

Making SENSE of Brain Health During COVID-19

Linda Sasser, Ph.D.

Lifestyle Practices for Optimum Brain Health

S = Socialization

- Stay connected to people via phone calls, texting, video chatting, emails, mailing cards/letters.
- Play games with others using apps such as Words with Friends, Scrabble GO, Uno, Yahtzee with Buddies, Clue, Monopoly, Game of Life, and many more.
- Get a robotic pet to reduce loneliness, especially in this time of social distancing.
- Share memoir stories (verbal or written), through emails or video chatting.
- Play charades, trivia, Pictionary, etc., or have a talent show, via video conferencing.
- Start a book club and use video conferencing to discuss the book.

E = Exercise

- Regular exercise increases blood flow to the brain and can protect against cardiovascular disease. Lowering blood pressure and cholesterol levels and quitting smoking can also protect against Alzheimer's disease.
- Regular exercise is associated with increases in brain growth factors (e.g., brain-derived neurotrophic factor) and decreases in oxidative stress and inflammation which damage cells and tissue.
- Schedule time each day during which you can safely engage in physical activity.
- Visit this website for ideas and videos of exercises you can do at home without specialized equipment: <https://www.nia.nih.gov/health/exercise-physical-activity>.
- Watch YouTube videos with easy exercise routines you can follow in your home.
- Go outdoors (in the manner allowed by your local authorities) to help you get fresh air and vitamin D as well as exercise. Walk, bike, do gardening!

N = Nutrition

- Follow the Mediterranean or MIND diet, which suggest eating fish twice a week and regularly consuming fruits, vegetables, whole grains, nuts, legumes, and olive oil while reducing consumption of red meat and alcohol (*see Resources list*).
- Fatty fish like wild salmon, sardines, albacore tuna, lake trout and mackerel are loaded with brain healthy Omega-3 fatty acids which nourish the brain cells.
- Start by replacing one food item at a time for a healthier one. For example, replace refined grains with whole grains, or use brown rice instead of white.
- Stay hydrated to keep brain tissues from shrinking and negatively affecting cognitive function.

S = Sleep and Spirituality

- Engage in stress-reducing practices (e.g., mindfulness meditation, yoga, or even watching humorous television shows) to help manage anxiety and improve mood and sleep quality.
- Limit agitation by decreasing the time you spend watching or listening to media coverage that you perceive as upsetting.
- Spirituality (a connection to something outside ourselves) can provide meaning or purpose to life and can be especially helpful during times of crisis.
- Get between 6 and 9 hours of sleep per night.
- If you have difficulty falling asleep:
 - Don't have caffeine after noon.
 - Don't use devices that emit blue light (TV, computer, tablet, smart phone) close to bedtime.

E = Education

- Learn something new every day, especially new, challenging skills.
- Develop a creative outlet (drawing, painting, music, etc.) which can relieve stress and improve communication between different parts of the brain.
- Use your nondominant hand to carry out familiar or routine tasks, like brushing your teeth or using your computer mouse.
- Tackle an extra-large jigsaw puzzle, learn how to use video conferencing, start a journal.
- Engage in cognitively stimulating exercises such as those that follow (*answers follow exercises*).

Anagrams Task

Anagrams are scrambled words. Unscramble the eight words below by rearranging the order of the letters – then write each one on the appropriate blank line.

DLORE LAMENT MUTILATES RENAL XPMLOEC LSNIGVO

It is important to use your brain and _____ it with new and _____ ideas. Even the brains of _____ adults can _____ and grow, especially when doing _____ exercise like _____ anagrams.

Find Words Ending in... age

The age which binds _____	Part of a book _____
Someone wise _____	To betroth _____
Of the theater _____	Of intense anger _____
Bravery _____	Of leaves _____
Captive _____	Of matrimony _____

Q. So how does it feel to be 110 years old?

A. No peer pressure!

Logical Thinking Challenges

In each group of words below, find a word that has a relationship to each of the words in the group.

1. rock luck times _____
2. tower pocket stop _____
3. fish share money _____
4. dive horse chair _____
5. water leaves free _____

Lateral Thinking Challenges

1. My life can be measured in hours. I serve by being devoured. Thin, I am quick. Fat, I am slow. Wind is my foe. What am I?
2. Is it legal in the United States for a man to marry his widow's sister?
3. A farmer had seven daughters and they each had a brother. How many children did the farmer have?
4. What can you hold in your left hand but never in your right hand?

Name the Candy

1. Another home run _____
2. Sound made when you bite into an apple _____
3. A worker's favorite day _____
4. The galaxy _____
5. Burial sites _____
6. Superman's reporter's name _____
7. Expression of affection _____
8. Big lies _____
9. Not laughing out loud _____
10. Swashbuckling trio _____

Parts of the Body Challenge

For each word or phrase, name the part of the body being described.

1. To prepare for battle _____
2. An accusing pointer _____
3. Porcupines have more than one _____
4. Producer of veal _____
5. Add "p" to famous singer's name _____

Word Connection Exercise

Use the last two letters of the first word below to begin the next word, then do the same for each successive word. The last word formed will be the same as the first word.

1. The capital of France PARIS
2. Solitude, seclusion _____
3. Beginning, commencement _____
4. Conforming to accepted standards of conduct _____
5. Carnivorous, thick-skinned, long-bodied, aquatic reptile _____
6. Keyboard instrument in which sets of pipes are sounded by compressed air _____
7. To obliterate, wipe out _____
8. An indeterminate geographic area _____
9. A hardy annual grass grown for grain _____
10. The color of Big Bird _____
11. Indebted, responsibility to satisfy an obligation _____
12. To prepare literary material for publication _____
13. Sensation causing desire to scratch _____
14. Supreme self-confidence, nerve _____
15. The capital of France _____

The economy's so bad that women in Beverly Hills are telling their real age just to get the AARP discount. - Jay Leno

Homophones

For each statement below, think of a pair of words that sound the same, but are spelled differently and mean different things. [Note: There are hints at the beginning of the Answer to Exercises section if you would like some help.]

1. What did the chess player say after he finally beat an opponent for the first time?

2. If you are cooking a meal for your bridge group, you are making a meal _____
_____.
3. An English teacher can teach you penmanship so that you will _____
_____.
4. A part of a movie you have previously viewed could be called a _____ _____.
5. A story about the part of a dog that it wags is a _____ _____.

What Phrase is in Each Box?

t m a u h s w t	r/e/a/d/i/n/g	<u>January February March</u> DUE
over over	Hard <u>x Ahead</u>	belt hitting
Me Quit	HOROBOD	soil
DON'T CRY SPILLED MILK	eggs easy	1. HA 3. ON 2. RM 4. NY
go it it it it	<u>man</u> board	<u>stand</u> I

Answers to Exercises

Homophones Hints [below are the first letters each of the words]

- | | | |
|---------|---------|---------|
| 1. w, o | 3. w, r | 5. t, t |
| 2. f, f | 4. s, s | |

Anagrams Task

STIMULATE, COMPLEX, OLDER, LEARN, MENTAL, SOLVING (in the order they appear in the sentences)

Find Words Ending in... age

- | | |
|---------|----------|
| bondage | page |
| sage | engage |
| stage | rage |
| courage | foliage |
| hostage | marriage |

Logical Thinking Challenges

- | | |
|-----------|---------|
| 1. hard | 4. high |
| 2. watch | 5. fall |
| 3. market | |

Lateral Thinking Challenges

- 1. A candle
- 2. No, because if he has a widow, he is dead.
- 3. Eight
- 4. Your right hand

Name the Candy

- 1. Babe Ruth
- 2. Nestle Crunch
- 3. Payday
- 4. Milky Way
- 5. Mounds
- 6. Clark
- 7. Kiss
- 8. Whoppers
- 9. Snickers
- 10. Three Musketeers

Parts of the Body Challenge

- 1. arm
- 2. finger
- 3. spine
- 4. calf
- 5. pelvis

Word Connection Exercise

- 1. PARIS
- 2. ISOLATION
- 3. ONSET
- 4. ETHICAL
- 5. ALLIGATOR
- 6. ORGAN
- 7. ANNIHILATE
- 8. TERRITORY
- 9. RYE
- 10. YELLOW
- 11. OWED
- 12. EDIT
- 13. ITCH
- 14. CHUTZPA
- 15. PARIS

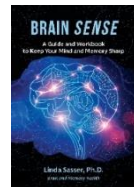
Homophones

- 1. won one
- 2. for four
- 3. write right
- 4. seen scene
- 5. tail tale

What Phrase is in Each Box?

What goes up must come down	Reading between the lines	Three months overdue
Leftovers	Hard times ahead	Hitting below the belt
Quit following me	Robin Hood	Topsoil
Don't cry over spilled milk	Eggs over easy	Four-part harmony
Go for it	Man overboard	I understand

The preceding exercises are either from or like those in my book, **Brian SENSE: A Guide and Workbook to Keep Your Mind and Memory Sharp**, available on Amazon, or my curriculum for a 10-week course on brain health and cognitive wellness, entitled **BE! Brain Enrichment**. To learn more, contact me at brainandmemoryhealth@gmail.com.



Resources

Websites

<https://www.nia.nih.gov/health/exercise-physical-activity> - helps you fit exercise/physical activity into your daily life

<https://www.health.harvard.edu/blog/eating-during-covid-19-improve-your-mood-and-lower-stress-2020040719409>

<https://www.massgeneral.org/news/article/food-vs-mood-eating-for-physical-and-mental-health-during-covid-19>

<https://womensbrainhealth.org/better-thinking/the-mind-diet> - the MIND diet

<https://memorymorsels.org/> - brain healthy recipes and brain health tips

lifebio.org - LifeBio is offering a free "What's Your Story?" group starting Thursday, April 23rd, 2020, at 11 a.m. ET which will run on Thursdays for 8 weeks so people can share stories, memories, and experiences via phone and/or Zoom. Email info@lifebio.com for an invitation.

A Partial List of Journal Articles [for additional related research articles, please email Linda]

2018 AARP Loneliness and Social Connections: A National Survey of Adults 45 and Older.
doi.org/10.26419/res.00246.001

Barnes, J.N. (2015). Exercise, cognitive function, and aging. *Adv Physiol Educ.*,39(2), 55–62.
doi: [10.1152/advan.00101.2014](https://doi.org/10.1152/advan.00101.2014)

Boyle, P. et al. (2010). Effect of a Purpose in Life on Risk of Incident Alzheimer Disease and Mild Cognitive Impairment in Community-Dwelling Older Persons. *Arch Gen Psychiatry*, 304-310.

Boyle, P. (2012). Effect of Purpose in Life on the Relation Between Alzheimer Disease Pathologic Changes on Cognitive Function in Advanced Age. *Arch Gen Psychiatry*, 499-506.

DiLiegro, C.M. (2019). Physical Activity and Brain Health. *Genes (Basel)*,10(9). pii: E720. doi: 10.3390/genes10090720.

Global Council on Brain Health. (2017). *Engage Your Brain: GCBH Recommendations on Cognitively Stimulating Activities*. Available at: www.GlobalCouncilonBrainHealth.org

Grabbe, J. W. (2011). Sudoku and Working Memory Performance for Older Adults. *Activities, Adaptation & Aging*, 35(3), 241-254.

Holt-Lunstad, J., et al. T. B. (2015). Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review. *Perspectives on Psychological Science*,10(2),227.

Holwerda, T.J., et al. (2014). Feelings of loneliness, but not social isolation, predict dementia onset: results from the Amsterdam Study of the Elderly (AMSTEL). *Journal of Neurology, Neurosurgery & Psychiatry*,85,135-142.

Isaacson, R. S. et al. (2019). Individualized clinical management of patients at risk for Alzheimer's dementia. *Alzheimer's & Dementia: The journal of the Alzheimer's Association*, 15(12), 1588–1602. <https://doi.org/10.1016/j.jalz.2019.08.198>

Kaplin, A., & Anzaldi, L. (2015). New Movement in Neuroscience: A Purpose-Driven Life. *Cerebrum: The Dana forum on brain science*, 7.

- Kim, J.H., & Kim, D.Y. (2018). Aquarobic exercises improve the serum blood irisin and brain-derived neurotrophic factor levels in elderly women. *Exp Gerontol.*,*104*,60-65. doi: 10.1016/j.exger.2018.01.024
- Lara, E., et al. (2019). Does loneliness contribute to mild cognitive impairment and dementia? A systematic review and meta-analysis of longitudinal studies. *Ageing Res Rev.*,*52*,7-16.
- L. Pu et al. (2019). The effectiveness of social robots for older adults: A systematic review and meta-analysis of randomized controlled studies. *Gerontologist*(*59*),1,e37–e51. doi: /10.1093/geront/gny046
- Morris, M.C., et al. (2015a, September). MIND Diet Associated with Reduced Incidence of Alzheimer's Disease. *Alzheimers Dement*, *11*(9), 1007–1014. doi: 10.1016/j.jalz.2014.11.009
- Morris, M.C., et al. (2015b, September). MIND diet slows cognitive decline with aging. *Alzheimers Dement.*,*11*(9), 1015-1022. doi: 10.1016/j.jalz.2015.04.011.
- Ngandu, T. et al. (2015). A 2-year multidomain intervention of diet, exercise, cognitive training, and vascular risk monitoring versus control to prevent cognitive decline in at-risk elderly people (FINGER): A randomized controlled trial. *Lancet*, *385*(9984), 2255-63. doi: 10.1016/S0140-6736(15)60461-5
- Paillard, T. (2015). Preventive effects of regular physical exercise against cognitive decline and the risk of dementia with age advancement. *Sports Med–Open*(*1*)20. doi:[10.1186/s40798-015-0016-x](https://doi.org/10.1186/s40798-015-0016-x)
- Park, H., et al. (2019). Combined Intervention of Physical Activity, Aerobic Exercise, and Cognitive Exercise Intervention to Prevent Cognitive Decline for Patients with Mild Cognitive Impairment: A Randomized Controlled Clinical Study. *J Clin Med.*, *8*(7), 940. Published online 2019 Jun 28. doi: [10.3390/jcm8070940](https://doi.org/10.3390/jcm8070940)
- Rainey-Smith, S.R. (2015). Mediterranean diet adherence is associated with less cerebral amyloid accumulation over time: Data from the Australian imaging, biomarkers, and lifestyle study of ageing. *Alzheimer's and Dementia*,*11*, Issue 7S, Part 6, P261-P310. <https://doi.org/10.1016/j.jalz.2015.07.378>
- Ristau, S. (2011). People do need people: Social interaction boosts brain health in older age. *Generations*, *35*(2), 70-76.
- Sutin, A.R., et al. (2018). Loneliness and risk of dementia. *The Journals of Gerontology: Series B*. DOI: [10.1093/geronb/gby112](https://doi.org/10.1093/geronb/gby112)

Books

- Amen, D. (2017). *Memory Rescue: Supercharge Your Brain, Reverse Memory Loss, and Remember What Matters Most*. Carol Stream, IL: Tyndale Momentum.
- Anderson, N. D., Murphy, K.J., & Troyer, A.K. (2012). *Living with mild cognitive impairment*. Oxford: Oxford University Press.
- Bredesen, D. (2017). *The End of Alzheimer's: The First Program to Prevent and Reverse Cognitive Decline*. NY: Penguin Group.
- Morris, M.C. (2017). *Diet for the MIND: The Latest Science on What to Eat to Prevent Alzheimer's and Cognitive Decline*. NY: Little, Brown and Company.
- Perlmutter, D. (2016). *The Grain Brain Whole Life Plan*. NY: Little, Brown and Company.
- Sasser, L. (2019). *Brain SENSE: A Guide and Workbook to Keep Your Mind and Memory Sharp*. Available on Amazon.
- Sherzai, D., & Sherzai, A. (2017). *The Alzheimer's Solution: A Breakthrough Program to Prevent and Reverse the Symptoms of Cognitive Decline at Every Age*. NY: Harper Collins.