<table>
<thead>
<tr>
<th>Why and how the brain changes as we age:</th>
<th>Signs of brain changes as we age include:</th>
<th>Individuals can still:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• As we get older, all parts of the body change, including the brain</td>
<td>• More challenges with multi-tasking</td>
<td>• Learn new things (may take longer)</td>
</tr>
<tr>
<td>• Parts of the brain may shrink, especially areas important to complex mental activities</td>
<td>• Takes longer to complete tasks</td>
<td>• Create new memories</td>
</tr>
<tr>
<td>• Communication between neurons (nerve cells) may reduce</td>
<td>• Increased difficulty finding words</td>
<td>• Improve vocabulary and language skills</td>
</tr>
<tr>
<td>• Blood flow to the brain may decrease</td>
<td>• Slight decreases in ability to pay attention</td>
<td></td>
</tr>
<tr>
<td>• Inflammation increases</td>
<td>• Harder time finding things used often, such as keys or glasses</td>
<td></td>
</tr>
<tr>
<td>• Brain remains able to adapt to new challenges and tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Not clear why some people’s brains age better than others. Cognitive reserve may play a role.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## How Cognitive Function Changes as We Age

<table>
<thead>
<tr>
<th>Aspect of cognitive function</th>
<th>Remains stable</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intelligence</strong></td>
<td>“Crystalized” intelligence remains stable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Knowledge or experience accumulated over time</td>
<td>“Fluid” intelligence tends to decline</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Abilities not based on experience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ability to think and react quickly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mental multi-tasking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Learning new information</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>Long-term memory relatively preserved</td>
<td>Short-term memory more vulnerable to aging</td>
</tr>
<tr>
<td></td>
<td>• Recalling past events that have been stored over many years</td>
<td>• Recent memory or the formation of new memories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Takes longer to learn new information than before (have to hear / see it more times)</td>
</tr>
<tr>
<td><strong>Attention</strong></td>
<td>Simple or focused attention remains stable</td>
<td>Divided attention may be more challenging</td>
</tr>
<tr>
<td></td>
<td>• For example, the ability to attend to a television program</td>
<td>• For example, trying to pay attention to the television and simultaneously talk on the telephone</td>
</tr>
</tbody>
</table>
## How Cognitive Function Changes as We Age (continued)

<table>
<thead>
<tr>
<th>Aspect of cognitive function</th>
<th>Remains stable</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Verbal abilities preserved</td>
<td>Word finding may take longer and be more difficult</td>
</tr>
<tr>
<td></td>
<td>• Including vocabulary</td>
<td>• In conversation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trying to recall names of people and objects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Information not lost but more difficult to retrieve</td>
</tr>
<tr>
<td>Reasoning and problem solving</td>
<td>Traditional ways of approaching solutions are maintained</td>
<td>New problems take longer to figure out</td>
</tr>
<tr>
<td></td>
<td>• Wisdom of experience in older age - &gt; better approaches to some problems than in some younger individuals.</td>
<td>• Problems not encountered during life experience</td>
</tr>
<tr>
<td>Processing speed</td>
<td>Ability to process and perform activities remains</td>
<td>Processing speed decreases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• More time needed for brain to take in information and formulate an appropriate response, such as a movement or verbal answer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• More challenges with complex tasks requiring a lot of quick information processing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• For example, driving requires the brain to continually notice and process a lot of information and quickly formulate an appropriate response</td>
</tr>
</tbody>
</table>
Serious problems with memory or cognition make it hard to do everyday things.

<table>
<thead>
<tr>
<th>Serious problems with memory or cognition make it hard to do everyday things.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asking the same questions over and over again</td>
</tr>
<tr>
<td>Becoming confused about time, people, and places</td>
</tr>
<tr>
<td>Not taking care of yourself</td>
</tr>
<tr>
<td>Getting lost in familiar places</td>
</tr>
<tr>
<td>Forgetting how to make change or use the telephone</td>
</tr>
<tr>
<td>Making poor decisions or judgments a lot of the time</td>
</tr>
<tr>
<td>Not being able to follow instructions</td>
</tr>
<tr>
<td>Difficulties with driving</td>
</tr>
<tr>
<td>Misplacing things often and not being able to find them</td>
</tr>
<tr>
<td>Trouble having a conversation or forgetting the names of everyday objects</td>
</tr>
<tr>
<td>Changes in long-held habits</td>
</tr>
</tbody>
</table>
Risks to Overall Health Are Also Risks for Brain Health

- Smoking
- Drinking too much alcohol
- Undiagnosed or untreated diabetes, heart disease, high blood pressure, other health problems
- Risk of head injury
- Social isolation and little social activity
- Untreated depression
- Poor diet
- Insufficient sleep
- Lack of physical activity
Treatable Medical Conditions That May Cause Memory Changes

- Vitamin deficiency, such as B12
- Tumors or infections in the brain
- Some thyroid, kidney, liver disorders
- Medication side effects – individual or combination of medications, or combined with alcohol
- Insufficient sleep or sleep apnea
- Untreated depression
# Sleep Apnea

**Short pauses in breathing while sleeping**

**Increases the risk of:**
- High blood pressure
- Heart attack
- Heart failure
- Stroke
- Diabetes
- Accidents
- Memory loss

**Signs include:**
- Restless sleep
- Loud snoring (with periods of silence followed by gasps)
- Falling asleep during the day
- Morning headaches
- Trouble concentrating
- Irritability and moodiness
- Forgetfulness

**Treatment**
- Begins with lifestyle changes
- Special devices ordered by doctor may help
Depression in Older Adults

Not a normal part of aging
- Increased risk for older adults
- Often misdiagnosed and undertreated

Symptoms – may appear different in older adults
- Last for 2+ weeks
- Feelings of sadness – may not be main symptom
- Being more irritable or grumpy than usual
- Tiredness, fatigue or decreased energy
- Difficulty sleeping, early-morning awakening, or oversleeping

Other symptoms include
- Lack of motivation or an empty feeling
- Difficulty focusing, remembering, or making decisions
- Loss of interest in activities previously enjoyed
- Eating more or less than usual
- Feeling guilty, helpless worthless or hopeless
- Aches or pains, headaches, cramps, or digestive problems without a clear physical cause and/or that do not ease with treatment
- Having thoughts of harming self – call 911 in an emergency

Symptoms can overlap with dementia symptoms
- However, with depression it’s treatable and memory improves
- Talk with doctor
- Medication side effects may include depression symptoms
- Medication for depression
- Talk therapy with a counselor
- Talk with family or friends about how you are feeling
- Physical exercise
<table>
<thead>
<tr>
<th>Mild Cognitive Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>More cognitive changes</strong></td>
</tr>
<tr>
<td>than expected with aging but fewer than dementia</td>
</tr>
<tr>
<td>• Compared to others of the same age and education</td>
</tr>
<tr>
<td>• Changes noticeable by family or friends</td>
</tr>
<tr>
<td><strong>Abilities and strengths remain</strong></td>
</tr>
<tr>
<td>• Changes are not severe enough to significantly interfere with daily life and usual activities</td>
</tr>
<tr>
<td>• Still able to perform daily activities such as managing the household, medications, and financial matters</td>
</tr>
<tr>
<td><strong>No single cause</strong></td>
</tr>
<tr>
<td>• Often develops from the same (but fewer) brain changes as other types of dementia</td>
</tr>
<tr>
<td><strong>Symptoms over time</strong></td>
</tr>
<tr>
<td>• May stay the same</td>
</tr>
<tr>
<td>• Higher risk for developing dementia: 10-15% compared to 1-3% of older adults each year</td>
</tr>
<tr>
<td><strong>Changes in cognition include</strong></td>
</tr>
<tr>
<td>• Short term memory problems</td>
</tr>
<tr>
<td>• Forgetting things more often, such as going to events or appointments</td>
</tr>
<tr>
<td>• Losing belongings more often</td>
</tr>
<tr>
<td>• Challenges with learning and remembering new information</td>
</tr>
<tr>
<td>• Having more trouble coming up with words</td>
</tr>
<tr>
<td>• Losing the thread of conversations, books or movies</td>
</tr>
<tr>
<td>• Feeling more overwhelmed by making decisions, planning steps to accomplish a task or understanding instructions</td>
</tr>
<tr>
<td>• More impulsive or increasingly poor judgment</td>
</tr>
<tr>
<td>• May also notice: depression, irritability, anxiety, apathy</td>
</tr>
</tbody>
</table>
What Is Dementia?

- General term for symptoms
- Many different causes of physical changes in the brain
- Significant problems with cognitive function
  - Memory
  - Reasoning
  - Problem-solving
  - Controlling emotions
  - Learning new information
  - Language skills
  - Visual perception
  - Attention
  - Personality changes
- Interferes with daily life, activities and relationships
### Alzheimer’s Disease

| How common is it? | • Most common form of dementia  
|                  | • Approx. 60-80% of dementia diagnoses |
| Typical age of onset | • 95% of people diagnosed after age 65 |
| Early symptoms | • Appear over time  
|                 | • Short term memory loss  
|                 | • Apathy or depression |
| Medication concerns | • Medications available may help treat symptoms  
|                    | but don’t slow disease progression |
| Changes in the brain caused by | • Deposits of the protein fragment beta-amyloid (plaques); and/or  
|                             | • Twisted strands of the protein tau (tangles); and/or  
|                             | • Nerve cell damage |
Vascular Dementia

How common is it?
- Approx. 10% of dementia diagnoses
- Could be up to half of dementia diagnoses

Typical age of onset
- Age 60-75

Early symptoms
- May appear suddenly
- Changes in language
- Impaired judgment or ability to make decisions
- Difficulty planning or organizing
- Changes in movement, such as slow gait or poor balance
- Depends on where in the brain the damage occurred

Medication concerns
- Alzheimer’s medications often used

Changes in the brain caused by
- Blood vessel blockage or damage causes strokes (or infarcts) or bleeding in the brain
- Location, number and size of brain injury determines effects
- Previously known as multi-infarct or post-stroke dementia
- Infarct means a small localized area of dead tissue resulting from failure of blood supply
Frontotemporal Dementia (FTD)

**How common is it?**
- 2nd most common form of dementia in people under age 65
- Approx. 10% of dementia diagnoses

**Typical age of onset**
- Late 40s to early 60s

**Early symptoms**
- Personality changes
- Behavior changes
- Changes in language, including speech and understanding
- Changes in movement

**Medication concerns**
- Alzheimer’s medications may NOT be effective

**Changes in the brain caused by**
- Damage to nerve cells in the front and side areas of the brain
- Named after the area of the brain affected. There isn’t a common mechanism for how the damage occurs.
Dementia with Lewy Bodies

How common is it?
• Approx. 10% to 15% of dementia diagnoses

Typical age of onset
• After age 60

Early symptoms
• Memory loss
• Changes in movement, such as slowness, gait changes, balance challenges
• Fluctuating confusion
• Visual hallucinations (seeing things that aren’t really there)
• Sleep disturbances

Medication concerns
• Anesthesia, antipsychotic medications may be contraindicated
• Alzheimer’s medications may be used

Changes in the brain caused by
• Lewy bodies - abnormal aggregations (or clumps) of the protein alpha-synuclein - in the cortex leads to dementia
Mixed Dementia

**How common is it?**
- Approx. 10% to 15% of dementia diagnoses
- Could be up to half of dementia diagnoses

**Early symptoms**
- More than one cause of dementia occurs in the brain at the same time
- Mix of symptoms
- It may not be clear exactly what symptoms are coming from which type of dementia

**Most common types**
- Alzheimer’s Disease & Vascular Dementia
- Alzheimer’s Disease & Dementia With Lewy Bodies
- Alzheimer’s Disease & Vascular Dementia & Dementia With Lewy Bodies
What can I do if...

I’m worried about my memory or cognition?

• Make an appointment with your doctor
• Annual Medicare wellness visit includes assessment for changes in cognition
• Once you know the cause, you can get the right treatment
• It could be a medical condition and with treatment, the changes in thinking can improve
• If it is something more serious, you will know what is causing it and take the next steps to get help and support
How Is Dementia Diagnosed?

- Is there an underlying treatable condition?
- Medical history
- Physical exam
- Lab tests
- Cognitive and neuropsychological tests
- Psychiatric evaluation
- Brain scans (CT, MRI, PET)
What Can I Do to Promote Brain Health?

- Take care of overall health
- Safe physical activity
- Eat healthfully
- Have fun & stay socially connected
- Brain exercise
- Strategies to support new learning

Consider combining one or more of these!
Take Care of Overall Health

- Regular doctor well-check visits
- Get recommended health screenings
- Help with medication side effects and possible interactions
- Depression screening & treatment, if needed
- Ask about how to improve sleep
- Ask for help with managing health problems like diabetes, high blood pressure, and high cholesterol
- Quit smoking & reduce alcohol consumption
Safe Physical Activity

Ask your doctor what is safe for you

• Start small & slow
• Walking or chair exercise may be a good start
• Incorporate aerobic, strength, and stretching when you feel ready
• Work up to 30 minutes on most days

Possible benefits

• May play a role in reducing risk of dementia
• Improve connections among brain cells
• Improve heart health and circulatory system health
• Reduce risk of diabetes and stroke
• Help with depression
• Prevent falls
• Support independence in day to day activities
Eat Healthfully

Less solid fat, sugar, salt

Low-fat or non-fat dairy products

Lean meats & poultry

Healthy fats – olive oil, nuts, seeds

Fish & seafood

Whole & unprocessed grains

Fruits

Vegetables
Have Fun and Stay Socially Connected

Do activities you enjoy

Meaningful activities, such as volunteering

Use strategies to reduce stress

Meet new people over common interests
Brain Exercise

Qualities

• Learn new things
• Enjoyable and personally relevant
• Challenging but doable

Ideas to try

• Play games
• Do puzzles
• Read and discuss books or magazines
• Watch an educational video or sporting event and talk about it with a friend or family member
• Go on a virtual tour of a museum
Strategies to Support New Learning

- Memory tools
- Calendars, to do lists, notes, pill box
- Take more time to actively process new information
- Follow a routine
- Putting frequently used objects in the same place
- Come up with your own cues and strategies
How to Get Started…

• Choose one thing that you can do to promote brain health
• Think of small steps where it’s easy to feel successful
• How can you combine benefits for brain health?
• Consider:
  • Taking a 10-minute walk a few times a week
  • Adding one serving of vegetables each day
  • Making an appointment for a physical exam or well-check
• Write down what you will do and when
• Get support from family & friends
• Notice how you feel when you succeed and celebrate small victories!
It Can Be Challenging to Get Help...

Difficult to talk about
Lack of insight into own cognitive changes
How will going to the doctor help?
Fear of losing independence
What if I’m diagnosed?
How is getting a diagnosis helpful?
We at AGE Are Here to Help!

- Answer questions & provide information
- Referrals to community resources
- Care partner support & education
- Small group virtual activities for people living with changes in memory or cognition
“I enjoy being in a group that is not judgmental, where I feel at ease and supported, in a beneficial environment. Out in the community, people say, why don’t you remember? That doesn’t happen here.

"I enjoy exchanging ideas and belonging."

"I feel that I’m not alone, there are others facing it too."

"This is a community of understanding and support... comradery."

[Image of people holding large paper circles]
THANK YOU!

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512-451-4611 x236

www.AGEofCentralTX.org | (512) 451-4611
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