

Optimal Cognitive Health

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Normal Aging Changes

- Some changes are normal
 - Longer learning time
 - More repetition needed to learn
 - New language more difficult
 - Word finding problems
 - No change in artistic (right brain) function
- “Senility” is not normal with age
- Dementia is not a normal change of age



Personal Prevention Options

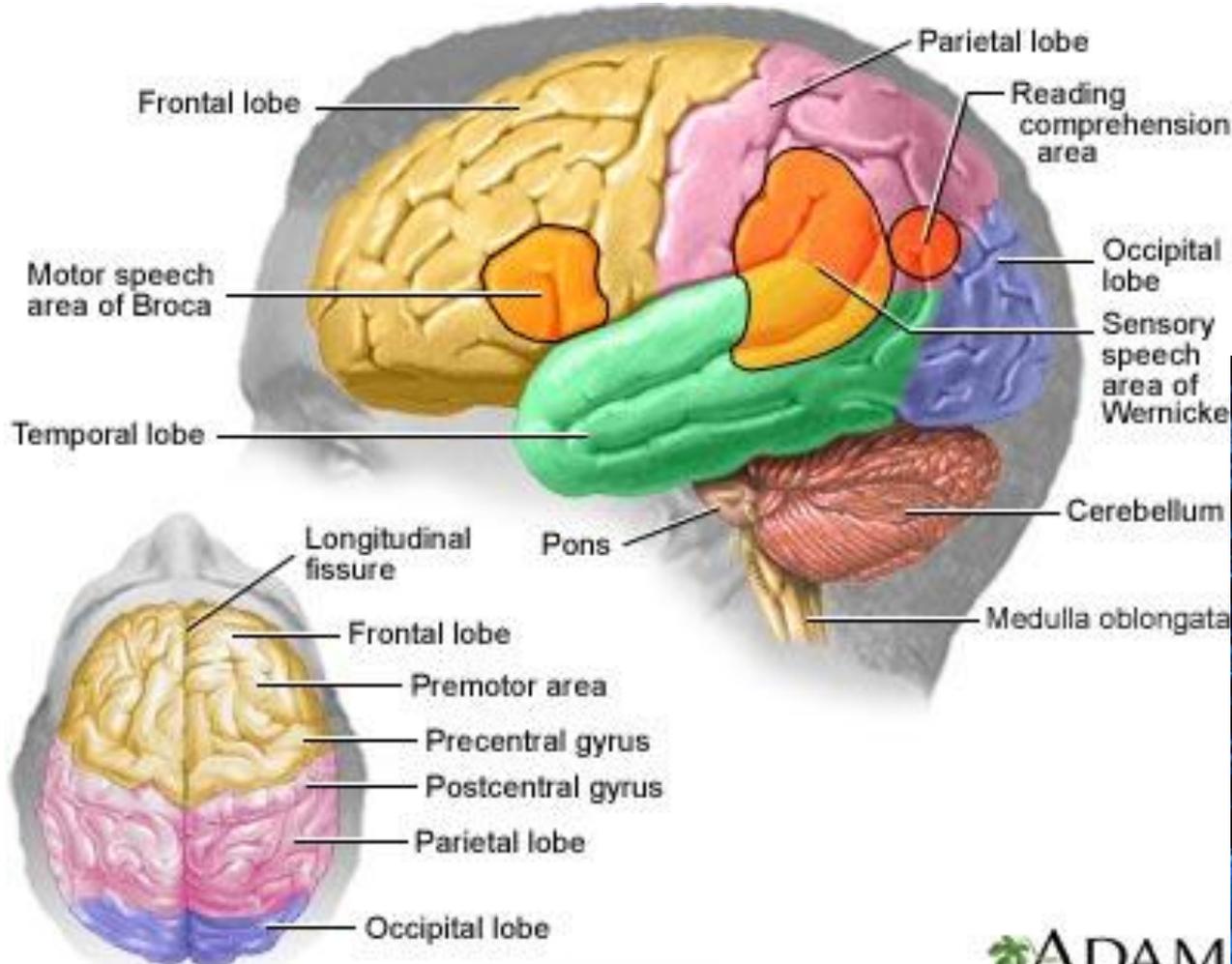
- Enhance physical and mental activities
 - Variety
 - New challenges - “Good” stress
- Control risk factors
 - Smoking, blood pressure, diabetes, depression
- Build strong social relationships
- Maintain financial health

Less TV

Out With The Old Ideas

- Old ideas
 - Brain cells are limited
 - Cannot grow new cells
 - Repair occurs through recruitment and rewiring
- New knowledge
 - New cells are created and migrate to area of use
 - New synapses can develop
 - Controlled by BDNF

The Brain





New Neuron Growth

- Frontal lobes- personality, planning, decision-making, working memory
- Parietal lobes – visual recognition memory
- Hippocampus – spatial memory
- Amygdala – emotional memory

How To Increase BDNF?

- Columbia U – 21 to 45 y/o – exercised 1 hour 4 times a week, then MRI at 12 weeks
 - Hippocampus had doubled in size
- Univ of Illinois – 60 to 79 y/o sedentary people, walked 1 hour 3 times a week
 - Significant brain growth, new blood vessels, more synapses
- Increased BDNF, insulin-like growth factor, serotonin

Ronald Peterson MD

- Director of the Alzheimer's Disease Research Center at Mayo
- “Regular physical exercise is probably the best means we have to prevent Alzheimer's disease today: better than medications, better than intellectual activity, better than supplements and diet.”
 - 1/3 reduction in risk
- American's spend \$6 billion on AD drugs annually

Exercise & Parkinson's Disease

- Increased research showing exercise prevents Parkinson's or reduces symptoms in those who have it
- 60% reduction if regularly exercising for life
- Rat studies – injected with a basal ganglion toxin
 - Sedentary rats – developed PD
 - Strenuous exercise rats – didn't

Targeting Brain Functions

- Crossword puzzles (verbal memory)
- Bridge (general memory)
- Jigsaw puzzles (visual-spatial function)
- Complex activities
 - Dancing
 - Painting
 - Learning a new language
 - Making music



More Complex Activities Studied

- Autobiography in groups
- Late-life learning
- Stress management techniques
- Direct social engagement (volunteering)



Other Prevention Strategies

- Vitamin E – possibly, only if in diet
- Omega-3 - possibly
- Eating fish
- Mild to moderate alcohol intake



Doubtful Strategies

- ❑ Vitamin E capsules
- ❑ Gink biloba
- ❑ Nicotine
- ❑ Acetyl-L-carnitine
- ❑ Phosphatidyl serine



Things That Don't Prevent AD

- ❑ Vitamin B complex
- ❑ Anti-inflammatory drugs
- ❑ Estrogen
- ❑ Statins
- ❑ DHEA
- ❑ Dementia drugs

Dementia

- Memory loss
- Neurologic changes
 - Language problems
 - Dressing, driving or toileting problems
 - Using objects incorrectly
 - Personality changes
- Decreased “executive” function - judgement, insight, abstract reasoning
- Bad enough to affect social function
- **NOT** due to something else (depression, meds)

Something Else?

- Medications – Elavil, most antidepressants, all sedatives and sleeping pills, narcotics, Tagamet, Benadryl, antihistamines, bladder medicines
 - “When in doubt, cut it out!”
- Depression
- B12 deficiency
- Hypothyroid
- Chemical imbalances



What to Watch For

- ❑ Repeats or asks the same thing over & over in the same conversation
- ❑ Forgets appointments, family occasions
- ❑ Problems with checkbook, or paying bills
- ❑ Difficulty buying groceries
- ❑ Difficulty dressing
- ❑ Problems taking medications

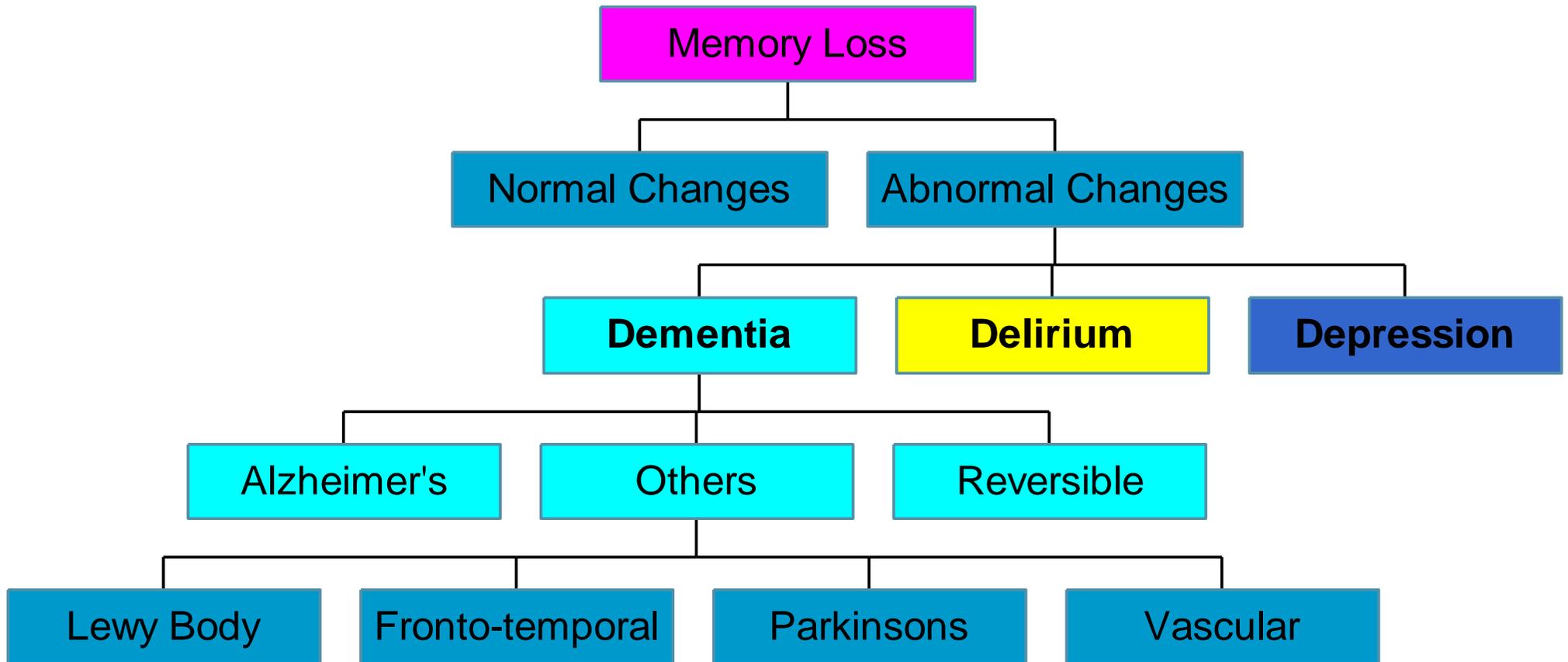
Assess for Dementia

- ❑ Complete History & Physical exam
- ❑ Check the nerves and muscles
- ❑ Evaluate Activities of Daily Living (ADL)
- ❑ Mini-Mental State Exam (MOCA)
- ❑ Depression test
 - (Geriatric Depression Scale or PHQ-9)
- ❑ Review all medications
- ❑ Basic laboratory tests

Measuring Cognition

- Mini-Cog
 - 3 word recall
 - Clock drawing
- Montreal Cognitive Exam (MOCA)
- Mini Mental State Exam (MMSE)

The 3 D's

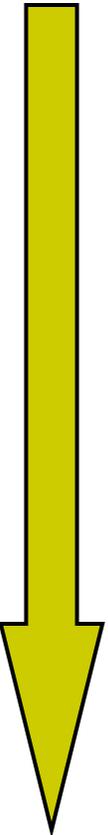




Types of Dementia

- Alzheimer's disease
- Vascular (“small strokes”)
- Dementia with Lewy Bodies
- Fronto-temporal dementia
- Others (e.g., Parkinson's)

Alz - Sequential Losses



Memory

Complex tasks - work, driving to new place

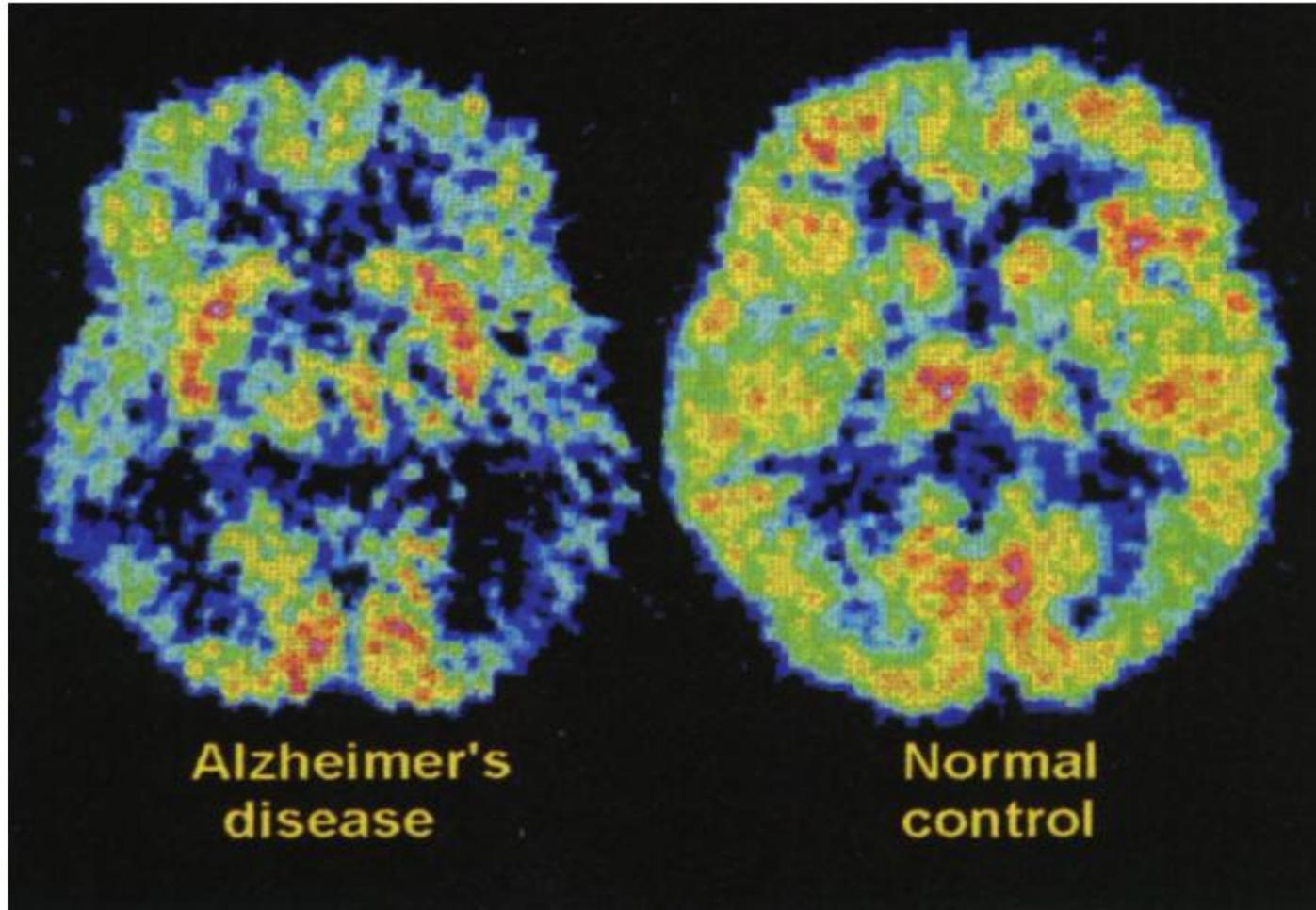
Simpler tasks - checkbook, baking

Language - can't name things, says words
incorrectly

Dressing & toileting problems

ADLs - bathing, incontinence, transfers, walking

PET Scan and AD



Treatment Options for AD

- Vitamin E – not effective
- Ginkgo biloba – probably not effective
- Acetylcholinesterase inhibitors
 - donepezil (Aricept)
 - rivastigmine (Exelon)
 - galantamine (Razadyne)
- NMDA antagonists
 - memantine (Namenda)

Alzheimer's Medications

- Response rate:
 - 10% show some measurable improvement
 - 20-30% - slows progression 6 months to 2 years
 - 50- 70% - no response
- Must have a measure before and then repeated to tell if improving
- 30-50% have side effects
- Expensive

The Process of Dementia

- Brain injury
 - Risk for development (genetics)
 - Requisite triggers (head injury, stress? depression?)
 - Brain cell degeneration (nerve impairment)
 - Compensatory inflammatory response
- But - wide variation is found!
 - Degree of pathologic change
 - Course

Causes of Variation

- ❑ Pre-existing demeanor or personality?
- ❑ Stress management skills?
- ❑ Intellectual capabilities?
- ❑ Emotional intelligence?
- ❑ Changes in the psycho-social state after development
 - Patterns of relationships
 - Forms of interaction



WHO Definitions

- Disease - molecular
- Impairment - organ
- Disability - person
- Handicap - society

Handicapping Persons

Attitudes and beliefs



Neglect



Negative actions



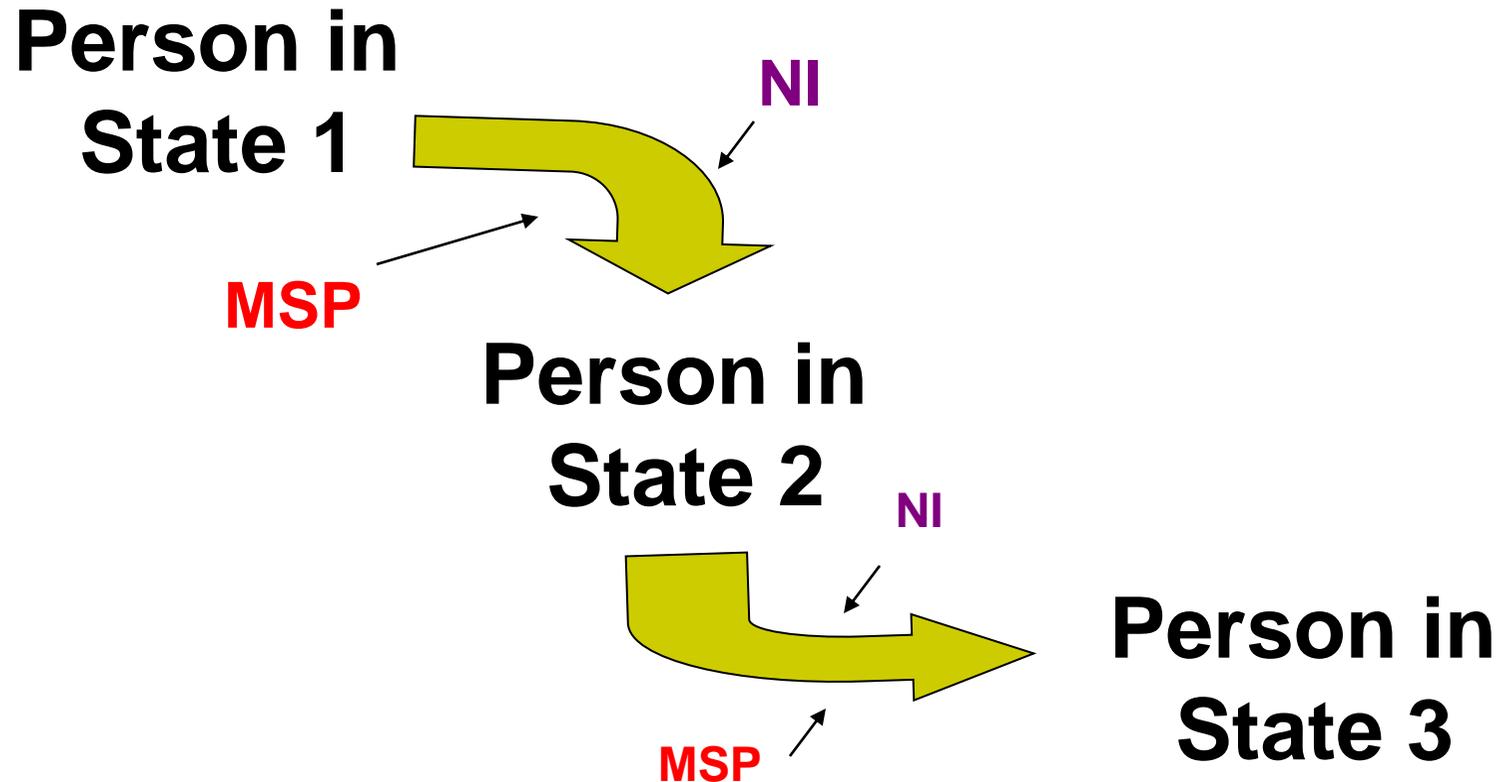
Disempower

“Malignant Social Psychology” – T. Kitwood

Malignant Social Psychology

- Deception
- Disempowerment
- Infantilization
- Intimidation
- Stigmatization
- Outpacing
- Invalidation
- Banishment
- Ignoring
- Imposition
- Withholding
- Accusation
- Disruption
- Disparagement

A Dialectic Process



NI – nerve impairment

MSP – malignant social psychology



Personhood Maintained

- Reminiscence
- Appropriate activities
- Pleasurable human contact
- Day care
- Individual and group counseling
- Caregiver support groups
- Honest talking



Positive Person Work

- Recognition
- Negotiation
- Collaboration
- Play
- Touch
- Celebration
- Relaxation
- Validation
- Safety
- Facilitation



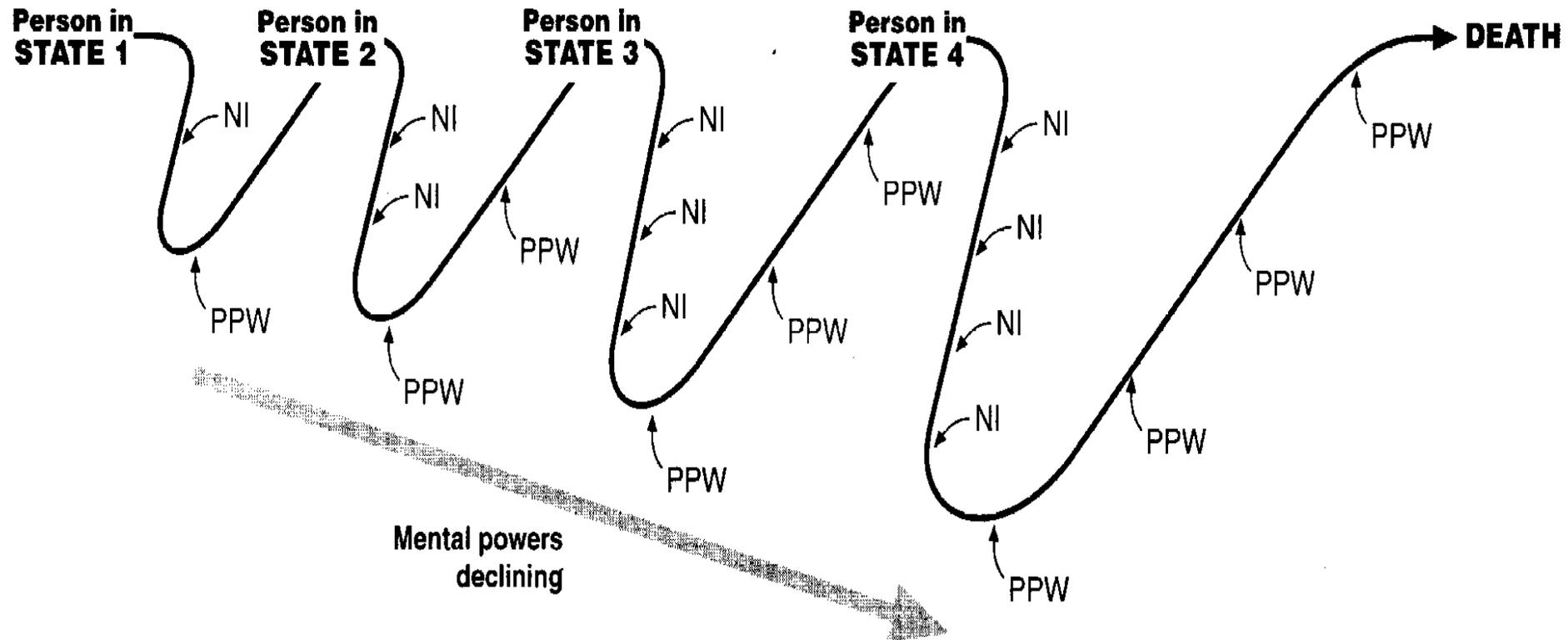
Bottom Line

Forget logic

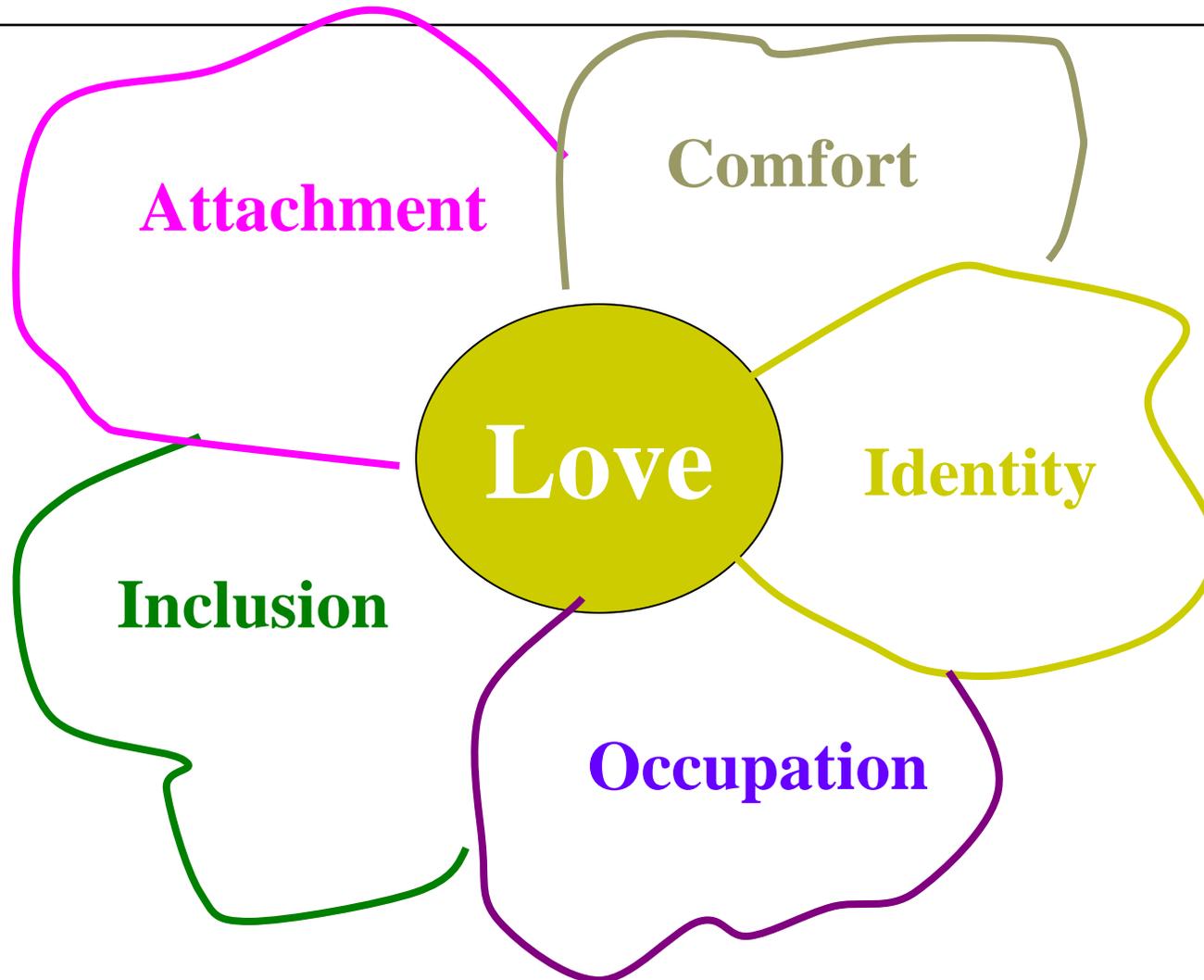
**Do you want to be right,
or do you want results?**

“Rementing”

Personhood maintained



What People with Dementia Need





Evidence-Based Interventions

- Music therapy
- Massage
- Therapeutic touch
- Enriched, appropriate environments
- Bathing without a battle

Simple Interventions

- Never negate a delusion or hallucination
 - Shift focus and attention
- Never argue about a “fact”
- Never appeal to “reason”
 - Logic doesn’t exist
- Look for the feeling behind the “fact”
- Maintain a low level of your stress response
- Always try to stop (or not start) meds



What We can Learn from Persons with Dementia

“Contact with dementia can – and indeed should – take us out of our customary patterns of over-busyness, hypercognitivism and extreme talkativity, into a way of being in which emotion and feeling are given a much larger place.”

Tom Kitwood, *Dementia Reconsidered*, p 5

Resources

- NIA (www.nih.nia.gov)
- Healthy Brain Initiative (Alz. Association)
- Alzheimer's Association (www.alz.org)
- Alzheimer's Project of Tallahassee
- The Best Friends Approach to Alzheimer's Care, by Bell and Troxell
- Dementia Reconsidered, by Tom Kitwood



Handouts

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