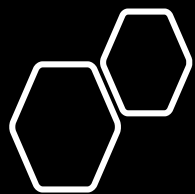


Sensory Systems and Dementia

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Outline

- Dementia and neuroanatomy summary
- Sensory systems
- Practical tips
- Care partner's role
- A few examples

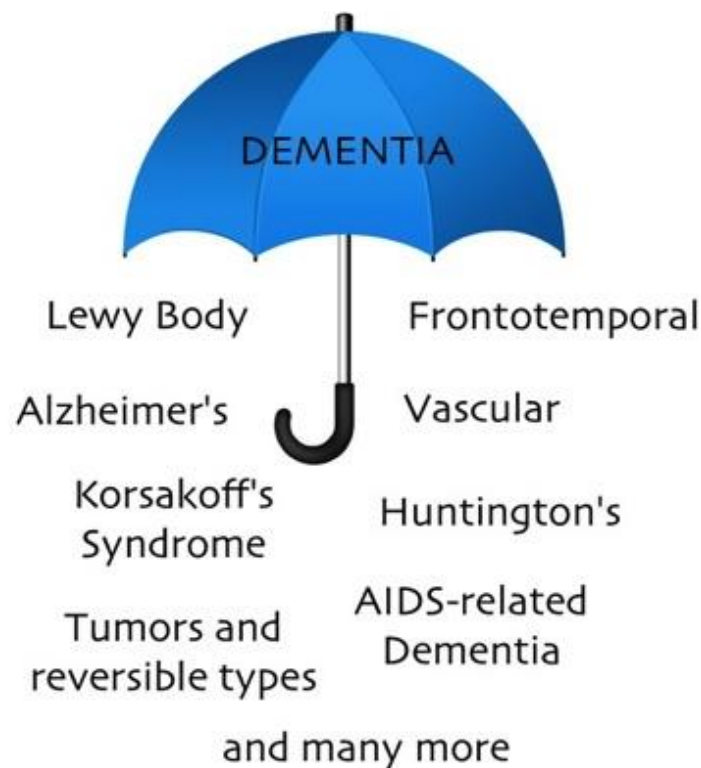


Dementia Defined

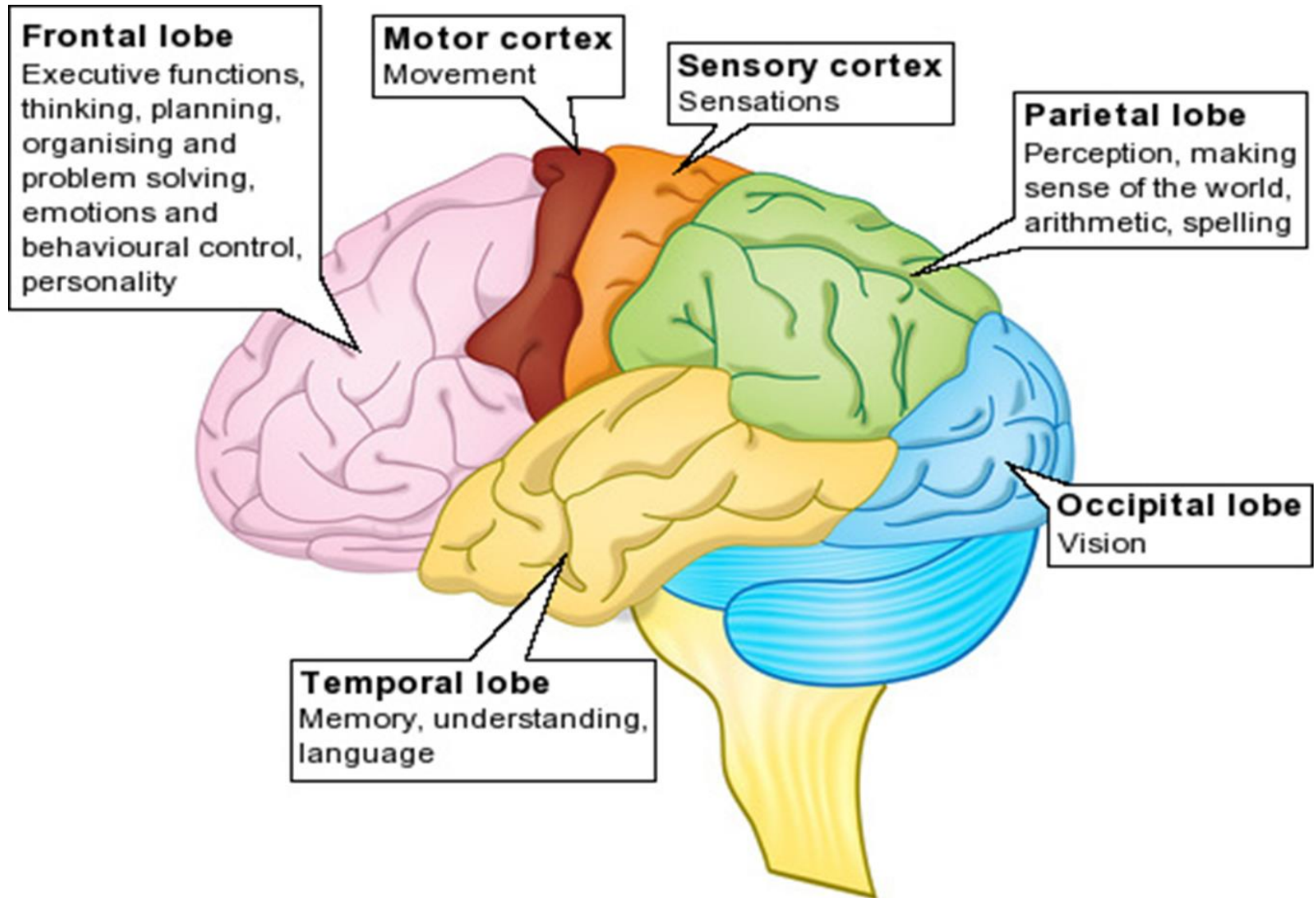
"Dementia is a general term that describes a group of symptoms- such as loss of memory, judgment, language, complex motor skills, and other intellectual function- caused by the permanent damage or death of the brain's nerve cells, or neurons," (Alzheimer's Foundation of America, 2015)

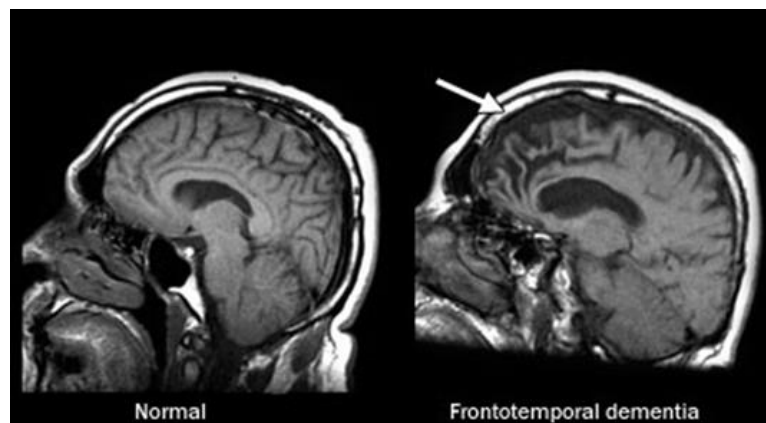
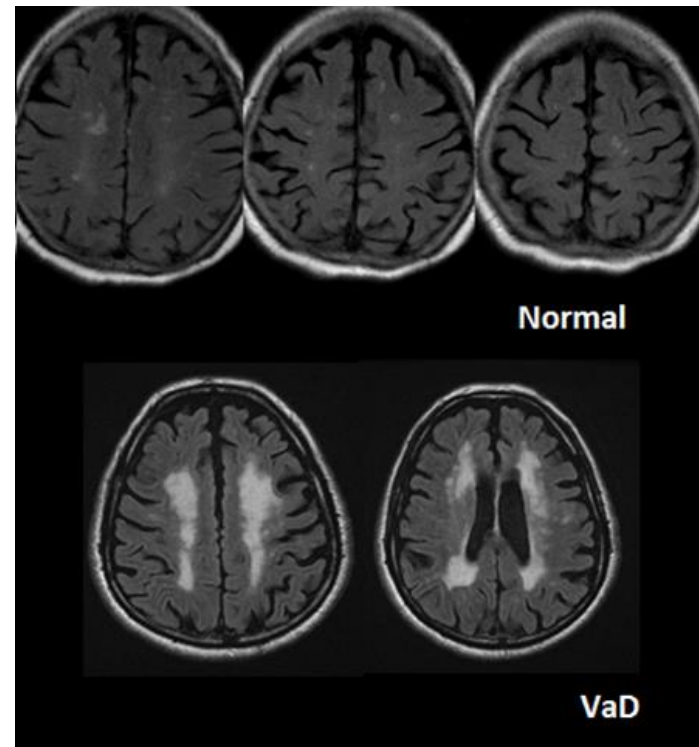
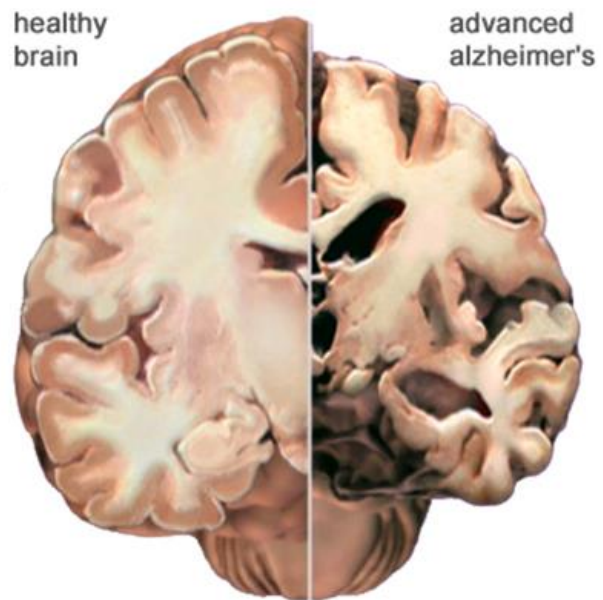
- Types of Dementia

- Alzheimer's Dementia
- Vascular Dementia
- Lewy Bodies Dementia
- Frontotemporal Dementia
- Several other causes and similarities



The brain controls everything





Sensory Systems

- Sight
- Sound
- Smell
- Taste
- Touch
- Pressure
- Movement
- Interoception



Audience Participation

On the next 3 slides, I am going to show you a series of photos.

If you recognize the person in the photo, yell out their name as quickly as you can.

****This activity borrowed from Dr. Heather Whitson, MD of Duke University**







What your brain just did with that visual cue



200ms

See picture

- dimensions
- color
- contours

300ms

Semantic access

- recognize
- ascribe meaning
- recall

400ms

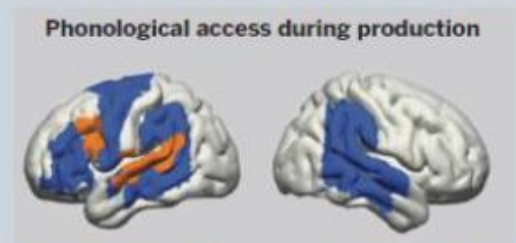
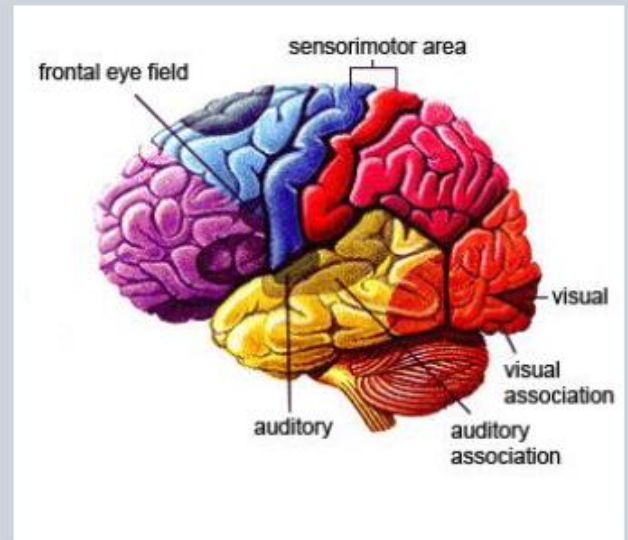
Phonologic retrieval

- connect meaning to word
- recall sound of word

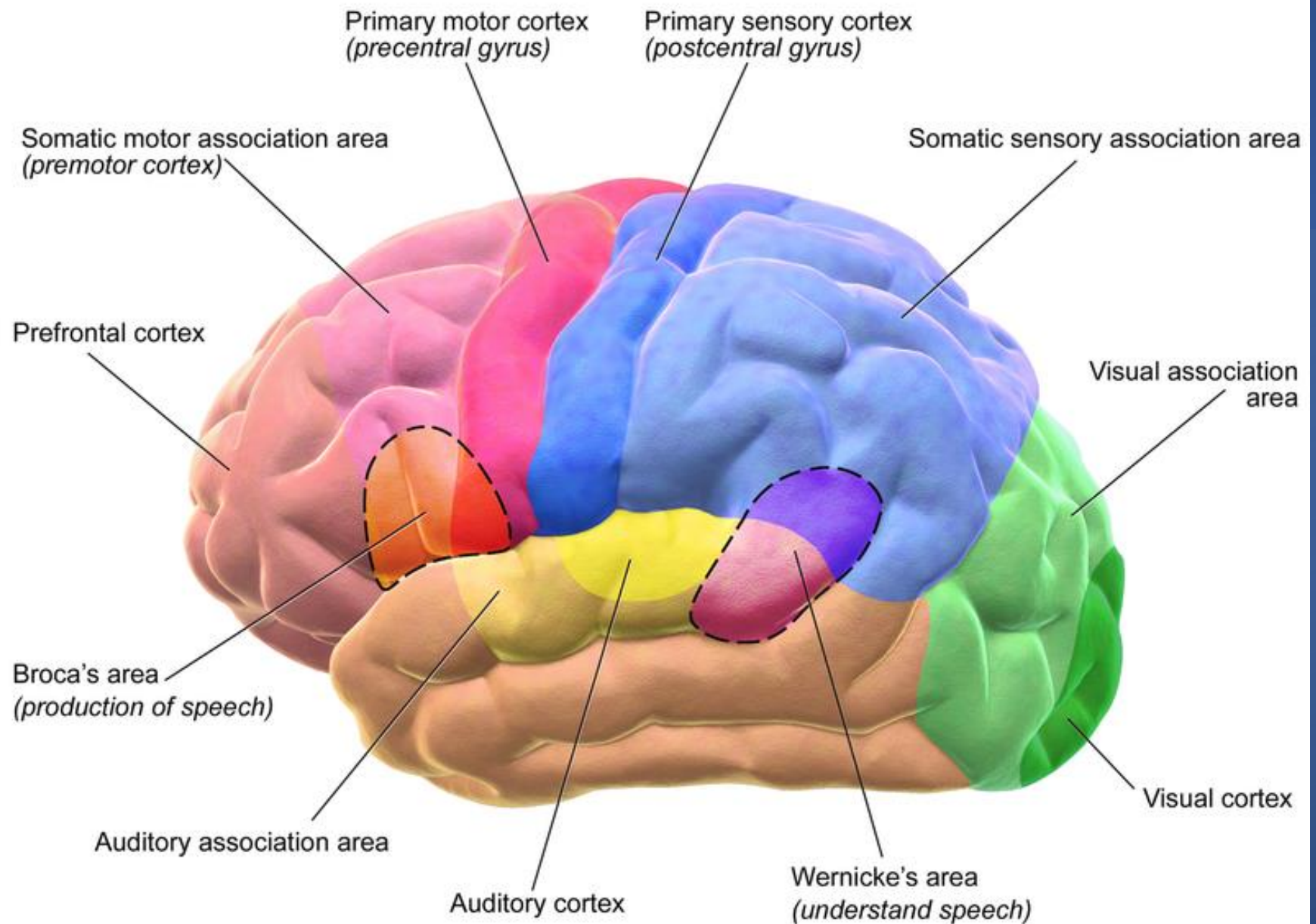
“BILL GATES!”

Articulation

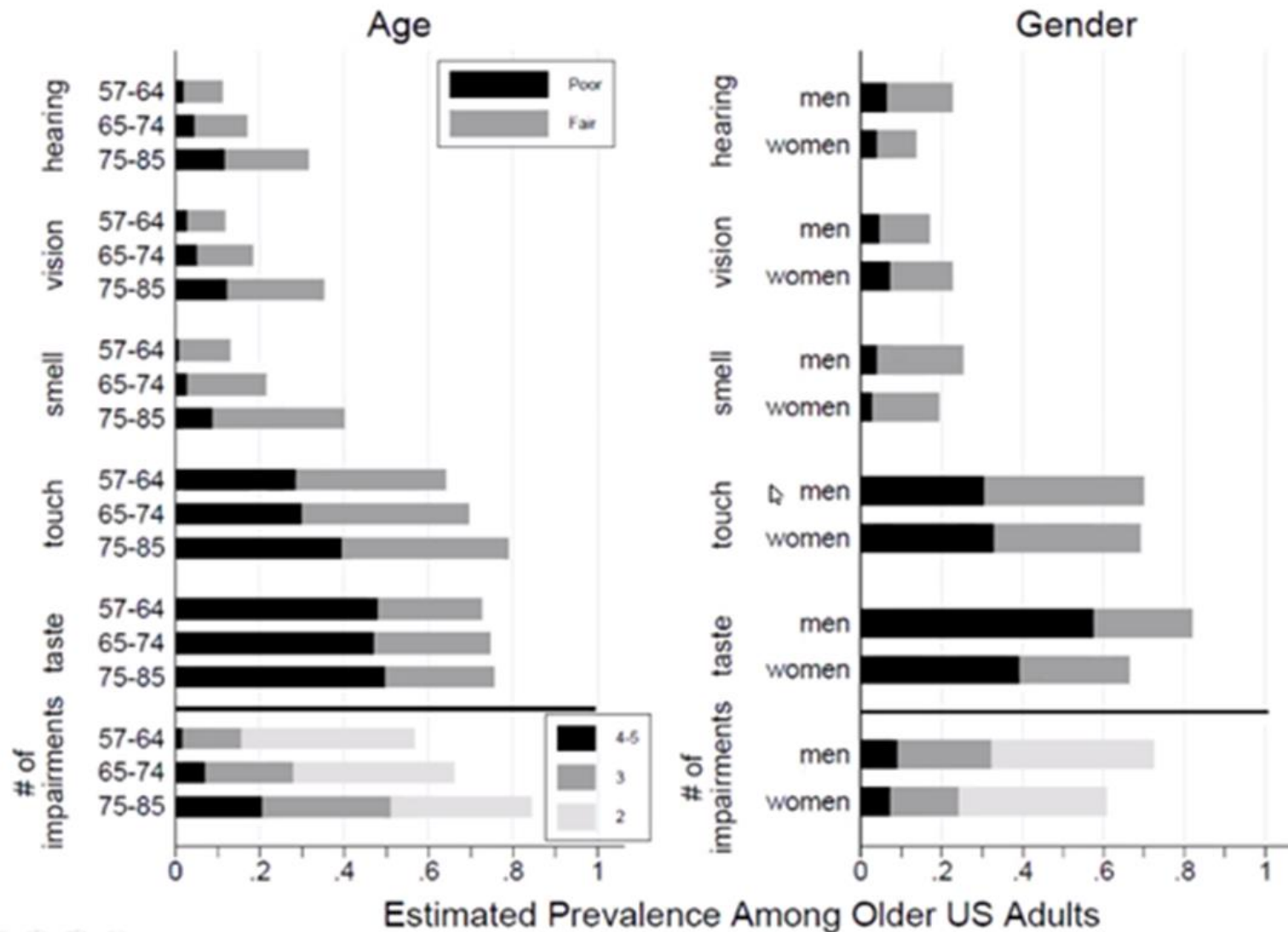
- produce utterance (or sense “tip of the tongue”)



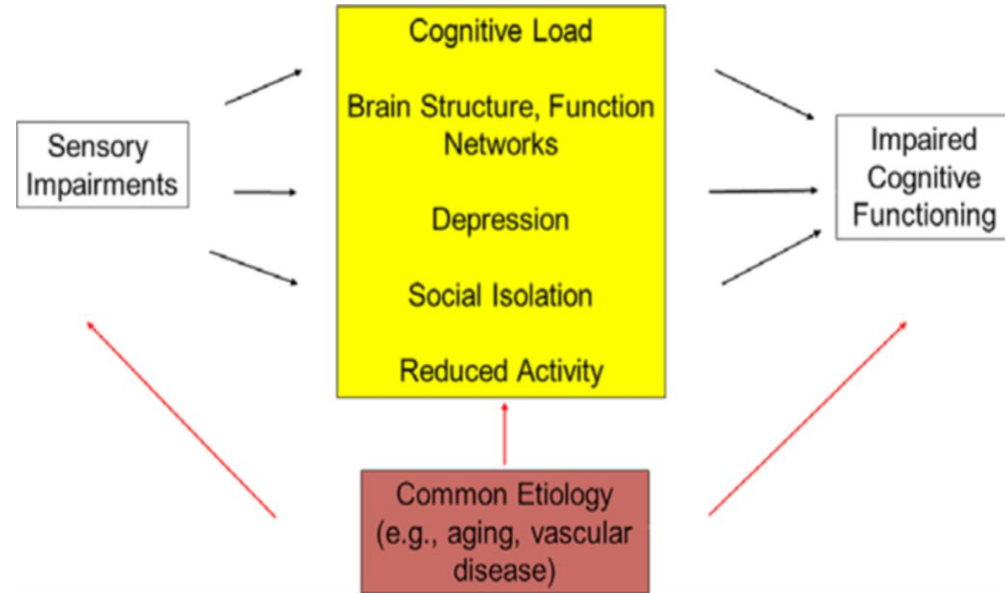
Shafto MA & Tyler LK *Science* 2014



Sensory deficits are very common in older adults



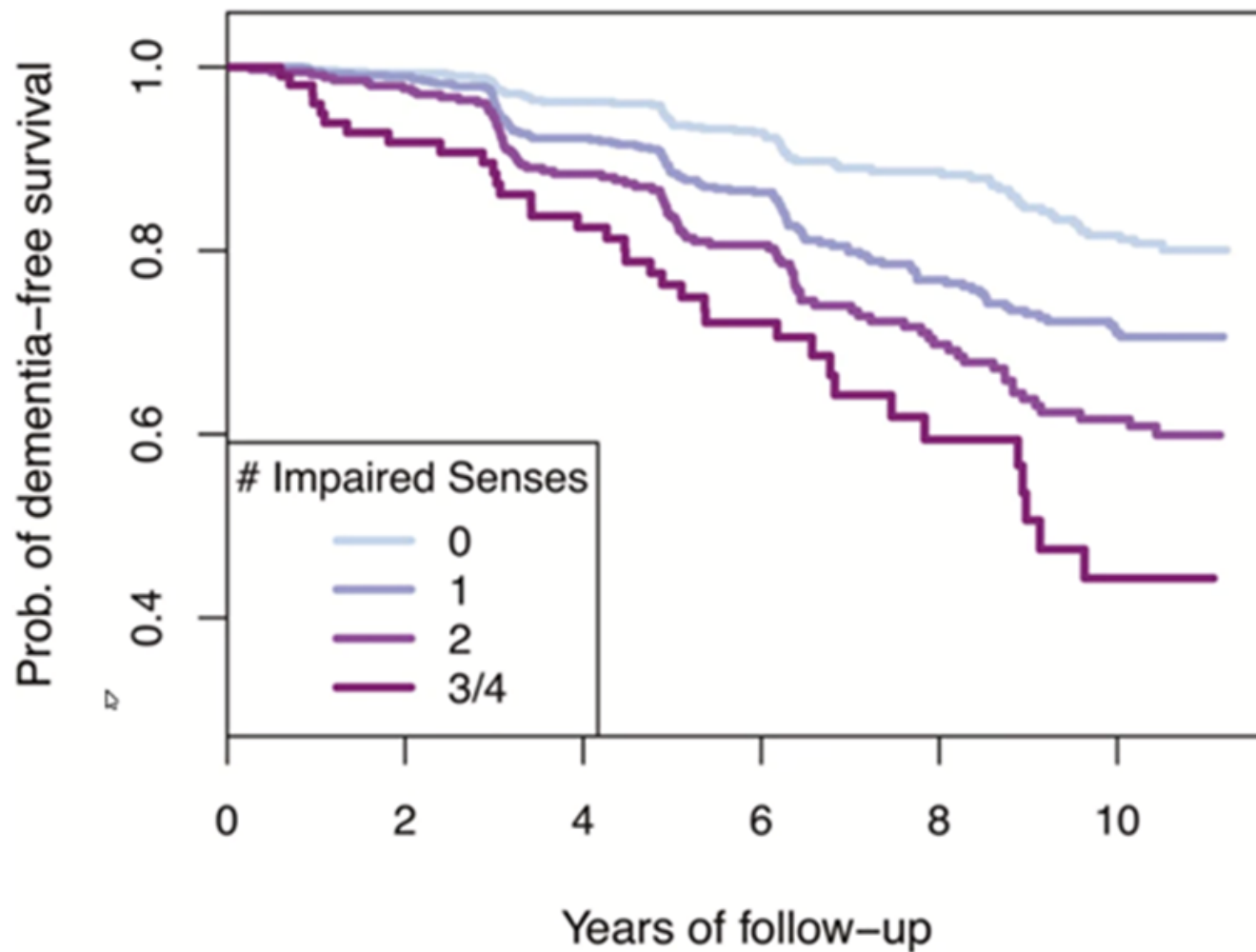
Sensory Impairment has a cumulative impact



- Global Sensory Impairment is increasingly recognized in the evidence as related to cognitive impairment
- Possible shared mechanisms:
 - Neurodegeneration
 - Effects of common environmental insults
 - Genetic variation
 - Coordinated cellular senescence
 - Combination of these factors

Global sensory
impairment
predicts poor
health
outcomes:

- Slower timed walk
- More disabilities (>2 IADLs)
- Less activity (accelerometry)
- Worse cognitive function
- Worse overall health
- Weight loss (>10%)
- Increased mortality



W Brenowitz , AR Kaup, FR Lin, K Yaffe.

J Gerontol A Biol Sci Med Sci 2019 May 16;74(6):890-896.

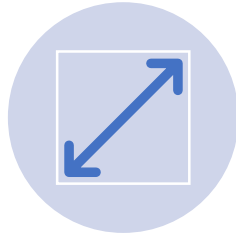


A Bit of Good News: Some Practical Tips

Sight



COLOR AWARENESS FADES;
USE HIGH CONTRAST, REDS
AND BRIGHT GREENS



DECREASED AWARENESS TO
PERIPHERALS AND ABOVE 48"
FROM FLOOR



DEPTH AWARENESS
DECREASES, DARK COLORS ON
FLOOR LOOK LIKE HOLES IN
THE GROUND



PICTURES MAY HELP WHEN
VERBAL COMMUNICATION
GOES DOWN

Sound

- It can take up to 90 seconds to process what they hear
--SLOW DOWN--
- Allow for pause and their response
- They may only pick up 1 out of every 3 words
- Music is calming, sing while offering care
- Use music from their golden years (15-25 years old)
- Nature sounds are soothing

Smell/Taste



Perception of smell may decrease, but chemical reaction still occurs in brain—ensure pleasant smells



Lavender is calming, citrus is alerting



Sugar may help people eat more food

Touch

- Deep touch is can be calming and light touch can be alerting
- Hold hands often
- Stand to the side and offer your hand to help
- Encourage touching environment

Pressure

- Calming input throughout the lifespan
- Massage
- Hand over hand
- Gentle Joint Compressions



Movement

- Walking should be encouraged several times throughout the day
- Rocking is calming
- Stretching is calming
- Use hand under hand approach with other hand on person's back when encouragement to walking is needed

As their care partner:

- Encourage Participation—They may need help starting an activity
- Use smiling faces, friendly voices—pay attention to your breathing and your own emotions—they will become your mirror
- Use empathy rather than demands
- Remember to SLOW DOWN
- Talk with your doctor if you have concerns regarding behaviors



A few examples:

- Difficulty with showering:
 - Use colored towels to add contrast
 - Warm towels prior to de-robing to offer warm comfort
 - Play music and sing while helping them
 - Offer them wash cloth to help participation
- Difficulty with feeding:
 - Offer assistance to start feeding, often they can finish themselves
 - Provide contrast on the plate and table
 - Cut the food into bite size pieces if needed

A few more examples

- Restless and wandering may be a result of boredom
 - Go for a walk inside or outside
 - Dance or do some exercises
 - Set up an activity with the 'just-right challenge'
- People do best with routines
 - Establish self care routines so that it become predictable and they can help participate
 - Use times to help establish routines
 - Write out daily routines to help them remember

Questions and Comments?

People will forget what you said,
people will forget what you did, but
people will never forget how you
made them feel.

Maya Angelou

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