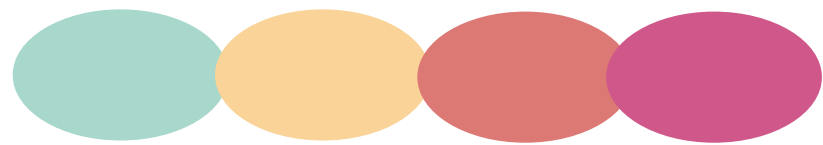




Understanding and Recognizing the Impact COVID-19 on Dementia Patients

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Hello!



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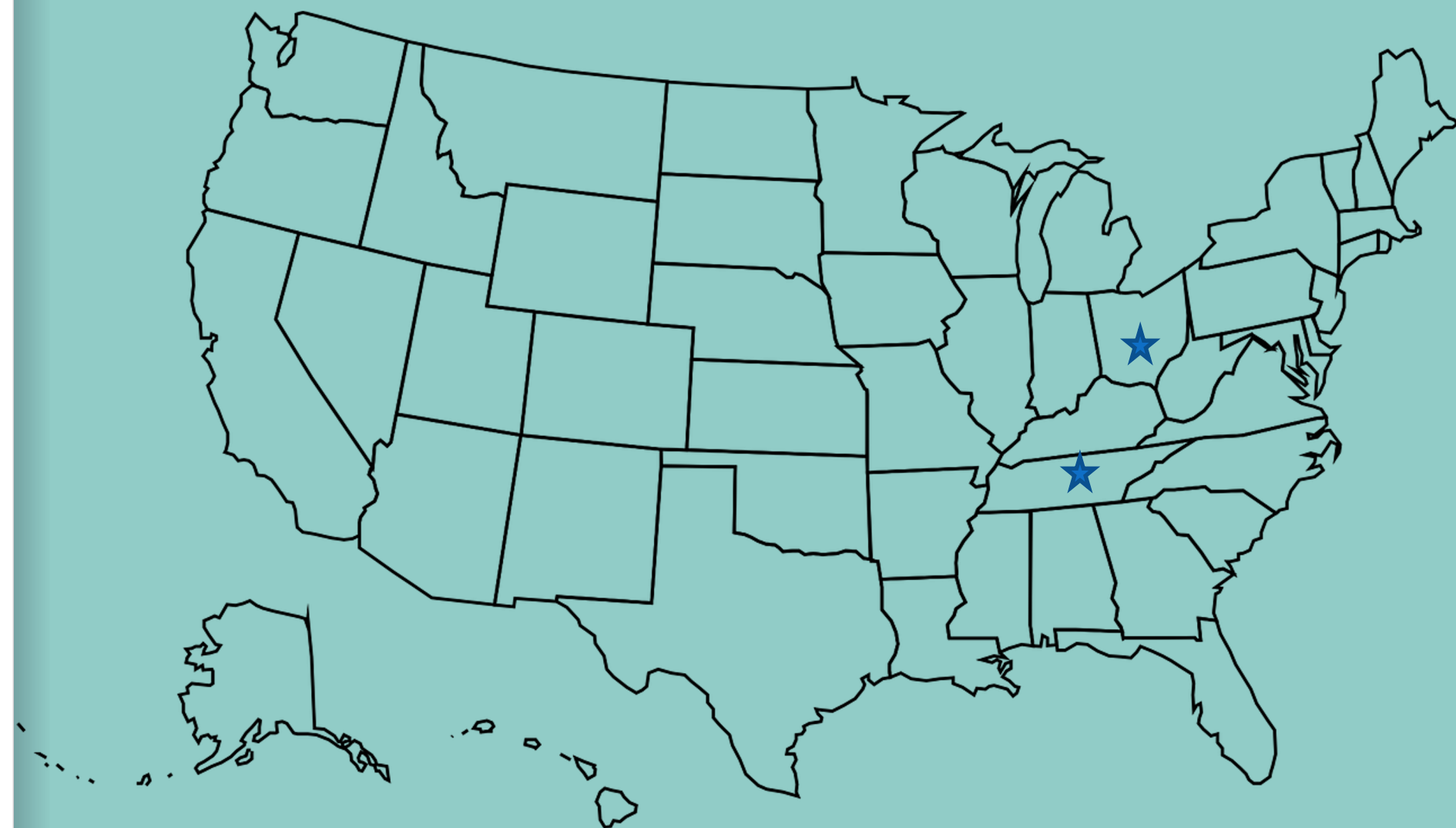
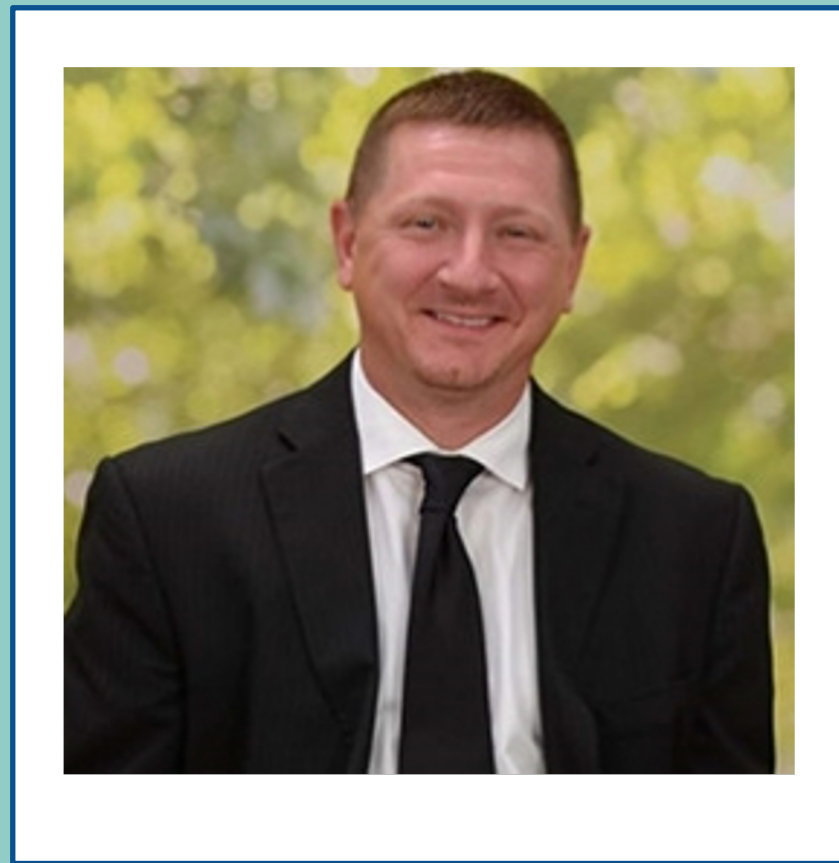
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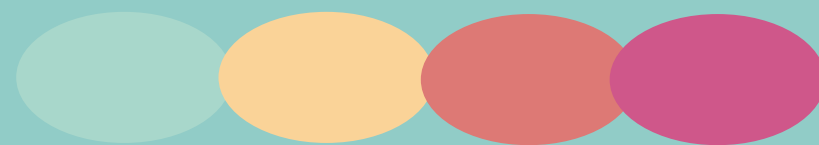
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Introduction & Overview



Dementia by the Numbers



- 7, 918 individuals turn 65 daily
- 330 individuals turn 65 per hour
- 10 million baby boomers will develop dementia
- At age 85, the chance of developed dementia increases to 50%
- Every 71 seconds someone is dx with AD
- Midcentury every 33 seconds someone will be dx with AD
- Currently, there are 40 million people diagnosed with AD
- In 2019 Alzheimer's will cost the healthcare system \$290 Million
- By 2050 that cost will increase to \$1.1 Trillion

Dementia and COVID by the Numbers



- Data from the Office of National Statistics (ONS) from March 7 to May 1, 2020 showed that dementia(s) and Alzheimer's Disease and symptoms accounted for two-thirds of the total number of COVID-19 deaths.
- Why?? The leading Alzheimer's research charity has emphasized that more research is needed to help understand why there has been such a significant increase in the number of people dying from dementia.

Dementia and COVID by the Numbers



ONS indicated that dementia (s) and Alzheimer's disease were the two most common pre-existing conditions found among deaths involving COVID-19.

The findings highlighted that they were linked to 6,887 deaths, which amounted to 20.4% of all deaths involving COVID-19.

They also showed that compared with the five-year average, the rate of deaths due to dementia and Alzheimer's disease was significantly higher in April 2020.

Dementia and COVID by the Numbers

According to the AD Association reported more than 41,000 extra deaths from Alzheimer's or another dementia occurred in 2020.

Compared with the average yearly deaths over the period from 2015 to 2019. The total number was about 16% higher than expected.

Not a Specific Disease



D-E-M-E-N-T-I-A-S

Degenerative, Depression, Drugs

Endocrine

Metabolic, Myelin

Epilepsy

Neoplasm, Nutrition

Toxic, Trauma

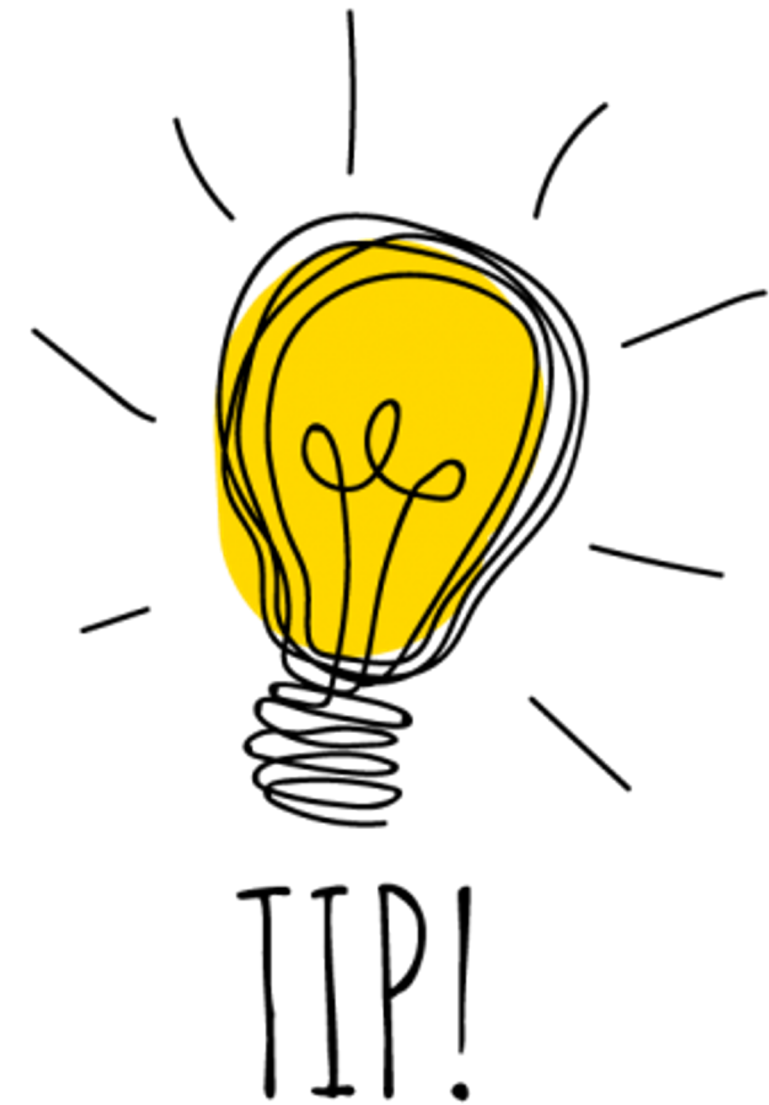
Infection, Inflammation, Inherited, Infarction

(TB, Lyme Disease, Lupus, CVA)

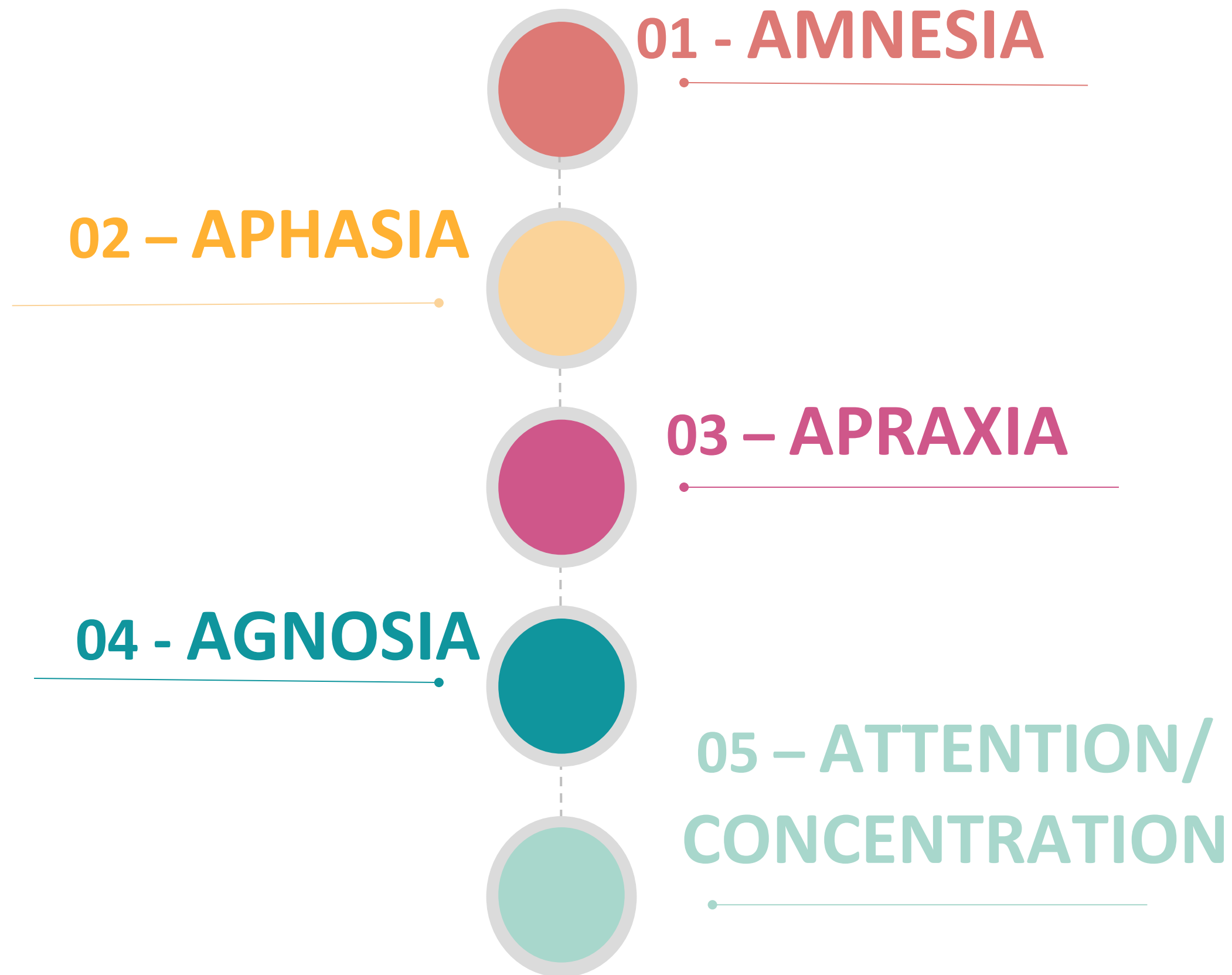
Atherosclerotic, Vascular

(Blood flow, Vascular Disease)

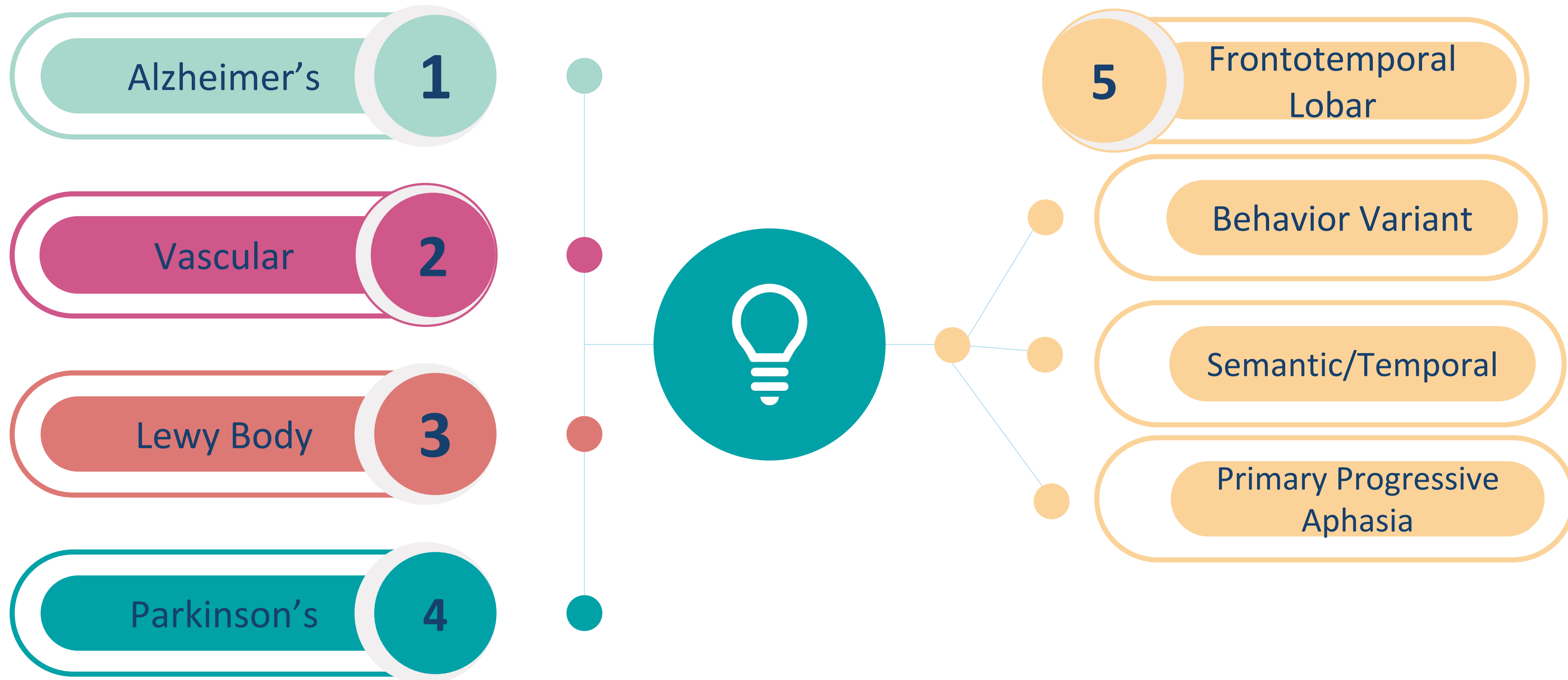
Structural, Systemic



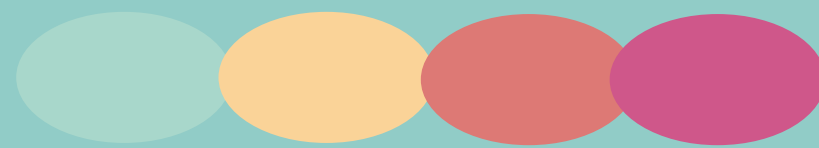
The Five A's of Dementia



Common Types of Progressive Dementia



Dementia With and Without Delirium



Dementia and Delirium

What causes delirium?

Delirium is most commonly due to a medical cause including severe illness, constipation, dehydration, infection, pain, drug effect or withdrawal (especially alcohol and sedative drugs).

Currently the nature of delirium and what happens in the brain is not fully understood.

COVID-19 and older adults rates of delirium in the 70% to 80% range. With 86% experiencing Sundowning and all pts check UAs.

Who is at risk of developing delirium?

Pre-existing cognitive impairment such as dementia, and older age, represent the most significant risks for a person developing delirium (up to two-thirds of all people affected by delirium will be in these categories).

Other Risk Factors:

Severe illness

Dehydration

Poor eyesight

UTI

Metabolic Disturbances

Surgery

Medications or changes in medications

Physical restraints

People who have previously experienced a delirium are also at greater risk of developing a delirium in the future with any infection.

Dementia and Delirium

Delirium affects mainly attention (General).

Dementia affects mainly memory (General).

Delirium is typically caused by acute illness or drug toxicity (sometimes life threatening) and is often reversible. “D” in “Dementia”

Dementia is typically caused by anatomic changes in the brain, has slower onset, and is generally irreversible. (VD?)

- **Delirium**

- Disturbance of consciousness with reduced ability to focus, sustain, or shift attention
- A change in cognition, a perceptual disturbance not accounted for by preexisting, established or evolving dementia
- ***Occurs over a short time period and fluctuates during the day***

- **Dementia**

- Chronic acquired decline in memory and at least on other cognitive function
- Decline usually evident over longer periods with mild to severe cognitive decline, hallucinations, and delusions

Delirium

- Acute
- Reversible
- Consciousness: fluctuating
- Decreased awareness of self
- Perceptions: illusions, hallucinations common
- Speech: slow, incoherent
- Disorientation: time, others
- Cognitive dysfunction
- Illness, med. toxicity: often
- Outcome: excellent if corrected early

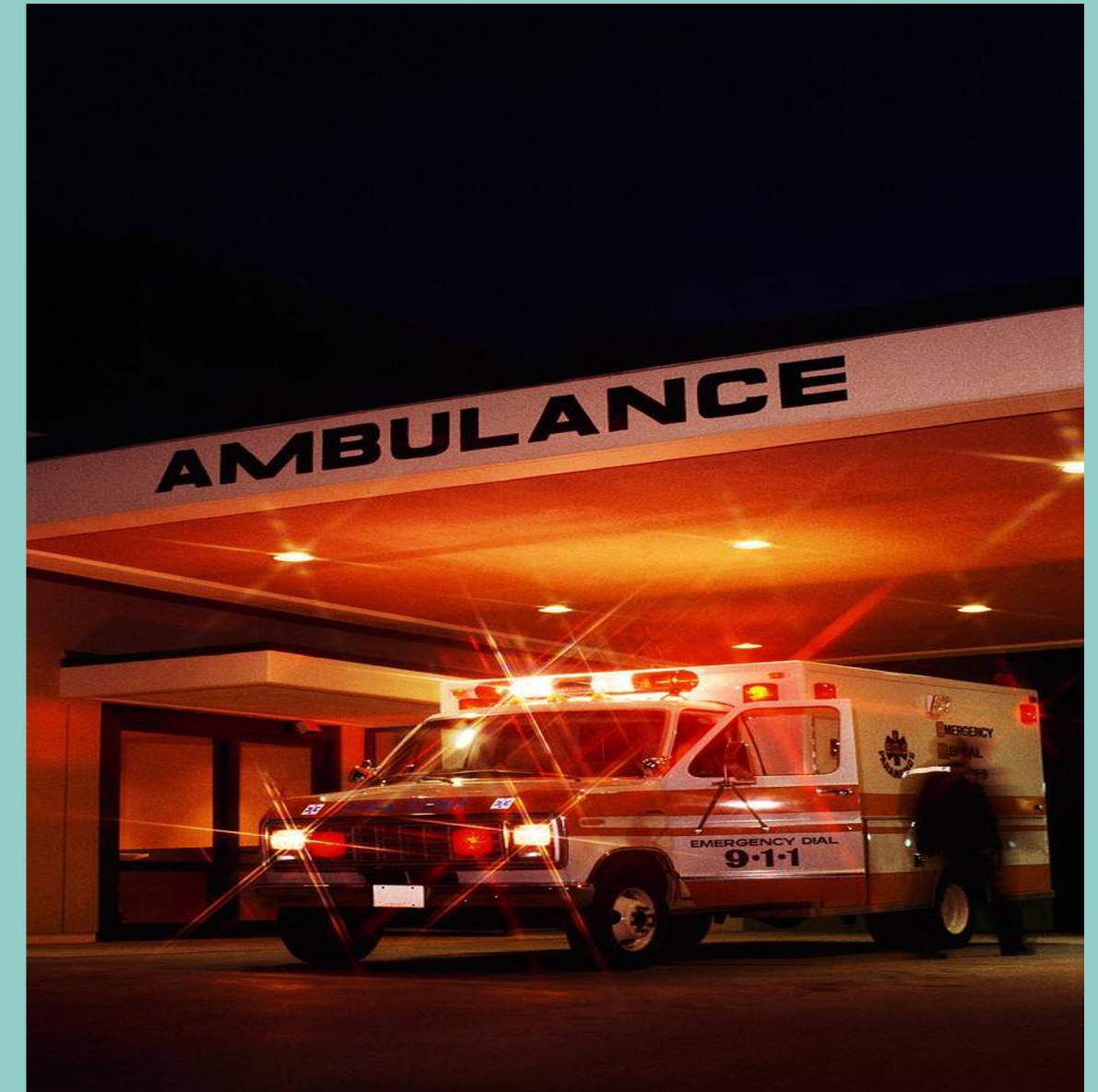
Dementia

- Gradual
- Irreversible/Reversible
- Consciousness: rarely alters
- Decreased awareness of self (??)
- Perceptions: Hallucinations not common
- Speech: repetitive difficulty finding words
- Disorientation: time, person, place
- Memory impairment
- Illness, med. toxicity: rarely
- Outcome: poor-If Reversible Outcome is good.

Delirium

A medical emergency triggered by:

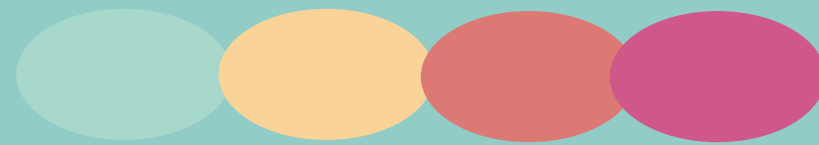
- Oxygen deprivation
- Drug use/poisons, meds
- Infections, recent surgery, or trauma
- Severe chronic illness
- Electrolyte imbalances
- Pre-morbid brain conditions and functional status
- Pre-existing cognitive impairment
- Old age/sensory losses



Dementia

- Comes on over time, short term memory loss
- May progress slowly or quickly
- May affect younger persons as well as elderly
- Different kinds of dementia
- Treatment generally depends on the stage/ severity of the disease
- Becoming old doesn't mean you will develop dementia
- Is terrifying while the client is still able to realize that they are not thinking properly

Social Isolation Impact on Dementia Patients



Journal of Psychiatry. October 2020

*The available evidence suggests that the COVID-19 pandemic has a wide negative impact on the mental well-being of older adults **with and without dementia**. Viral infection and the consequent social isolation to limit its spreading have a range of neuropsychiatric consequences. Larger and more robustly designed studies are needed to clarify such effects and to assess the long-term implications for the mental health.*

Isolation exacerbates **hyperactivity** up to twice as normal in patients with Alzheimer's disease, and also causes the appearance of strange behaviors.

This increase was demonstrated consistently in the gross motor skills, related to the movement of arms, legs, feet or the entire body.

However, it also affected fine motor skills, small movements made by hands, wrists, fingers, toes, lips and tongue. Increase in Anxiety and Depression

Concerning because **Anxiety and Depression** are main neuropsychiatric conditions in dementia(s)

Sundowning



- The appearance or exacerbation of behavioral disturbances associated with the afternoon and/or evening hours
- Sundowning is broadly used to describe a set of neuropsychiatric symptoms occurring in elderly patients with or without dementia at the time of sunset, at evening, or at night
- Occurs in about 86% of Dementia patients
- Case Studies at Rounding Facilities indicated an Increase to 78.7% since Pandemic.

Possible Sundowning Factors



Melatonin

- Levels reduced in post-mortem cerebrospinal fluid of patients with Alzheimer's disease

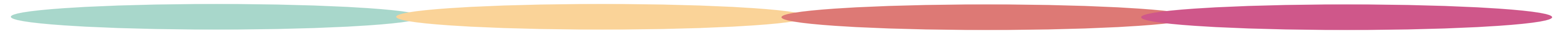
Environmental Fatigue

- Caregiver fatigue
- Overstimulation at shift change
- Too much activity in AM will lead to afternoon fatigue

Medications

- May be side effect or the “wearing off” effect of various medications

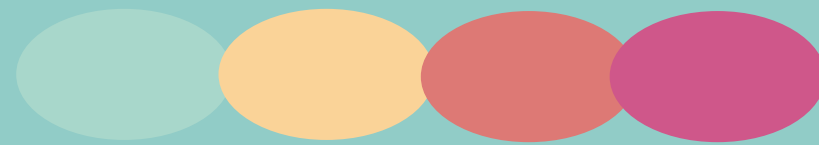
What challenges are your patients faced with as a result of COVID-19?



Isolation during the pandemic is a heavy burden to be faced with, and many of our patients in memory care facilities have endured an extended time alone

The disruption in **routines** has accelerated stress levels in many dementia patients. Due to memory loss, forgetting why they can't go places causes more pent-up stress, can lead to: ***pacing, picking at skin, more compulsive outlets, more sadness and loneliness if unable to be with family, anger at not being able to do what they want, and increased frustration with reminders about wearing masks.***

COVID “FOG” and Dementia



“COVID Fog”



Normal Causes of “Fog”

Most of them are far less scary than Alzheimer’s disease.

Hormone changes during the transition to menopause

Other hormone changes (for example, thyroid problems)

Depression

Stress

Lack of sleep

Vitamin and mineral deficiencies (such as vitamin B12)

Encephalopathy (i.e., Hepatic Encephalopathy). Loss of short-term memory, headaches and confusion. At its most severe, it is associated with psychosis and seizures. Typically, if seen at all, it occurs weeks after first showing symptoms of COVID-19.

“Brain Fog” — difficulty putting thoughts together, problems with concentration, the inability to remember what happened a short time before.

There are some striking similarities between COVID-19’s biology and Alzheimer’s, We know that COVID-19 triggers a massive immune response, an inflammatory response;

Some individuals with COVID-19 have a breakdown of the blood-brain barrier (BBB).

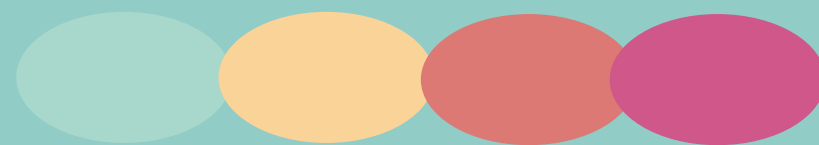
The purpose of the **blood–brain barrier (BBB)** is to protect against circulating toxins or pathogens that could cause **brain** infections or inflammation, while at the same time allowing vital nutrients to reach the brain-**Decreases toxins in the brain**

Those are also key pathways that we see in Alzheimer’s

Questions with no Answers YET!

Why there is commonly a loss of sense of taste and smell, which can be linked to brain function, and similar reports of “brain fog” for weeks or even months after patients recover from the illness?

Pharmacological Interventions



Pharmacological Approaches



- Seroquel
 - Dosages
- Nuplazid
 - Dosages
- Trazadone
- SSRI
- Benzo
- COVID Vaccination
 - 1st Dosage
 - 2nd Dosage

Pharmacological Treatments

- All medications used to treat Alzheimer's and other forms of dementia are not designed to slow the progression of the disease rather are designed to help improve cognitive functions, learning and memory.
- There are two types of medications.
 - Cholinesterase Inhibitors (Aricept, Exelon, Razadyne)
 - Memantine (Namenda).
- Medications Impacts
 - Early Stages
 - Middle Stages-Combine Medications
 - Late Stages

Challenges

The new coronavirus (COVID-19) poses very unique challenges for people with Alzheimer's disease and other forms of dementia.

Memory Care Placement and Caregiving

Moving and Change/Decline

Does the community/facility meet the level of care needed
Stage 5.0/7.0

Isolation

Sundowning

COVID

Masks

Medications

Vaccinations

COVID-19 and the Caregiver



One of the best things you can do is establish a new routine. If patients are used to going out to lunch, have a picnic lunch out in the yard. If they are accustomed to going out shopping, take them for a walk around the block. If they are in a facility and are accustomed to you coming to visit, arrange for visits outside a window or through video chats.

Be patient. Give them the information that you think that they can understand and respond to them on an emotional level.

Dementia Support Groups- Weekly at multiple centers

Alzheimer's Vaccination Update

January 2019 UB-311 was deemed safe and well-tolerated in patients.

96% response rate indicating immune systems produced antibodies to generate immune response to inflammation.

Results also indicated improvement in cognitive and functionals, however, the number of participants was not large enough to reach significance levels.

Clinical Trail 2a and goals

Participants will receive another 3 or 5 doses over a 96-week treatment period followed by a 12-week follow-up period to evaluate the long-term effects of treatment. The results of this study are expected in Spring 2021.

