Welcome to Mind Matters

An Introduction to Memory Loss
Memory loss: Normal vs Abnormal???

Age-Appropriate Memory Change
- Mild decline in memory is normal as we age
- “Senior moments”
- Usually does not affect daily function
- Due to mild loss of some neurons (brain cells).

Use of lists, calendars, and other reminders are helpful and encouraged.

“I remember your name, but have forgotten your face.”
Mild Cognitive Impairment (MCI)

More pronounced memory deficits than normal, but the ability to function in daily life is still preserved.

Why is it important to identify MCI?

✓ Studies have shown that 1/3 of patients improve, 1/3 remain stable, and 1/3 will develop Dementia.
✓ To find and treat reversible causes and decrease the risk of developing permanent decline in brain function
✓ To provide education, preventive interventions, and lifestyle modifications which may improve quality of life for patients and families.
MCI: Reversible Causes

- Untreated depression or other psychiatric disorders
- Vitamin B-12 deficiency
- Electrolyte abnormalities (sodium, calcium, magnesium)
- Abnormal thyroid function
- Sleep disorders (including obstructive sleep apnea)
- Alcohol toxicity
- Certain medications (including sedatives and opiates)
- Unaddressed issues with hearing or vision
People with Depression...

- Are more likely to complain about memory loss than those with dementia.
- Demonstrate signs of poor concentration, slow information processing, and poor effort on testing (“I just can’t do this.”)
- Depression and dementia may occur at the same time.
- It is important to reevaluate someone after depression is treated.
- Studies suggest that Depression is a major risk factor for Dementia.
An acute/temporary state of confusion involving a fluctuation in consciousness, poor comprehension, and difficulty maintaining attention

Delirium does not always mean that patient has a Dementia

Patients with Dementia have a higher risk of developing Delirium

Possible causes: Older age with multiple health problems, certain medications, excessive alcohol, acute illness, and hospitalization

Delirium is reversible. However, it can severely disrupt medical and overall recovery, which may lead to functional and cognitive decline
What is Dementia?

- It is a general term for a decline in memory and other thinking skills.
- Has a gradual onset and worsens over time.
- Must be significant enough to interfere with daily function.
- Must be global, affecting more than one function:
  1. Memory
  2. Speech and Language
  3. Orientation
  4. Calculation
  5. Judgment
  6. Planning and Problem solving
Types of Dementia

- Alzheimer’s disease
- Vascular (multi-infarct) dementia
- Lewy body dementia
- Other types
  - Frontotemporal dementia
  - Parkinson disease with dementia (PDD)
  - Huntington’s disease (HD)
  - Creutzfeldt-Jacob disease
  - Alcoholism
  - HIV related encephalopathy
  - Traumatic Brain Injury

![Pie chart showing the percentage of different types of dementia: Alzheimer's 70%, Vascular 15%, Lewy Body 10%, Other 5%]
Alzheimer’s Disease: A Disease of Aging

✓ Caused by plaques and tangles in the brain.
✓ Age (greatest risk factor) Alzheimer’s prevalence will double in the next 30 years.
✓ Genetics <5%
✓ High blood pressure, blood glucose, cholesterol
✓ Depression/stress
✓ Physical and mental inactivity
✓ DIET!!!!!

Medications are available to slow the progression; speak to your PCP.
A Brain-Healthy Lifestyle

- Daily physical exercise
- Mediterranean Diet
- Reduce risk factors (blood pressure, diabetes, cholesterol, smoking)
- Regular mental and social stimulation
- Get a good nights SLEEP
- Limit alcohol intake
Plaques and tangles in the brain are the pathological hallmark of Alzheimer’s disease and cognitive impairment with aging.*

A healthy BMI and healthy lifestyle habits were linked to lower levels of plaques and tangles.

Lifelong Learning
   Reading the newspaper, learning languages, playing musical instrument

Mentally Stimulating Leisure Activities
   Playing games, crossword puzzles, computer use, listening to music

Social Engagement
   Active in community, church, book clubs, discussion groups

Optimism and Mindfulness
   Practicing meditation and volunteerism can improve psychological well-being
Physical Fitness as You Age

- Reduces Risk of Dementia and Alzheimer’s
- Improves Metabolic Changes and Weight Management
- Supports Bone Health
- Improves Balance and Strength for Independent Living
Cardiovascular Fitness for Brain Health

- Moderate to vigorous exercise
- 4-5 days per week
- 20-30 minutes (or 10 minutes at a time)
Cardiovascular Fitness and Brain Health

✓ Increases heart rate and oxygen to the brain, releasing hormones that nourish the growth of brain cells.

✓ Boosts the size of the hippocampus, the brain area involved in verbal memory and learning.

✓ Reduces insulin resistance, reduces inflammation, and stimulates the release of growth factors—chemicals in the brain responsible for the growth of new blood vessels in the brain, and the abundance and survival of new brain cells.

✓ Studies suggest that the parts of the brain that control thinking and memory (the prefrontal cortex and medial temporal cortex) have greater volume in people who exercise versus people who don’t.

✓ Engaging in a program of regular exercise of moderate intensity over six months is associated with an increase in the volume of selected brain regions.

✓ Regulates stress hormones and aids sleep patterns

https://www.health.harvard.edu/blog/regular-exercise-changes-brain-improve-memory-thinking-skills-201404097110; Brigham and Women's Hospital Department Neurology at Harvard Medical School.
Strength Training and Brain Health

- Builds muscle mass and reduces loss (sarcopenia) as you age
- Maintains bone density
- Better balance and stability
- Improves activities of daily living (stairs, lifting, etc.)
- Strength training heavy or light, two to five days per week, helps stave off depression and decreases symptoms*
- Improves memory and cognitive function*

The FIRST Principle for Strength Training

Strength or resistance training can benefit the body in many ways, including increasing metabolic rate, building lean body tissue, enhancing calorie burn and improving bone density.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Intensity</th>
<th>Repetitions</th>
<th>Sets</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 3 times per week</td>
<td>Moderate to hard with progressive increase in resistance</td>
<td>8 – 15 per exercise</td>
<td>1 – 3 for each muscle group</td>
<td>Body weight, free weights, bands, machines</td>
</tr>
</tbody>
</table>
Benefits of Flexibility Training

- Increases range of motion in the joints
- Improves elasticity of tendons, ligaments, and muscles
- Reduces risk of activity-based injury
- Improves blood flow to muscles
- Can improve athletic performance
Macronutrient Basics: Carbohydrates, Fats and Proteins

- **Carbohydrates** are the body's main source of energy.
  - Energy is provided for immediate use or stored for later.
  - One gram of carbohydrate equals four calories.
  - Sugars and starches provide carbohydrates.
  - Absorbed in the small intestine and can pass the blood brain barrier.

- **Protein** is a major building block of body cells.
  - Almost all chemical reactions in the body require protein.
  - One gram of protein equals four calories.
  - Sources include meats, fish, lean dairy, wheat gluten, soy and beans.
  - Requires acid in stomach juices for breakdown. Absorbed in the small intestine and can't pass the blood brain barrier.

- **Fat** is critical for energy, cell membranes, hormones and satiety.
  - One gram of fat equals nine calories.
  - Requires bile salts for absorption, which slows down absorption rate.

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### Mediterranean Diet

- Major building blocks of all body cells.
- Vital for building muscle.
- Sources include lean meats, fish, lean dairy, wheat gluten, soy, beans and legumes.
- Critical for long term energy storage, cell membranes, hormones and satiety.
- Limit saturated fats found in animal products. Include more plant-based fats like nuts, seeds and oils.

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**Carbohydrate**

![Carbohydrate Image]

**Protein**

![Protein Image]

**Fat**

![Fat Image]
COMMERCIALY RAISED MEATS, SWEETS, CHEESE & PROCESSED FOODS
Rarely

EGGS, OIL, FISH, WILD OR NATURALLY RAISED ANIMAL PRODUCTS & DAIRY
Less than 10% of Calories

SEEDS, NUTS & AVOCADOS
10-40% or less of calories

FRUITS
10-40% of Calories

WHOLE GRAINS & POTATOES
20% or less of calories

BEANS / LEGUMES
10-40% of Calories

VEGETABLES*
1/2 Raw and 1/2 Cooked
30-60% of Calories
The Plate Method

- Let a 9-inch plate be your guide
- Fill ½ plate with non-starchy vegetables
- Fill ¼ plate with beans or lean meat
- Fill ¼ plate with a whole grain, pasta or potato
- Include a serving of fruit
The Plate Method

Protein and the Plate Method
## The Plate Method - Carbohydrates

<table>
<thead>
<tr>
<th>Quick Absorbed Carbohydrates</th>
<th>Moderately Absorbed Carbohydrates</th>
<th>Slowly Absorbed Carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bagels</td>
<td>Fruits</td>
<td>Legumes: Beans, Lentils, Soy beans</td>
</tr>
<tr>
<td>Crackers and Cookies</td>
<td>Winter squash</td>
<td>Quinoa</td>
</tr>
<tr>
<td>Juice and Sugary Drinks</td>
<td>Sweet potato</td>
<td>Whole Grains, Oatmeal, Millet, Spelt, Barley, Farro</td>
</tr>
<tr>
<td>White Bread, Rice, Pasta, and Potato</td>
<td>Carrots</td>
<td>Dairy Products</td>
</tr>
<tr>
<td>Candy, Sweets and Desserts</td>
<td>Beets</td>
<td>Most Vegetables</td>
</tr>
</tbody>
</table>
Healthy Fats

✓ Fish and plant sourced oils high in Omega-3 fats (salmon, olives, avocados, nuts, and seeds. (low intake of omega-3 fat foods linked with increased risk for dementia and Alzheimer's Disease)¹

✓ Omega-6 and Omega 3 fats Increase brain health and function¹

✓ Eat fats in moderation – better to eat as the whole food (avocado, olives, nuts, seeds)


Omega-3 fatty acids and dementia. Cole GM¹, Ma QL, Frautschy SA.
Saturated and Trans Fats

✓ Limit or avoid saturated fats (i.e. fatty meats, eggs, dairy, coconut, palm oil

✓ Avoid or limit oils

✓ Avoid all trans fats (hydrogenated vegetable oils)
There is no single recommendation for fluid intake that works for everyone.

Fluid needs vary depending on lean body mass, activity level, environmental conditions, certain nutritional factors, illness, etc.

8 X 8 oz. recommendation. No science, just easy to remember.

Checking urine color more effective than thirst. Pale yellow to clear is best.

Thirst is turned on at 3% dehydration, body function begins to decline at 2%.

All fluids count!
Why Sleep is Important

- People who have restless, poor sleep have a higher risk of cognitive decline than those who sleep straight through the night.*

- Sleep “locks in” memories and enhances the ability to memorize new skills.*

- The sleep you get now may have a long-term influence on your risk for cognitive decline as you age.*

- People who sleep for more than nine hours a night have an increased risk of both dementia and Alzheimer’s compared with those who log six to nine.*

* https://www.sleepfoundation.org/articles/what-your-sleep-habits-reveal-about-your-dementia-risk
Half of all dementia patients have sleep disturbances

Compared to older adults with normal cognition, adults with dementia have:

- Shorter Sleep cycles and greater sleep fragmentation
- Less deep REM sleep with reduced sleep efficiency
- More frequent nighttime awakening, wandering, and increased daytime napping
- More difficulty getting to sleep and staying asleep

Increased severity of dementia is associated with greater sleep fragmentation

Feinberg et al., 1967; Moe et al., 1995; Prints et al., 1982a, 1982b; Vitiello et al., 1990; Mortimore et al., 1992
Sleep Cycles

[Diagram showing sleep cycles with stages 1 to 4 and REM periods indicated at 1, 3, 5, and 7 hours.]
• Not all memory problems equal Dementia
• A healthy lifestyle is key to delaying or preventing MCI and Alzheimer’s disease.
• Be proactive
• Research of memory problems is at high speed right now
  clinicaltrials.gov
  nia.nih.gov/alzheimers
  Alzheimer’s Association: alz.org/trialmatch
  UCSD: www.adrc.ucsd.edu)
Kaiser Permanente Resources

- Stress Management Class
- Sleep Apnea Class
- Life Care Planning
- Nutrition Options
- Follow up with Primary Care Doctor

Community Resources

- Early Stage Support with Alzheimer’s San Diego
- Continuing Care Website of Resources
  www.continuingcare-sandiego.kp.org
Start Your Life Care Planning Conversation Today!

- You can register for the Life Care Planning workshop by calling 619-641-4194
- You can also visit kp.org/lifecareplan to learn more about how to start the conversation and download an Advance Directive
Creating Your Action Plan

What one thing can you work on today?