Brain Health

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Part Time Health

This presentation is for educational purposes only and is not medical advice. We urge you to seek professional advice for any specific concerns.

Your Brain Health: Your Strategic Edge

Cal State Bar Rule 3.601(E) MCLE requirement

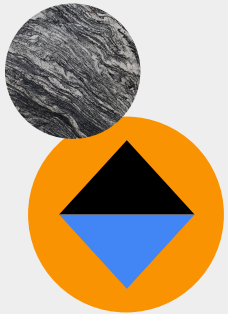
Education that relates to the prevention and detection of substances use disorders, mental illness, and other mental or physical issues that impair an attorney's ability to perform service with competence.

- Substance use impacts brain health
- Brain health is your strategic edge to maintaining professional excellence

Impacts on Your Health

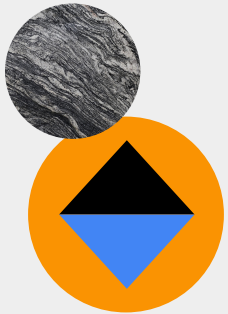
Research shows the disproportionate impact of mental health challenges and substance use on lawyers:

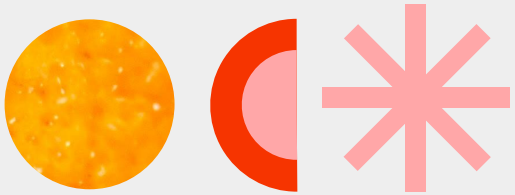
- Over 20% of lawyers report problematic drinking behaviors—nearly double the general population.
- Nearly 30% of lawyers experience symptoms of depression, and 19% struggle with anxiety.
- ***100% of lawyers suffer from work-related health issues***



This Is the Irony

Your work is giving you health problems that are impairing your ability to excel at your job.





Do these sound familiar?

BRAIN FOG

FORGETTING DETAILS

AFTERNOON CRASHES

INABILITY TO RELEASE ACCUMULATED STRESS

Three-Legged Stool:

Foundation of Brain Health

Stool Leg 1:

SLEEP

Your body sends signals that you need better sleep!

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Science of Sleep

★ Sleep plays a crucial role in consolidating memories and integrating new information into long-term memory. REM sleep, in particular, enhances learning, problem solving and memory retention. (Digre, University of Utah, School of Medicine, 6/26/23, LINK).

★ Research in 75 year olds indicates that sleeping 6-8 hours per night is associated with the highest cognitive performance and larger grey matter volume in several brain regions. This duration of sleep supports executive function and is linked to better brain structural health. (Tai, et al, Nature, 3/3/22, LINK)

★ Insufficient sleep disrupts synaptic plasticity, making it difficult to process and remember new information (Diering, Sleep, 10/27/17, LINK).

★ Sleep deprivation can lead to irritability, anxiety, and depression, while sufficient rest helps maintain a positive outlook and reduces stress levels (Chattu, et al, Healthcare (Basel), 12/20/18, LINK).

Long-term alcohol consumption appears to decrease overall REM sleep, which is crucial for cognitive function and emotional regulation (Martindale, et al, J. of Neuropsychiatry, 2/1/17, LINK)

Actionable Steps for Better Sleep

- ★ Create a space conducive to restful sleep: minimize all interruptions & distractions, make it cool & dark
- ★ Stick to the same sleep schedule, even on weekends
- ★ Your body tells you how much sleep you need – experiment to find the right amount for you. *Tools can help you track your sleep.*
- ★ Supplements can help to boost sleep hygiene

Stool Leg 2:

MOVEMENT

Your body sends signals that you need to move!

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Science of Movement

- ★ Exercise can increase the volume of brain structures like the hippocampus, which is crucial for memory and learning (AIMS Neuroscience, 4/2/22)
- ★ A significant immediate increase in brain-derived neurotrophic factor (BDNF) levels in healthy older adults after a 35-minute moderate exercise session, but not when they participated in cognitive training or mindfulness practice. (Coelho, J. Alzheimer's Disease, 10/4/16, LINK)
- ★ Exercise enhances synaptic plasticity, which is critical for integrating new neurons into neural networks. This process involves strengthening synaptic connections and improving communication between neurons. (Gou, et al, Front Aging Neurosci, 9/17/19, LINK)
- ★ Moderate exercise alters brain connectivity patterns, enhancing mood and well-being. (Alfini, et al, Social Cog Neuroscience, 11/17/20, LINK)
- ★ Weight training improves overall cognitive performance and protect against cognitive decline (Ho, Cohen, GeroScience, 1/26/23. LINK) Specifically, it can enhance memory, focus, and decision-making abilities (Singh, et al, J Am Med. Dir Assoc., 12/15/14, LINK).

Actionable Steps to Get Moving

- ★ Your body signals when it needs movement – pay attention to stiffness, restlessness, or fatigue as cues to get active. Aim 30 minutes or more of movement everyday that feels good.
- ★ Avoid prolonged periods of sitting. Get up every 60 minutes, stretch, wiggle, or walk to boost circulation and reset your posture.
- ★ Supplements may optimize recover and muscle health.
- ★ Tools for tracking & reminding are great.

Stool Leg 3:

NUTRITION

Your body sends signals that you need food & water!

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Science of Nutrition

★ Imbalances in the gut microbiome can lead to cognitive health symptoms, including memory problems, difficulty making decisions, attention difficulties, brain fog. Prebiotics and probiotics are nutritional supplements and food components associated with gastrointestinal well-being. (Merlo, et al, Frontiers in Nutrition - 11/10/24, LINK)

★ Consuming ultra-processed foods (UPFs) contribute to cognitive decline. In one study of 11,000 participants, those who reported consumption of UPFs of more than 19.9% of daily calories had a 28% faster rate of global cognitive decline compared with those who reported lower consumption. (Goncalves, et al, JAMA Neurology - 12/5/22, LINK).

★ A meta-analysis of 33 studies showed moderate acute dehydration of at least 2% of body weight resulted in significant impairment of cognitive-motor functions, such as short-term memory, working memory, and perceptive discrimination. (Wittbrodt, et al, Med. Sci. Sports Exerc, 11/18, LINK)

Alcohol can induce an imbalance in your gut (aka dysbiosis), which can affect the production of important neurotransmitters like dopamine, serotonin, and GABA. (Chen, et al, Frontiers in Microbiology - 7/29/22, LINK)

Actionable Steps to Nourish Your Body

- ★ Your body tells you when you need fuel – pay attention to energy dips or difficulty concentrating as cues to refuel.
- ★ Opt for nutrient-dense whole foods, eat the rainbow with a variety, and focus on minimally processed options that provide sustained energy and essential nutrients. Supplements may help support your body's fueling needs.
- ★ Drink water early, often, and more. Dehydration can mimic hunger. Target half your body weight in ounces per day, adding more ounces plus electrolytes if you feel thirsty, consume caffeine or alcohol, or are exposed to heat or humidity.

Supplements to Nourish Your Brain

Please consult your healthcare provider before starting any new supplement.

Sleep:

- ★ **Glycine** offers multiple benefits, including improved sleep quality.
- ★ **Magnesium Threonate** can cross the blood-brain barrier effectively, potentially enhancing both cognitive function and sleep.
- ★ **L-Theanine** may ease anxiety, promote relaxation, improve sleep quality.

Mental Acuity:

- ❑ **Bacopa** may increase blood flow to the brain, improving working memory and processing speed.
- ❑ **Alpha GPC** may increase acetylcholine, a neurotransmitter important for learning and memory function.
- ❑ **Huperzine A** also may increase acetylcholine. It is often used to improve memory and learning ability, as well as to treat Alzheimer's disease.

Decline Prevention:

- ➢ **Lion's Mane** is likely protective against brain degeneration, and contains special compounds that can stimulate the growth of brain cells.
- ➢ **Quercetin & Bromelain**, usually taken together, may have protective effects against Alzheimer's and dementia.

Alcohol's Impact

Regular and heavy alcohol consumption over time can lead to more severe and lasting impacts on brain health:

Brain Structure Changes

- Shrinkage of brain tissue, particularly in the hippocampus, which is crucial for memory and reasoning (Harvard Medical School, 7/14/17, LINK)
- Reduction in the size of neurons (National Inst. on Alcohol Abuse & Alcoholism - 2022, LINK)
- Overall decrease in brain volume, with the extent of shrinkage proportional to alcohol consumed (Harvard Medical School, July 14, 2017, LINK)

Cognitive Impairments

- Difficulties with executive functioning, including planning and decision-making (ASME, 1/1/15, LINK)
- Risk of alcohol-related brain damage (ARBD) or injury (ARBI) (Future Healthcare Journal - 11/23, LINK)

Increased Risk of Neurological Conditions

- Higher likelihood of developing dementia-like symptoms (British Medical Journal - 8/1/18, LINK)
- Increased risk of stroke due to damaged blood vessels and high blood pressure (Lancet - 10/24, LINK)

Becoming a Super Observer

YOUR BODY IS ALWAYS COMMUNICATING WITH YOU.

FATIGUE, CRAVINGS, AND MOOD SHIFTS AREN'T NUISANCES—THEY'RE CLUES.

THANK YOU!

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