

Vascular & Mixed Dementias

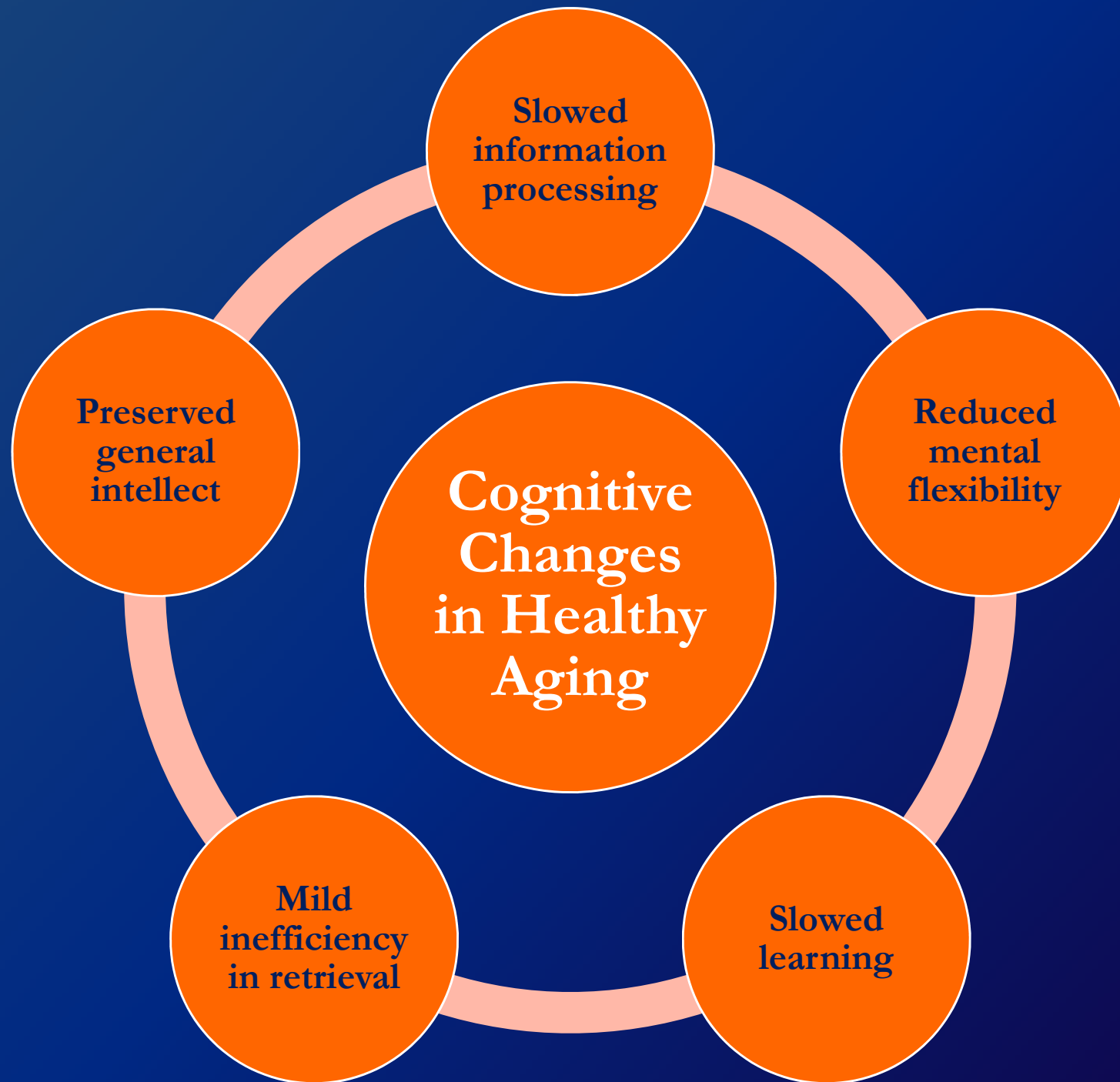
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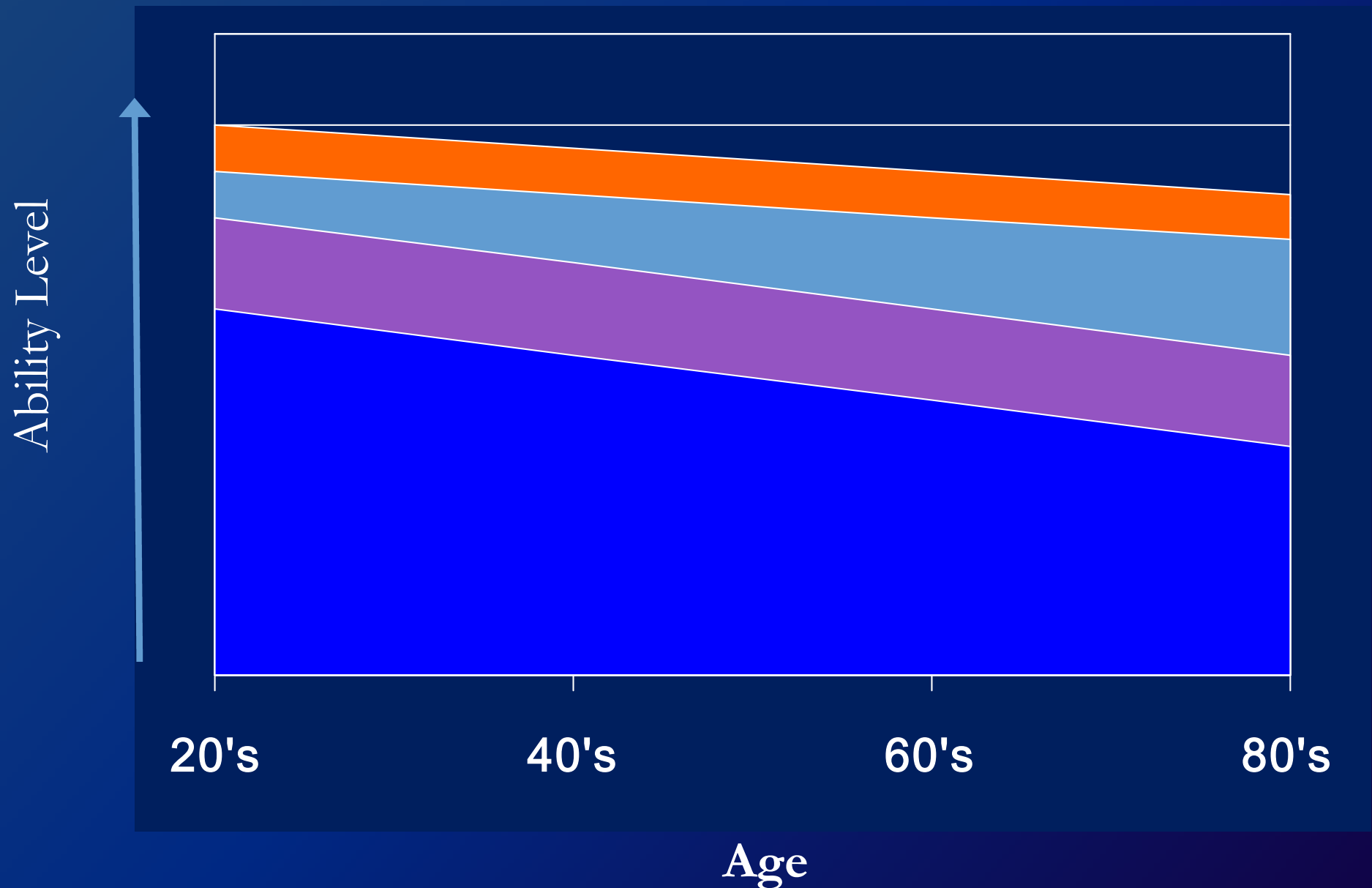


Case Study

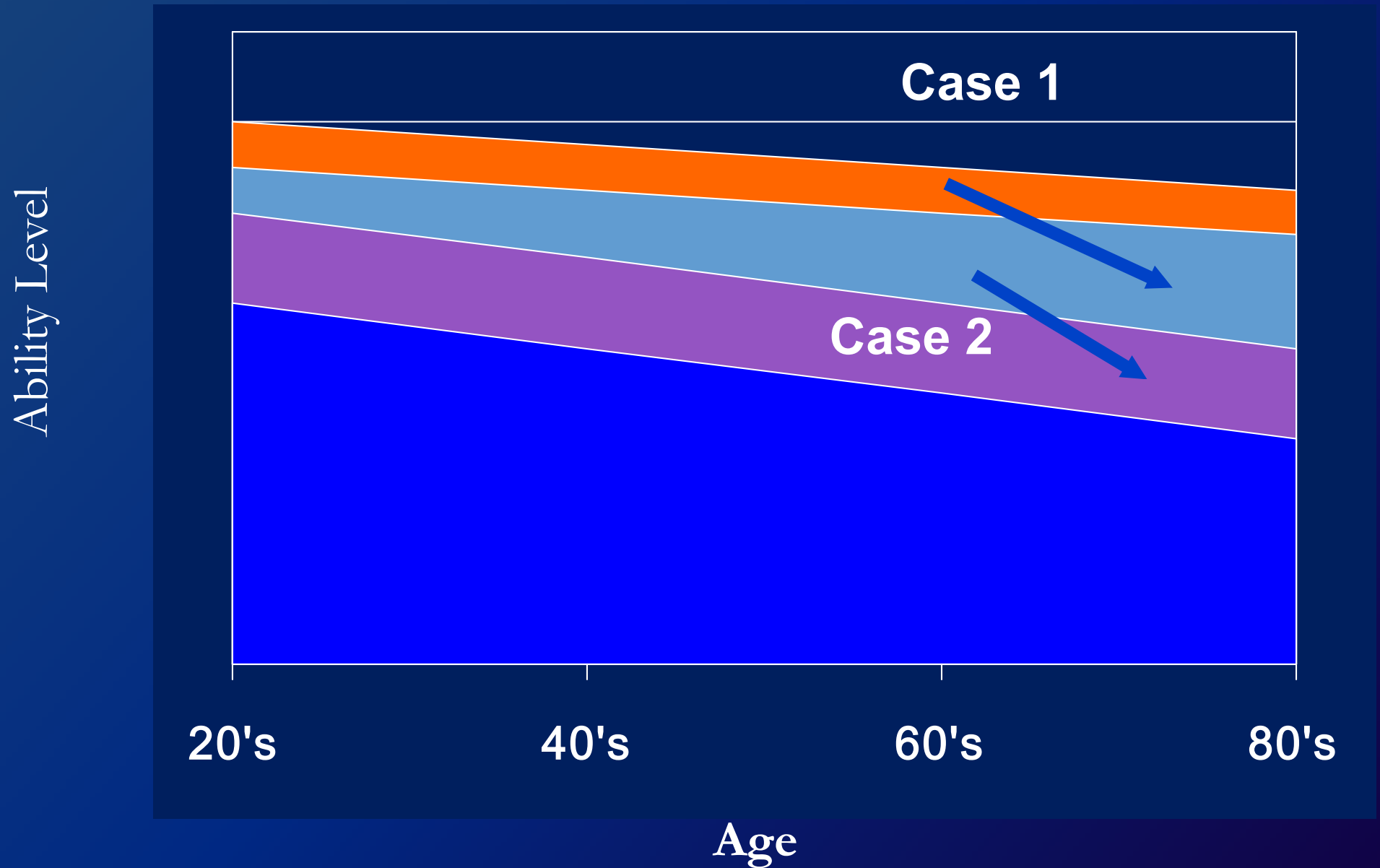
Mr. S. is a 74 year old man who has smoked for 20 years. He is overweight, has high cholesterol and high blood pressure. His family noticed that he has trouble making good decisions when pressured for time and that he doesn't plan as well as he did. They also noticed that he will appear to decline suddenly from a cognitive perspective and then appear to level off before taking another sharp drop in his thinking and reasoning abilities. He sometimes appears depressed and has difficulty finding words. Initially he was able to provide self-care but that became more difficult after the last drop in his abilities.



Normal Changes in Cognition Over Time



Abnormal Change in Cognition



What is **Dementia**?

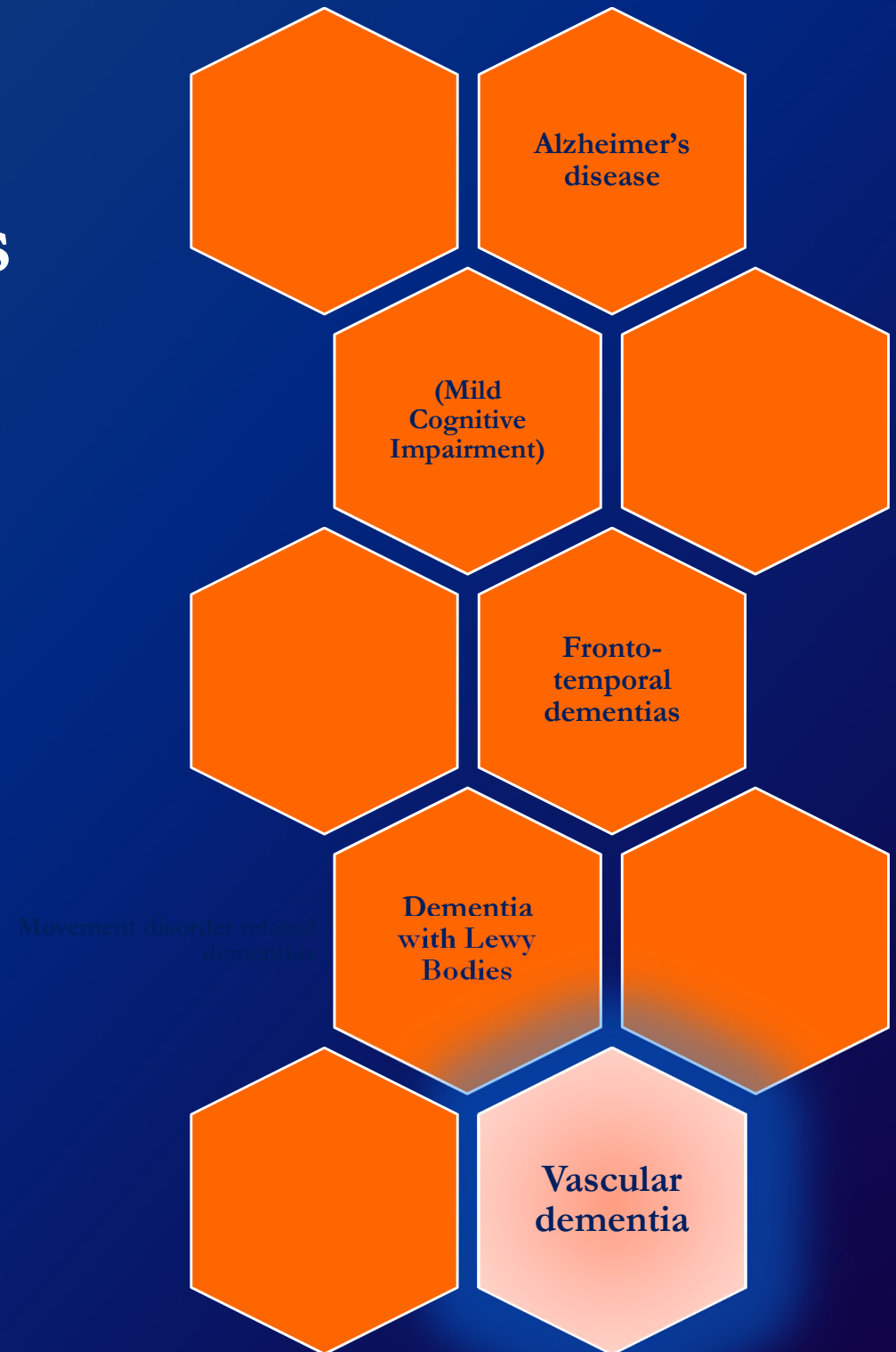
A general term for loss of memory and other thinking abilities, such as language or judgment, severe enough to interfere with daily life.



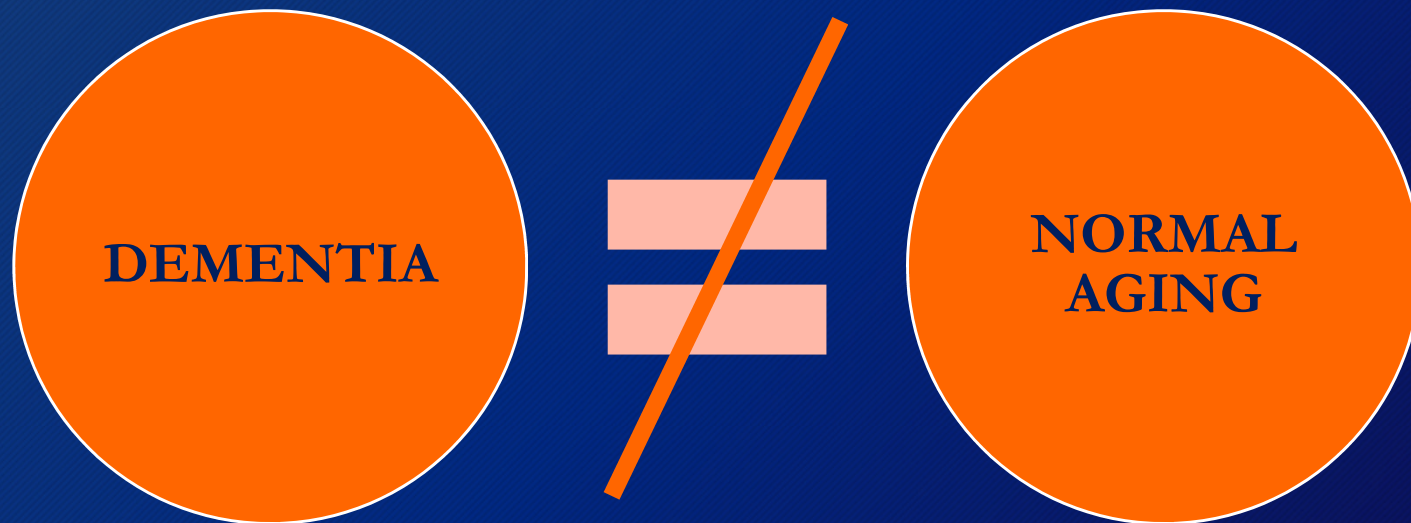
Dementia

- Umbrella term for several disorders.
- Describes a constellation of symptoms, *not* a disease process.

Common Dementias



KEY POINT



Dementia is distinctly different from normal aging

What is **Vascular Dementia**?

Progressive worsening of cognitive functions due to vascular changes (*impaired blood flow*) in the brain.

Vascular Dementia

- Behind AD, second leading cause of mental dementia
- Up to 40% of people with dementia
- Stepwise decline
- Deficits can vary based on the location of the damage in the brain

Vascular Dementia: SYMPTOMS

- Confusion
- Restlessness and confusion
- Poor attention and concentration
- Difficulty planning
- Unsteady gait

Vascular Dementia: CAUSES

- Ischemic Lesion ranging from small vessel disease to large strokes
- Caused by either:
 - blockage of blood flow
 - or*
 - bleeding

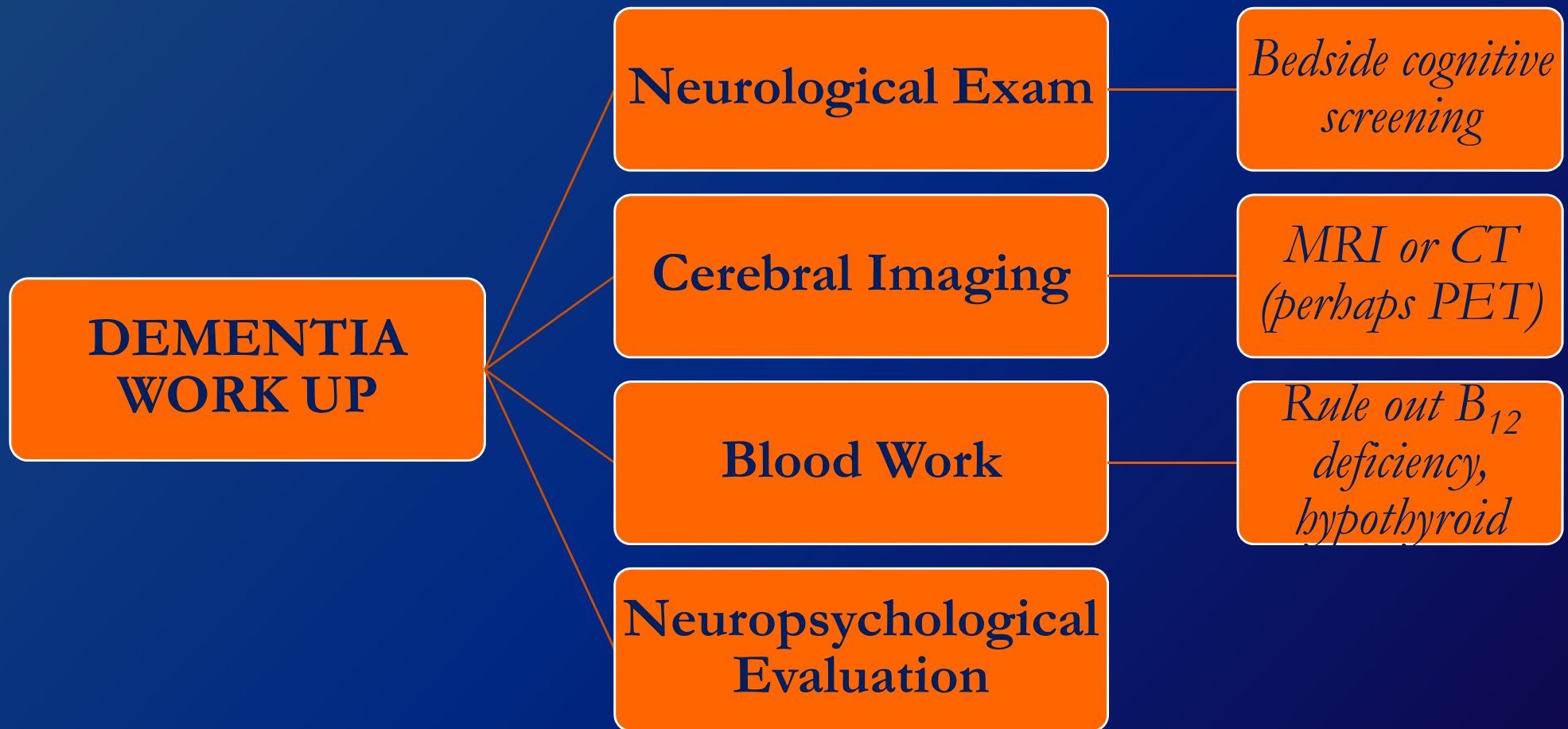
Result is that tissues are deprived of oxygen and function is disrupted (cells damaged and/or die)

Vascular Dementia: **RISK FACTORS**

- High cholesterol
- High blood pressure
- Obesity/ high BMI
- Smoking
- Male gender
- African American ethnicity

Vascular Dementia: **RISK FACTORS**

- Advanced Age
- Heart attack
- Stroke
- TIAs (mini-strokes)
- Atherosclerosis
- Diabetes
- Atrial Fibrillation



Other health issues that can impact cognitive functioning

- Depression
- Heart Disease
- Diabetes
- Infection
- Polypharmacy
- Sleep apnea

Vascular Dementia - **Neuroimaging**

- CAT scan or MRI
- White matter changes occur but common with aging
- 3 main patterns
 - Strokes
 - Small vessel disease (atherosclerosis)
 - Transient Ischemic Attacks (TIAs)

Vascular Dementia - **Neuroimaging**

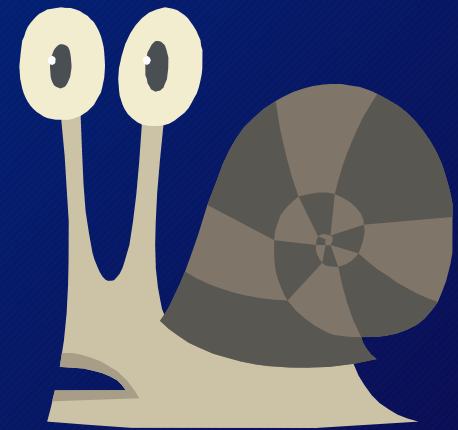
- **Stroke**
 - Ischemic -blocked blood vessel
 - Hemorrhagic – blood leaks into brain
- **Small vessel disease** (atherosclerosis)
 - Plaque narrowing arteries
- **Transient Ischemic Attacks** (TIAs)
 - Mini-strokes – clots
 - Increases stroke risk

Vascular Dementia: **Motor Changes**

- Psychomotor Slowing
- Weakness
- Problems with balance
- Tremors
- Loss of bladder or bowel control

Vascular Dementia: **Behavioral Changes**

- Depression
- Apathy
- Anxiety
- Irritability



Vascular Dementia: **Cognitive Changes**

- Poor ability to maintain “mental set”
 - Difficulty understanding the nature of a novel task
(recite the months of the years backwards)
 - Difficulty maintaining mental set
(difficulty completing the task)
- Memory relatively spared compared to AD

Vascular Dementia: **Prevention**

- Reduce vascular risks!
 - Lose weight
 - Stop smoking
 - Control:
 - hypertension
 - high cholesterol
 - diabetes

Vascular Dementia: **Treatment**

- There is no known treatment
- Medications to treat symptoms
 - Depression
 - Agitation
- Cholinesterase Inhibitors – no good evidence
- Behavioral strategies

Alzheimer's Disease

- Insidious onset
- Memory decline is cardinal feature
- Decline in at least one other area of cognition
- Age is big risk factor

POLL:

Have you ever heard of Mixed Dementia?

1. Yes
2. No

Please vote by entering your response on the screen.

Mixed Dementia

- Co-occurrence of more than one type of dementia
- Alzheimer's and Vascular occur together frequently
- Clinical features and brain pathology of both types of dementia
 - Amyloid plaques (Alzheimer's Disease)
 - Vascular pathology (Vascular dementia)

Two polls will be launched – please enter your responses on the screen.

Vascular Risk and Cognition in **African Americans**

- African Americans at increased risk for dementia
- African Americans have high rates of vascular risk factors
- Mild Cognitive Impairment increases risk for dementia

Selected Demographics

		N (%)
Gender	Male	37 (39%)
	Female	58 (61%)
Marital Status? (Married)		28 (30%)
Years of Education Completed (range: 3-20)		10.5 (3.2)
Ever Smoked? (Yes)		60 (63%)
Current Smoker (Yes)		21 (22%)
Cholesterol		68 (72%)
Hypertension		81 (85%)
Stroke		15 (15%)
Diabetes		57 (60%)
Vascular Risks		2.2 (1.1)

Vascular Risk and Cognition in African Americans – Study Design

- 95 African Americans (age 60 or above) coming to see primary care physicians
 - Not coming for memory complaints
- Received cognitive testing
- Vascular risk factors assessed from medical records

Research Questions

Is Mild Cognitive Impairment (MCI) under-recognized in a community sample of African Americans coming into a primary care clinic?

Does the number or type of vascular risk factors predict cognitive impairment?

Selected Demographics

	Mean	SD	Range
Age	69	6.9	60-92
Years of Education Completed	10.5	3.2	3-20
Cholesterol	174.06	42.69	91 – 298
Systolic Blood Pressure	142.29	24.0	96-208
Diastolic Blood Pressure	74.88	10.6	50 – 108
No. of Medications	11	6.1	0-33
MMSE	25	3	14-30

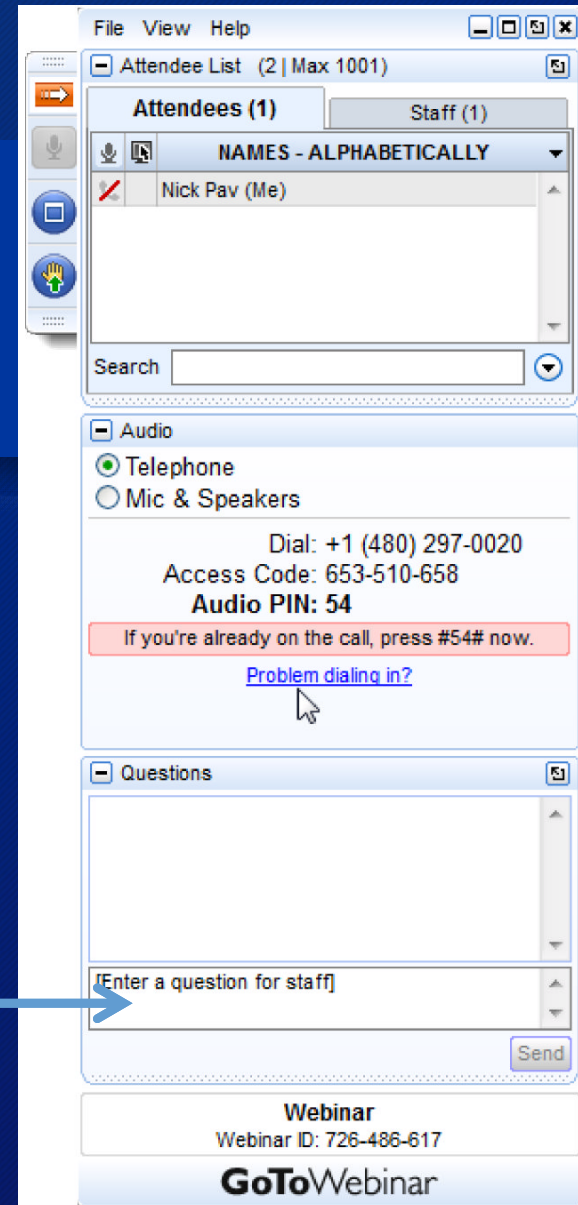
Results

- 25% had some cognitive impairment that warranted a referral.
- 41% had MCI, despite lack of cognitive complaints.
- 81% had 1 or 2 vascular risk factors
 - Most uncontrolled vascular risk
 - 30% self-reported depression

Your Input on the Case Study

The next slide will present a Case Study.

Once presented and using the Questions tab of your control panel, we will ask that you enter (type) the main features consistent with Vascular Dementia.



Case Study

Mr. S. is a 74 year old African-American man who has smoked for 20 years. He is overweight, has high cholesterol and high blood pressure. His family noticed that he has trouble making good decisions when pressured for time and that he doesn't plan as well as he did. They also noticed that he will appear to decline suddenly from a cognitive perspective and then appear to level off before taking another sharp drop in his thinking and reasoning abilities. He sometimes appears depressed and has difficulty finding words. Initially he was able to provide self-care but that became more difficult after the last drop in his abilities.

In Summary...

- Vascular dementia is a common dementia
- Minimize Risk Factors
- No current cure other than preventing further decline and treating symptoms



Memory Disorders at UVA

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- Steven Dekosky, MD
- Erin Foff, MD, PhD
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- Mike Jaffee, MD
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