

Brain/Mind Health: What is the Role of Developmental/Neuro Rehabilitation Optometrist?

Kavita Malhotra, OD, FCOVD
dmalhotra@cov.net rehabeyesdoc@gmail.com
KISS 2024

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR


Disclosure

- None

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

What is Our Role?

- Intervention in our practice?
- What to address?
- At what level?
- When?
- When to refer?
- Whom to refer to?



© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Questionnaire

- Do you suffer from any brain related ailments now?
- Do you avoid strenuous exercise?
- Do you sit for most of the day?
- Are you overweight or obese?
- Are you a woman?
- Have you been diagnosed with cardiovascular disease?
- Do you have metabolic disorders (HBP, diabetes)?
- Have you had an infection that can lead to chronic inflammation an neurological effects (Lyme, herpes)

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Questionnaire – Part II

- Do you take meds with possible brain effects ex. antidepressants, anti anxiety drugs, HBP, statins, proton pump inhibitors, antihistamines?
- Have you ever had a TBI or head trauma or played an impact sport? Had a concussion?
- Do you smoke or history of smoking?
- Do you have history of depression?

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Questionnaire – Part III

- Do you lack social engagement with others?
- Did your formal education end at high school or earlier?
- Do you live with chronic unrelenting stress (trouble coping)?
- Do you have a history of alcohol abuse?
- Do you suffer from a sleep disorder?
- Do you have hearing loss?

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Questionnaire – Part IV

- Does your day lack cognitive challenges in the form of learning something new or playing a game that requires a lot of thinking?
- Are you over 65 years old?
- Do you have a family history of Alzheimer's disease or APOE₃ or APOE₄ or both?
- Do you care for someone who suffers from some form of dementia including Alzheimer's disease?
- **Significant: Answered Yes to 5 or more questions**
- **If 1-2 questions you can still use information to optimize health and performance**

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Degrees

- Forgetful
- Brain fog
- Dementia
- Alzheimer's



© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Dementia

- Mild cognitive impairment (MCI) – beginning stage
- Vascular dementia – impaired blood supply
- Dementia with Lewy Bodies (DLB) – 20%
- Frontotemporal Lobar Dementia (FTLD)
- Alzheimer's disease – 60 to 80%

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Metabolic Disorders

- Link to mental health
- Diabetes
- Obesity
- Cardiovascular disease
- ADD/ADHD?

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Contributing Factors

- Genetics
- Epigenetics
- Inflammation
- Neurotransmitters
- Hormones (age)
- Sleep
- Alcohol and drugs
- Mental status (trauma, loneliness, love, heartbreak)
- Purpose in life
- Affect metabolism and mitochondria, mental health

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Medications

- Side effects - Statins
- Co-Morbid conditions

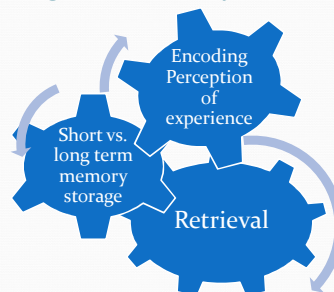
© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Diet

- Current diet
- Restrictions – allergy, religion, availability
- Willingness to make a change

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Building a Memory



© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Treatment

- Remove or reduce dysregulation
 - Sleep, diet, drug use, medication, social
- Correct metabolic imbalance
 - Neurotransmitters, hormonal imbalance
- Improve metabolism
 - Mitochondrial biogenesis – number and capacity
 - Mitophagy – remove and replace old
 - Autophagy – repair damage

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Movement

- Move more
- Breathe!
- Regular physical fitness routine
- Mind body connection
- Ask patients how much they are doing
- Add during therapy sessions
- Ask patients to walk for home reinforcement

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Breathe!

- Various Forms
- 4-4-8
- 4-4-4-4
- 2-2-4 (8)
- Increase so exhalation is twice inhalation
- Shifting to parasympathetic

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Continue Learning

- Brain resiliency (cognitive reserve)
- Need continuing education
- Read, audio books
- Brain training games
 - better at game, not reasoning or problem solving
- Learn a new skill ex. language, dancing

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Therapy

- Scaffolding
- Strategies they can use
- Finding opportunities to reinforce therapy
- Adapt activities of daily living

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Sense of Purpose

- Value of life lived with purpose
- Motivation to remain active and care for yourself
- Find ways to get involved
- Flow – state of immersion without distraction or agitation
- Intense energy – less stress Mihaly Csikszentmihalyi (MEE-high CHEECH-sent-mee-high)

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Environment

- Social/Emotional
- Contribute to society - value



© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

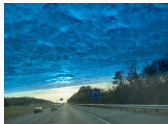
Make Connections

- Authentic

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Sleep/Light

- Light – Natural light, screens
- Circadian rhythms
- Red light – stimulate ATP production
- Blue light – inhibit ATP production
- Syntonics



© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Sleep

- Stick to a schedule (avoid long naps)
- Don't be a night owl (sleep before midnight)
- Wake up to early morning light (Andrew Huberman)
- Get moving
- Watch what you eat and drink
- Medications
- Cool, dark, quiet
- Eliminate electronics before bedtime
- Bedtime rituals
- Warning signs of sleep disorders

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Ways to Reset

- Meditation
- Forgiveness
- Laugh
- Take breaks from social media
- Create time for yourself
- Reward yourself
- Don't multitask
- Declutter
- Daydream

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Food

- Quality
- Vitamins, supplements and Nutrition
- Time restricted eating (intermittent fasting, ketones)
- Alcohol, drugs
- Gut-Brain axis

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Good Eating - SHARP

- Slash sugar
- Hydrate – water
- Add Omega-3 DHA, D₃ (Vitamin K)
- Reduce portions
- Plan ahead

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Supplements

- Post-Concussion
- Post stroke
- Long COVID
- Lyme disease
- MTHFR

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Intervention

- Initiation
- Adaptation
- Maintenance
- Withdrawal

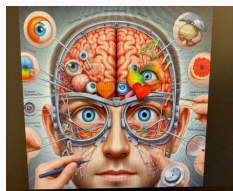
© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Patient Case Report

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

What is Our Role?

- Intervention in our practice?
- What to address?
- At what level?
- When?
- When to refer?
- Whom to refer to?



© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

References

Keep Sharp Building a Better Brain at Any Age by Sanjay Gupta, MD 2021 Simon and Schuster

Brain Energy by Christopher M, Palmer, MD 2022 BenBella Books

Overnight olfactory enrichment using an odorant diffuser improves memory and modifies the uncinata fasciculus in older adults <https://www.frontiersin.org/articles/10.3389/fnins.2023.1200448/full>

© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR

Thank You

drmalhotra@cox.net
rehabeyedoc@gmail.com
Kavita Malhotra, OD, FCOVD
501 Church St. NE, Suite 215
Vienna, VA 22180
(703) 242-0737



© 2024 Dr. Kavita Malhotra, OD FCOVD/FOVDR