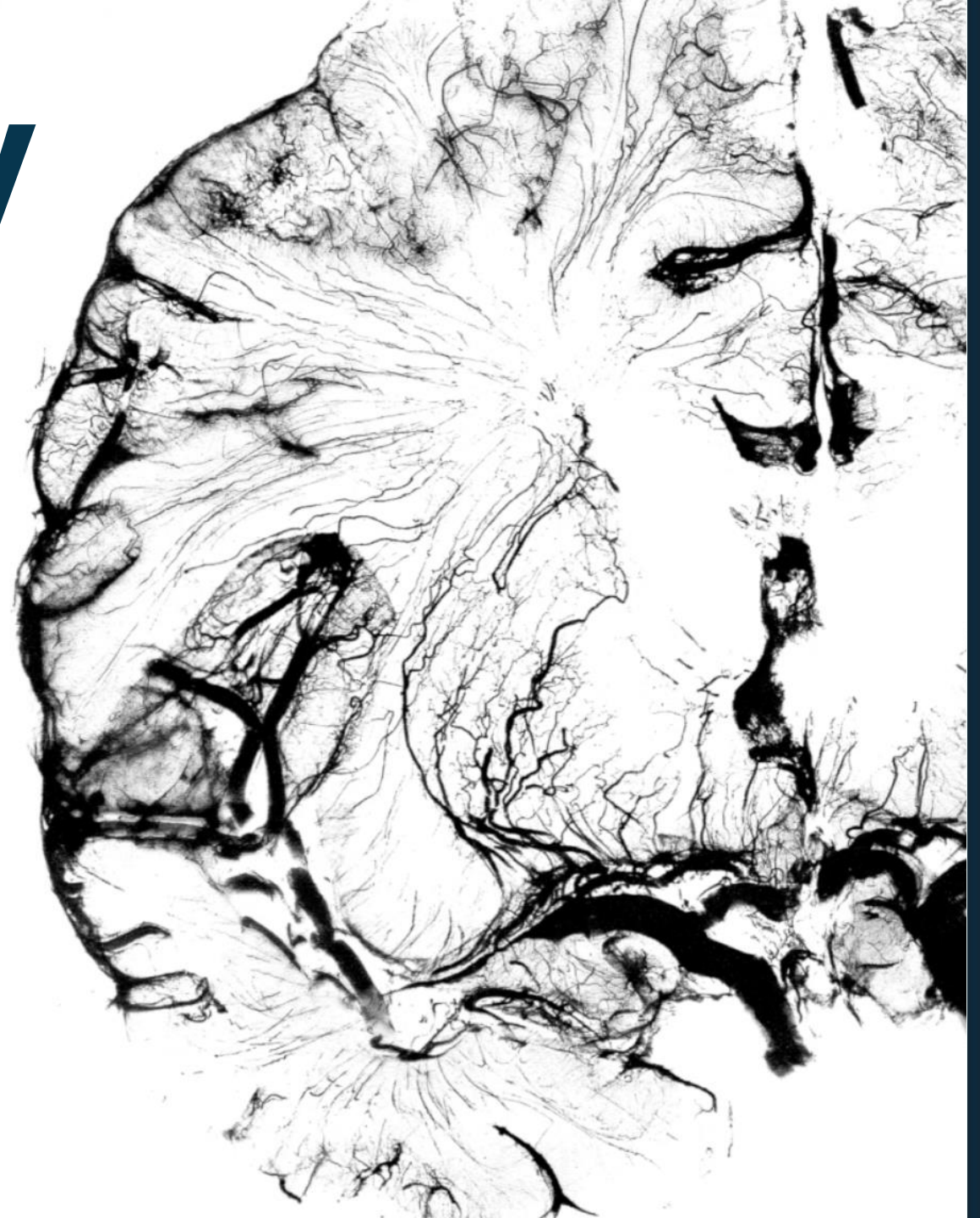
MIND Diet: Fueling Vascular Resilience



This hybrid dietary pattern improves cerebrovascular health by combating metabolic stressors and reducing inflammation.

Summary

- Vascular disease is a major contributor to worldwide rates of cognitive impairment & dementia
- Microvascular disease is a silent epidemic that does not garner enough attention and resources
- Unlike many other untreatable causes for dementia, aggressive risk factor reduction, especially in mid-life may help mitigate the effects of vascular disease



References



1. Rundek T, Du R. 2025 Advances in brain health: brain health as capital for vascular and cognitive resilience. *Stroke*. 2026;57.
2. Clancy U, Kancheva AK, Valdés Hernández MDC, et al. Imaging biomarkers of VCI: a focused update. *Stroke*. 2024;55:791-800.
3. Foley KE, Wilcock DM. Soluble biomarkers of cerebrovascular pathologies. *Stroke*. 2024;55:801-811.
4. Goodall LS, Lennon MJ, Sachdev PS, et al. Current and emerging therapeutic approaches for vascular cognitive impairment and dementia. *J Am Coll Cardiol*. 2026;87(1):77-100.
5. Iadecola C, Duering M, Hachinski V, et al. Vascular cognitive impairment and dementia: JACC scientific expert panel. *J Am Coll Cardiol*. 2019;73(25):3326-3344.
6. Iadecola C, Smith EE, Anrather J, et al. The neurovasculome: key roles in brain health and cognitive impairment: a scientific statement from the American Heart Association/American Stroke Association. *Stroke*. 2023;54:e251-e271.
7. Smith EE. Introduction to focused update vascular cognitive impairment and dementia: better diagnosis, more avenues for prevention. *Stroke*. 2024;55:788-790.
8. Jochems ACC, Muñoz Maniega S, Clancy U, et al. Longitudinal changes of white matter hyperintensities in sporadic small vessel disease: a systematic review and meta-analysis. *Neurology*. 2025;99(22):e2454-e2463.
9. Kim S, Jang EH, Lee S. Effects of the MIND diet on the cognitive function of older adults: a systematic review. *Clin Nutr Res*. 2025;14(4):318.
10. Koohi F, Harshfield EL, Markus HS. Optimizing treatment of cardiovascular risk factors and imaging markers of cerebral small vessel disease. *Brain*. 2024;148(6):1936.
11. Lazar RM, Howard VJ, Keman WN, et al. A primary care agenda for brain health: a scientific statement from the American Heart Association. *Stroke*. 2021;52:e295-e308.
12. Livingston G, Huntley J, Liu KY, et al. Dementia prevention, intervention, and care: 2024 report of the Lancet standing commission. *Lancet*. 2024;404(10452):572-628.
13. Low A, Prats-Sedano MA, McKiernan E, et al. Modifiable and non-modifiable risk factors of dementia in midlife cerebral small vessel disease in cognitively healthy middle-aged adults: the PREVENT-Dementia study. *Alzheimers Res Ther*. 2022;14:154.
14. Markus HS, Joutel A. The pathogenesis of cerebral small vessel disease and vascular cognitive impairment. *Physiol Rev*. 2025;105:1075-1171.
15. Ng S, Homblass A, Habibi P, et al. Updates on vascular dementia. *Stroke Vasc Neurol*. 2025.
16. Pacholko A, Iadecola C. Hypertension, neurodegeneration, and cognitive decline. *Hypertension*. 2024;81:991-1007.
17. Sachdev PS, Bentvelzen AC, Kochan NA, et al. Revised diagnostic criteria for vascular cognitive impairment and dementia—The VasCog-2-WSO criteria. *JAMA Neurol*. 2025;82(11):1103-1112.
18. Sachdev PS, Bentvelzen AC, Gustafson D, et al. Vascular cognitive impairment and dementia: clinical features, neuropathology, and biomarkers. *J Am Coll Cardiol*. 2026;87(1):52-76.
19. Santos CY, Snyder PJ, Wu WC, et al. Pathophysiologic relationship between Alzheimer's disease, cerebrovascular disease, and cardiovascular risk: a review and synthesis. *Alzheimers Dement (Amst)*. 2017;7:69-87.
20. Smith JR, Pike JR, Gottesman RF, et al. Contribution of modifiable midlife and late-life vascular risk factors to incident dementia. *JAMA Neurol*. 2025.
21. Smith EE, Aparicio HJ, Gottesman RF, et al. Vascular contributions to cognitive impairment and dementia in the United States: prevalence and incidence: a scientific statement from the American Heart Association. *Stroke*. 2025;56:e317-e330.
22. Testai FD, Gorelick PB, Chuang PY, et al. Cardiac contributions to brain health: a scientific statement from the American Heart Association. *Stroke*. 2024;55:e425-e438.
23. Kivipelto M, Palmer K, Hoang TD, Yaffe K. Trials and treatments for vascular brain health: risk factor modification and cognitive outcomes. *Stroke*. 2022.
24. Wanigatunga AA, Dong Y, Jin M, et al. Moderate-to-vigorous physical activity at any dose reduces all-cause dementia risk regardless of frailty status. *JAMDA*. 2025;26:105456.
25. Wardlaw JM, Smith C, Dichgans M. Small vessel disease: mechanisms and clinical implications. *Lancet Neurol*. 2019;18:684-696.
26. Zanon Zotin MC, Sweikata L, Viswanathan A, Yilmaz P. Cerebral small vessel disease and vascular cognitive impairment: from diagnosis to management. *Curr Opin Neurol*. 2021;34:246-257.
27. Ip BYM, Ko H, Lam BYK, et al. Current and future treatments of vascular cognitive impairment. *Stroke*. 2024.
28. Rapp SR, Gaussoin SA, Sachs BC, et al. Effects of intensive versus standard blood pressure control on domain-specific cognitive function: a substudy of the SPRINT randomised controlled trial. *Lancet Neurol*. 2020;19(11):899-907.
29. Nasrallah IM, Gaussoin SA, Pomponio R, et al. Association of intensive versus standard blood pressure control with magnetic resonance imaging biomarkers of Alzheimer disease: secondary analysis of the SPRINT MIND randomized clinical trial. *JAMA Netw Open*. 2023;6(5):e2314443.
30. Ghazi L, Shen J, Ying J, et al. Identifying patients for intensive blood pressure treatment based on cognitive benefit: a secondary analysis of the SPRINT randomized clinical trial. *JAMA Netw Open*. 2023;6(5):e2314443.
31. Phillips RA, Xu J, Peterson LE, et al. Impact of cardiovascular risk on the relative benefit and harm of intensive treatment of hypertension. *J Am Coll Cardiol*. 2018;71(15):1601-1610.
32. Wright JT, Williamson JD, Whelton PK, et al. A randomized trial of intensive versus standard blood-pressure control. *N Engl J Med*. 2015;373(22):2103-2116.
33. Reboussin DM, Gaussoin SA, Pajewski NM, et al. Long-term effect of intensive versus standard blood pressure control on mild cognitive impairment and probable dementia in SPRINT. *Neurology*. 2025;104(3):e213334.
34. Palta P, Albert MS, Gottesman RF. Heart health meets cognitive health: evidence on the role of blood pressure. *Lancet Neurol*. 2021;20(10):854-867.
35. Rashid T, Li K, Tole do JB, et al. Association of intensive versus standard blood pressure control with regional changes in cerebral small vessel disease biomarkers: post hoc secondary analysis of the SPRINT MIND randomized clinical trial. *JAMA Netw Open*. 2023;6(3):e231055.
36. Dolui S, Detre JA, Gaussoin SA, et al. Association of intensive versus standard blood pressure control with cerebral blood flow: secondary analysis of the SPRINT MIND randomized clinical trial. *JAMA Neurol*. 2022;79(4):380-389.
37. Nasrallah IM, Pajewski NM, Auchus AP, et al. Association of intensive versus standard blood pressure control with cerebral white matter lesions. *JAMA*. 2019;322(6):524-534.
38. Goldstein ED, Wolcott Z, Garg G, et al. Effect of antihypertensives by class on cerebral small vessel disease: a post hoc analysis of SPRINT-MIND. *Stroke*. 2022;53(8):2435-2440.
39. Kem KC, Nasrallah IM, Bryan RN, et al. Intensive blood pressure treatment and subclinical brain infarcts: a secondary analysis of SPRINT (Systolic Pressure Intervention Trial). *Ann Neurol*. 2024;95(5):866-875.
40. Weiner DE, Gaussoin SA, Nord J, et al. Cognitive function and kidney disease: baseline data from the Systolic Blood Pressure Intervention Trial (SPRINT). *Am J Kidney Dis*. 2017;70(3):357-367.
41. Pruzin JJ, Yau WW, Bress AP, et al. Effect of intensive systolic blood pressure control on markers of cerebral small vessel disease by age. *Hypertension*. 2025.
42. Jiang C, Li S, Wang Y, et al. Diastolic blood pressure and intensive blood pressure control on cognitive outcomes: insights from the SPRINT MIND trial. *Hypertension*. 2023;80(3):580-589.
43. Li S, Jiang C, Wang Y, et al. Systolic blood pressure time in target range and cognitive outcomes: insights from the SPRINT MIND trial. *Hypertension*. 2023;80(8):1628-1636.
44. Reddy M, Li J, Pajewski NM, et al. Cerebral small vessel disease and effects of intensive versus standard blood pressure treatment on cardiovascular outcomes and adverse events. *J Hypertens*. 2025.
45. Haney D, Ma Y, Dalmacy D, et al. High-sensitivity troponin T, NT-proBNP, and cognitive outcomes in SPRINT. *Hypertension*. 2024;81(9):1956-1965.
46. Launer LJ, Miller ME, Williamson JD, et al. Effects of intensive glucose lowering on brain structure and function in people with type 2 diabetes (ACCORD MIND): a randomised open-label substudy. *Lancet Neurol*. 2011;10(11):969-977.
47. Murray AM, Hsu FC, Williamson JD, et al. ACCORDION MIND: results of the observational extension of the ACCORD MIND randomised trial. *Diabetologia*. 2017;60(1):69-80.
48. Jones DW, Ferdinand KC, Taler SJ, et al. 2025 AHA/ACC/AANP/AAPA/ABC/ACCP/ACPM/AGS/AMA/ASPC/NMAP/CNA/SGIM guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: a report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *J Am Coll Cardiol*. 2025;86(18):1567-1678.
49. Rea F, Corrao G, Mancini G. Risk of dementia during antihypertensive drug therapy in the elderly. *J Am Coll Cardiol*. 2024;83(13):1194-1203.
50. Sink KM, Evans GW, Shorr RT, et al. Syncope, hypotension, and falls in the treatment of hypertension: results from the randomized clinical Systolic Blood Pressure Intervention Trial. *J Am Geriatr Soc*. 2018;66(4):679-686.
51. Lewis CE, Fine LJ, Beddhu S, et al. Final report of a trial of intensive versus standard blood-pressure control. *N Engl J Med*. 2021;384(20):1921-1930.
52. Hu AH, Chang TI. SPRINT—a kidney-centric narrative review: recent advances in hypertension. *Hypertension*. 2021;78(4):946-954.
53. Guo X, Sun G, Xu Y, et al. Benefit-harm trade-offs of intensive blood pressure control versus standard blood pressure control on cardiovascular and renal outcomes: an individual participant data analysis of randomised controlled trials. *Lancet*. 2025;406(10507):1009-1019.
54. Bress AP, Kramer H, Khatib R, et al. Potential deaths averted and serious adverse events incurred from adoption of the SPRINT (Systolic Blood Pressure Intervention Trial) intensive blood pressure regimen in the United States: projections from NHANES (National Health and Nutrition Examination Survey). *Circulation*. 2017;135(17):1617-1628.
55. Cheema MF, Butt Z, Gilani S, et al. Intensive blood pressure control and cardiovascular outcomes in elderly patients: a secondary analysis of SPRINT study based on a 60-year age cutoff. *Am J Hypertens*. 2023;36(9):491-497.
56. Elahi FM, Alladi S, Black SE, et al. Clinical trials in vascular cognitive impairment following SPRINT-MIND: an international perspective. *Cell Rep Med*. 2023;4(6):101089.
57. Abbasi J. What to know about the new blood pressure guidelines. *JAMA*. 2025.
58. Lauder L, Rahimi K, Böhm M, Mahfoud F. Debate on the 2025 guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: new blood pressure targets, lower is better—and possible. *Hypertension*. 2025.
59. Khan SS, Lloyd-Jones DM, Abdalla M, et al. Use of risk assessment to guide decision-making for blood pressure management in the primary prevention of cardiovascular disease: a scientific statement from the American Heart Association and American College of Cardiology. *J Am Coll Cardiol*. 2025;86(18):1539-1552.
60. Kanbay M, Copur S, Sarafidis P, Ferro CJ, Ortiz A. 2025 AHA/ACC/AANP/AAPA/ABC/ACCP/ACPM/AGS/AMA/ASPC/NMAP/CNA/SGIM guideline for the prevention, detection, evaluation and management of high blood pressure in adults: a commentary from the European Renal Best Practice (ERBP). *Nephrol Dial Transplant*. 2026.



CONTACTUS



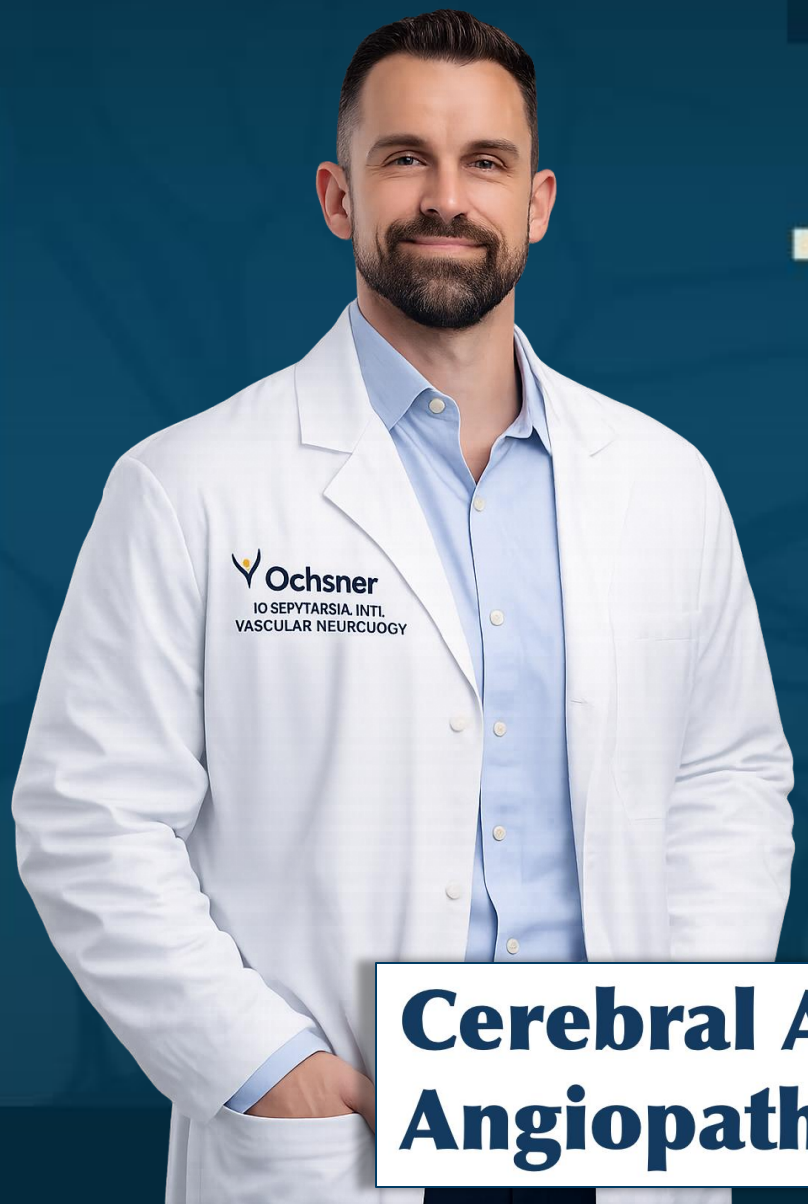
JOSEPH TARSIA, MD

joseph.tarsia@ochsner.org

caa@ochsner.org




BEACON 2026



Ochsner
10 SEPYTARSIA INTL
VASCULAR NEURCUOOGY

THANK YOU

Cerebral Amyloid Angiopathy Clinic   **Ochsner**
Neuroscience Institute