

A Road Map to Prevention



Aging & Memory Loss

Road Map Series

I. Dementia Diagnosis

II. Research Participation

III. Caregiving

IV. Prevention

Prevention is always better than cure and this also applies to Alzheimer's disease (AD). Unfortunately, there is no cure for AD, but you can reduce your risk of developing this terrible disease using multiple different strategies. In this booklet, you will learn more about how we age overtime and becoming pro-active in fighting against AD. fighting against AD.

How does our brain change overtime as we

Subjective Cognitive Decline (SCD): When you self-report frequent confusion or memory loss within the past 12 months but it is not apparent on cognitive tests.

Although SCD is a risk factor for Alzheimer's disease and other dementias, many people do not progress to developing these diseases.

Mild Cognitive Impairment (MCI): describes the moment when your cognition is between normal again and early signs of dementia. You or your family may have noticed frequent memory lapses, but it does not impair your ability to complete basic tasks such as cooking, driving, or paying the bills. In addition, MCI is a risk factor for Alzheimer's disease and other forms of dementia but not everyone's cognition advances into a form of dementia.

Dementia: is a term that describes multiple diseases causing significant changes in one's memory. In comparison to SCD and MCI, dementia does affect a person's ability to complete daily tasks. Alzheimer's disease is the most common form of dementia (60-80% of cases) and 5-15% of individuals with MCI progress to dementia.

What are normal changes in memory?

As we age, it is normal to experience some changes in memory. Most older adults experience some type of cognitive change. The following changes are the most common:



PREVENTION

Contents:

How does our brain change over-time as we age?1
What are normal changes in memory...1
What is a senior moment?...2
How do reduce your risk of Alzheimer's disease...2
Step 1: Eat a healthy diet....2
Step 2: Physical exercise...3
Step 3: Staying socially active and mentally fit...4
Step 4: Building your cognitive reserve...4
Step 5: Sleep hygiene...5
Step 6: Lower your stress..5
Step 7: Be aware of some medication and supplements.. 6
Step 8: Maintain your health..
Resources...8



MASSACHUSETTS
Alzheimer's Disease
Research Center

BRIGHAM HEALTH



BRIGHAM AND WOMEN'S
Center for Alzheimer Research and Treatment



- Forgetting names more frequently
- Having trouble switching from one subject to another
- Requiring effort and time to learn new information

Normal age-related memory loss may result from your brain's decreased ability to retrieve information. It can take more time to remember or learn new things. Although it might be irritating, these memory changes should not be significant enough to affect your daily living.

What is a senior moment?

A sudden memory lapse such as one of the following:

- Forgetting why you walked into a room
- "Word-finding" difficulty in conversation
- Misplacing items around the house
- Forgetting a bank card PIN number

Experiencing a senior moment does not mean you have Alzheimer's disease but senior moments frequently occurring is concerning. A neurologist or psychologist can perform multiple tests to determine the cause of your memory problems.

How can you reduce your risk for Alzheimer's disease?

Steps 1-8 can help decrease your chances of developing Alzheimer's disease. Please remember it is never too late or early to start incorporating these strategies into your life.

Step 1. Eat a healthy diet

Every Day

- Whole grains (ex. 100% Whole Wheat bread and brown rice)
- Green leafy vegetables
- Fruits
- Fish
- Beans, lentils, and nuts
- Use Olive Oil

Eat in moderation

- Poultry
- Eggs
- Dairy
- Alcohol (wine)

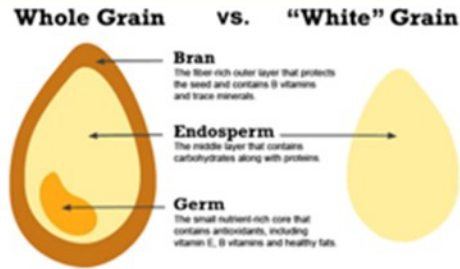
Avoid

- Refined sugars-> These sugars are extracted and processed from natural foods to enhance flavor (Example: High Corn Fructose Syrup)
- Red meat-> If eaten, try to purchase leanest option (less saturated fat) and grass-fed as the cows eat a cleaner diet
- Saturated Fats-> are solid at room temperature (ex. butter) which can clog your arteries if eaten in excess



- **Whole grains**
3 servings per day
1 serving= 1 slice or ½ cup

Dark or whole grain bread, brown rice, whole grain pasta, wild quinoa, barley, bulgar, farro, oats, whole grain cereal



- **Green Leafy Vegetables**
At least one serving per day
1 serving = ½ cup cooked or 1 cup raw

Spinach, kale, collards, swiss chard, mustard greens, turnip greens, dandelion greens, arugula, endive, grape leaves, romaine lettuce



- **Other Vegetables**
At least one serving per day
1 serving = ½ cup cooked or 1 cup raw

Asparagus, broccoli, brussel sprouts, cabbage, carrots, cauliflower, eggplant, green beans, mushrooms, onions, okra, snow peas, squash, bell peppers, sweet potatoes, tomatoes/tomato sauce



- **Fish**
At least one serving per week
1 serving= 3-5 oz

Salmon, tuna, cod, mahi mahi, halibut, tilapia



- **Poultry**
At least two servings per week
1 serving= 3-5 oz

White meat and skinless chicken or turkey



Step 2. Physical exercise

Aside from eating a healthy diet, exercise is extremely beneficial for your brain and heart. Research indicates that 30-60 minutes of aerobic exercise 3-6 times per week can lower your risk of progressing from Mild Cognitive Impairment to dementia.

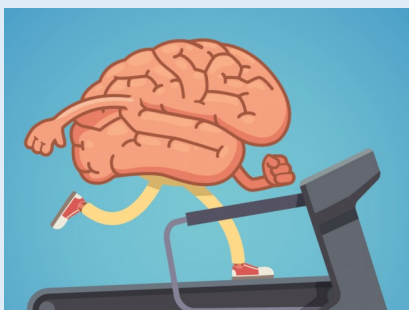
There are plenty of exercises whether you are mobile or not. Below are some simple exercises:

*Stationary exercises should be performed three times each with 10-15 repetitions





If you are going to maintain a healthy diet and exercise plan, you must do the same for your brain!



Mobile exercises: Walking, jogging, running, swimming, and stair climbing.

Stationary exercises:

- Hand grip: slowly squeeze a tennis ball and then release
- Toe stands: stand behind a chair and slowly stand on your tiptoes and then lower your heels to the floor
- High knee reach: sit comfortably in a chair and raise your arm and the opposite leg simultaneously (perform on each leg)

3. Staying socially active and mentally fit

Instead of staying isolated, we encourage you to interact with your friends and family through activities such as socializing, playing games, or taking a class together. This can help enhance your memory and processing speed when completing various tasks. Some of our recommendations are below:

- **Puzzles and games:** crosswords, sudoku, jigsaw puzzles, board and card games
- **Reading:** books, newspaper, magazines, surfing the internet for information
- **Learning:** taking art classes, dance classes, continuing education, crafting
- **Socializing:** phone calls with family, visiting with friends, hosting gatherings
- **Community Activities:** volunteering, trying new restaurants, attending concerts

4. Build your Cognitive Reserve

Cognitive reserve is our brain's ability to use alternative ways to optimally function despite developing a **neurological disease**. For example, if one connection in the brain is weakened then our brain can either strengthen that connection or create a new one and still receive the desired outcome.

The following factors can contribute to building up and breaking down your cognitive reserve:

Building up: Health factors (ex. diet), education, social engagement, and mental fitness

Breaking down: Poor health, poor sleep hygiene, poor nutrition, substance abuse, smoking, depression, and anxiety/stress

5. Sleep hygiene

Sleep is often overlooked but it is crucial to your health! It is important to have uninterrupted sleep every night because our brain goes through different stages of sleep to ensure harmful toxins are removed from the brain. If this process is not completed properly, toxins can build up, and you can also experience stress and tiredness.

Age group	Recommended Hours of Sleep
18-60 Years	7 or more hours per night
61-64 Years	7-9 hours
65 years and older	7-8 hours

Some habits that can improve your sleep hygiene:

- **Be consistent:** Go to bed at the same time each night and get up at the same time each morning, including on the weekends.
- **Get some exercise:** Being physically active during the day can help you fall asleep more easily at night
- **Make sure your bedroom** is quiet, dark, relaxing, and at a comfortable temperature
- **Remove electronic devices**, such as TVs, computers, and smart phones from the bedroom
- **Avoid** large meals, caffeine, and alcohol before bedtime
- **Talk to your doctor** if you have insomnia, snoring, fatigue, or excessive daytime sleepiness



6. Lower your stress

Unfortunately, we all have stress in our lives. Some may experience more than others but we all should find ways to reduce our stress. If not, it can damage your brain cells, lead to hypertension or heart disease, and many other complications.

Everyone has their own way of handling stress but here are some widely used techniques: Meditating often, exercising regularly, getting more sleep, and talking with someone.



7. Be aware of some medications and supplements

Overall, you should **always** meet with your doctor to ensure that your medication is appropriate and brain healthy! Some **antihistamines** which treat seasonal allergies can cause confused thinking, blurred vision, and dry mouth ex. Benadryl

Other ingredients to look out for: Diphenhydramine, brompheniramine, chlorpheniramine which are also often included in over the counter allergy medication

Prescriptions

Medication that are **anticholinergic** block a chemical message from being sent in the brain which is associated with faster cognitive decline



Supplements

Taking the following supplements depending on your cognitive health may have a different effect:

*Other well studied supplements include: Ginkgo biloba, Vitamin D, Folate, Ginseng, etc.

	Cognitively Normal	Neurodegenerative Disease
Vitamin B	<ul style="list-style-type: none"> • May improve memory and cognition 	<ul style="list-style-type: none"> • Less brain atrophy in MCI patients treated with B12
Vitamin E	<ul style="list-style-type: none"> • No reduction in relative risk of substantial decline among healthy older women • Increased vitamin E intake can lead to less cognitive decline 	<ul style="list-style-type: none"> • No effect on cognitive decline in MCI patients treated with vitamin C/E
Multivitamin	<ul style="list-style-type: none"> • No cognitive benefit has been documented in several clinical trials of healthy older adults 	<ul style="list-style-type: none"> • Has shown to increase cognitive function in a small study involving MCI patients

(!) Use caution: Many supplements are marketed as “brain-boosters” or “natural cures” but have not been studied for safety or efficacy. Talk to your doctor if you are unsure.

8. Maintain your health

There are some “common” conditions that can affect not only your cardiovascular system or mental health, but also increase your risk for Alzheimer’s disease. In the chart below, we listed a few conditions and physiologically how they can impair someone’s cognition. In addition, the “action item” are guidelines to help you lower your risk for AD and achieve better health.

Medical condition	Physiological response	Action item
High blood pressure	Reduces blood flow to the brain	Keep below 120/80 mm Hg
High cholesterol	Increases the risk of stroke and may increase amyloid buildup in the brain	Keep below 180 mg/dL
Diabetes	Causes inflammation and disrupts glucose metabolism in the brain	Keep blood sugar between 100 mg/dL and 140 mg/dL
Metabolic syndrome	High blood pressure, excess fat, low HDL cholesterol, and high blood sugar	Keep BMI between 18.5 and 24.9
Depression	Associated with high cortisol (stress hormone) levels and chronic inflammation in the brain	Meet with your doctor if you are experiencing symptoms

9. Is research right for me?

Research participation is critical to finding a cure. Whether or not you have been diagnosed with Alzheimer's disease or a related dementia, you may be able to participate in research. People participate in research for a variety of reasons. Healthy volunteers and people living with the disease say they participate in clinical trials to help others, contribute to moving the science forward, or receive access to a possible new treatment.

The Massachusetts Alzheimer's Disease Research Center (MADRC) at Massachusetts General Hospital (MGH) and the Center for Alzheimer Research and Treatment (CART) at Brigham and Women's Hospital (BWH) offer a variety of different types of studies ranging from observational studies to clinical trials. If you are interested in research participation at either of these centers, you may call **(617) -278-0383**.

If you are interested in research, please contact either center below to hear about their available studies:

Brigham and Women's Hospital Massachusetts General Hospital



**Center for
Alzheimer Research
and Treatment**

(617) 732-8085
cart@partners.org



**Massachusetts
Alzheimer's Disease
Research Center**

Help us find a cure for Alzheimer's disease!

(617) 643-5200

Curriculum Leaders

Dorene Rentz, PsyD

Gad Marshall, MD

Lenore Jackson-Pope, MSM, BSN, CCRP

Content Contributors

Hope Schwartz

Seth Gale, M.D.

Joel Salinas, M.D., M.B.A.

Orett Burke

Nicole Chan

Hadley Husted

Judy Johanson

Alison Pietras, PA-C

Jeff Robins, LICSW

Christopher Wight, LICSW



Resources for Patient and Caregiver Support

Alzheimer’s Association

The premier source of information for advocacy, research information, support programs, and education.

MA/NH Chapter contact: *617-868-6718*

24-hour national Helpline: *1-800-272-3900*

The Association for Frontotemporal Degeneration

Research, awareness, support, education, and advocacy for people affected by Frontotemporal Degeneration and their caregivers.

Helpline: *1-866-507-7222*

Lewy Body Dementia Association

Provides support through outreach, education, and research to those affected by Lewy body dementias.

Lewy Body Dementia Caregiver Number: *888-204-3054*

National Institute on Aging: Alzheimer’s Disease Education and Referral Center (ADEAR)

The latest dementia related news and publications on diagnosis, treatment, care, and research.

Toll-free contact: *1-800-438-4380*

Alzheimer’s Foundation of America

Provides direct services and educational resources to patients and caregivers.

National toll-free hotline: *866-232-8484*

National Clinical Trial Information

You or a loved one’s participation in research studies will significantly help in the search for more effective treatments for Alzheimer’s Disease and related dementias. The following resources provide information regarding the range of national clinical trials:

National Institute on Aging: Alzheimer’s Disease Education and Referral Center (ADEAR)

Toll-free contact: *1-800-438-4380*

Alzheimer’s Association TrialMatch

24-hour Helpline *1-800-272-3900*

Alzheimer Prevention Network

alzpreventionnetwork.org

MADRC Research Clinics	
BWH Center for Alzheimer Research & Treatment	(617) 732-8085
Frontotemporal Disorders Unit	(617) 726-1728
Lewy Body Dementia Movement Disorder Unit	(617) 726-5532
Alzheimer’s Clinical & Translational Unit (ACTRU)	(617) 643-2351