



Science Buzz Cafe # 579

Monday 6 PM • October 26th, 2026

The HopMonk 'Abbey'

Host, Daniel Osmer (daniel@economicbuzzcafe.com)

6 P • Come Early for Food & Drink • RSVP \$7 • DOOR \$10

The Neurology of Aging: Beyond the Brain!

Dr. Allan L. Bernstein, Neurologist

The latest research on the neurology of aging beyond the brain where peripheral and autonomic systems may act as key drivers of decline.

All this in 'Plain English! Just Ask the Doc!

Recent studies show neuromuscular junction (NMJ) failure contributes to sarcopenia: age-related loss of the sodium channel NaV1.4 impairs nerve-to-muscle signal transmission, correlating with weakness. This is potentially reversible—CIC-1 chloride channel inhibition restored muscle responsiveness and strength in aged models. A 2025 theory posits sympathetic-parasympathetic imbalance (excess “fight-or-flight,” reduced “rest-and-repair”) as a core driver of aging hallmarks like inflammation, mitochondrial dysfunction, and senescence, with vagus nerve stimulation proposed as a countermeasure.

Peripheral nerves also age via reduced fiber/glia density, senescent Schwann cells that hinder regeneration, and inflammaging. Some Alzheimer’s-related motor issues may even originate at the NMJ independently of the brain. These findings shift focus toward targeting peripheral neural interfaces for healthier aging.

Dr. Allan L. Bernstein is a longtime California neurologist (MD, SUNY Syracuse, Board-certified 1969) with over 55 years of practice, primarily in Sonoma County. Allan spent decades with Kaiser Permanente in Santa Rosa (including as chief of neurology), served as a clinical professor of neurology at UC Davis for 26 years, and was president of the Santa Rosa medical staff for 12 years. He pioneered the Headache Clinic and Memory Disorder Program there, consulted at the VA Hospital in Martinez, and has conducted extensive clinical research and trials on headache, dementia/Alzheimer’s, stroke, epilepsy, movement disorders, pain, and nutrition.

Dr. Bernstein was a recipient of the 2006 Morris F. Collen Research Award for bridging research and clinical care and is an international lecturer on brain health.

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