

MEMORY FUNCTION AND WAYS TO PRESERVE IT OVER THE LIFESPAN

By

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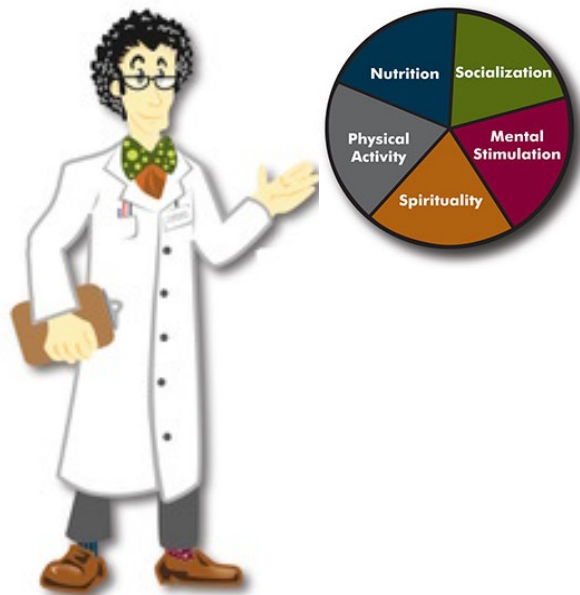
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MARCO

MARCO DEMENTIA RESPITE

"Forget Me Not"

For Marco-Area Residents by
Marco-Area Residents
(239) 388 4134

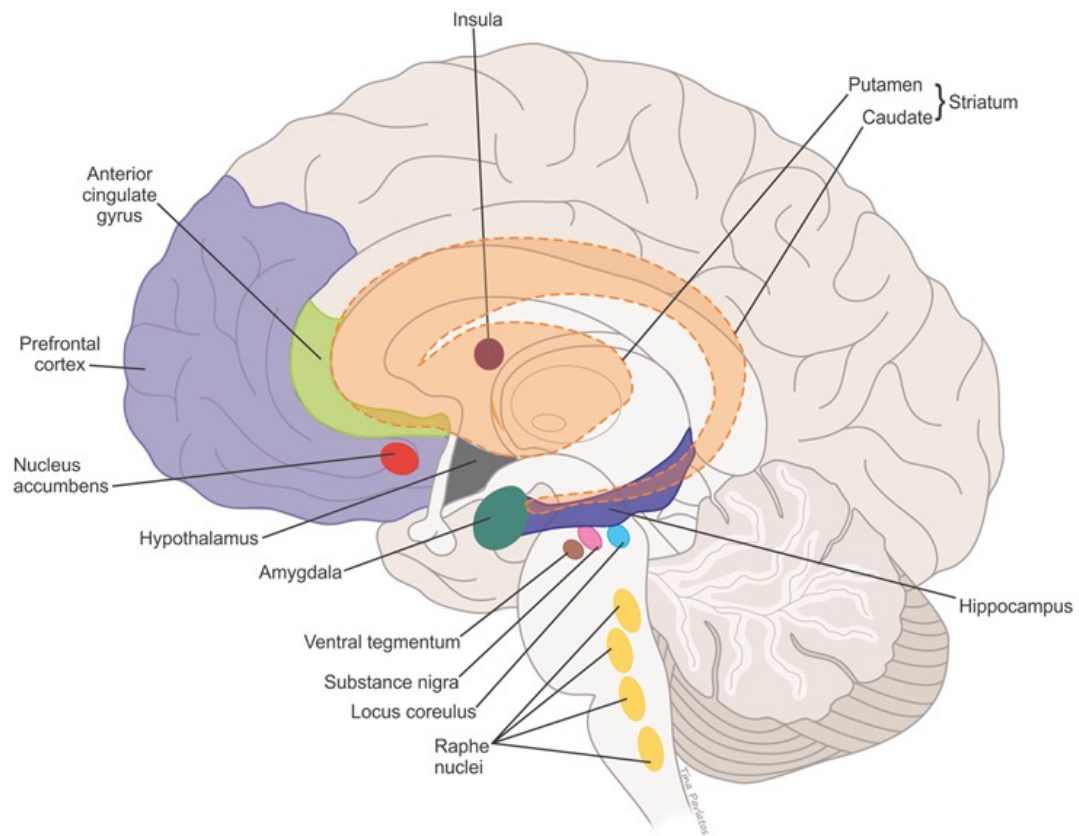


Memory

- Memory is the faculty by which the brain encodes, stores, and retrieves information (Psychology Today)
- Memory enables us to experience joyful and difficult times from the past
- Memories tend to be tagged with emotional weights or values and those that have the most significant emotional attachment will be encoded most deeply
- Memory is critical to daily life and to survival
- Memory is highly sensitive to many factors and can be negatively affected
- Enables Your Life Story

Critical Factors for a Memory to Be Produced

1. Attention and Focus
2. Encoding
3. Practice or Rehearsal (working memory)
4. Transition of Information from Short Term or Primary to Long Term or Secondary Memory
5. Retrieval of Information
6. Use of Cues and Mnemonics to Assist Recall



TYPES OF MEMORY

Different Memory Systems

- Declarative Memory (Episodic and Semantic Memory)
- Procedural Memory (doing without knowing)
- Source Memory (recalling details of when and where not what)
- Autobiographical Memory (my life)
- Highly Superior Autobiographical Memory (cannot forget autobiographical details)
- Working Memory (mental gymnastics in the moment)
- Prospective Memory (remembering to remember)

Declarative Memory

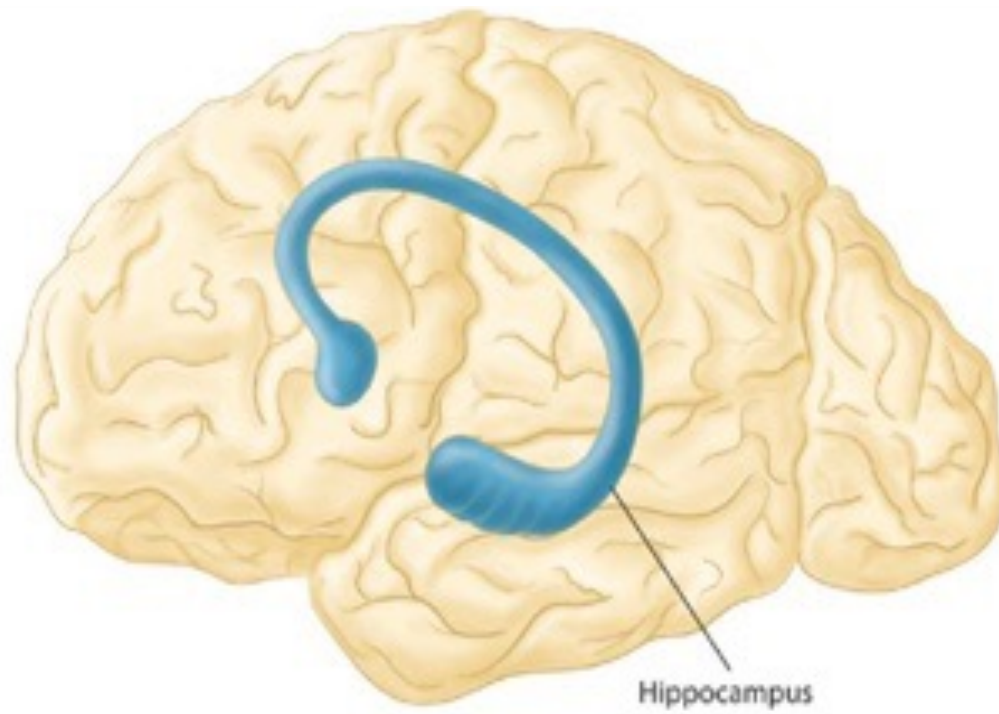
- Hippocampus Important
- Episodic Memory is conscious recall of facts of episode of learning (dates, who was there, actual information)
- Semantic Memory involves recall of facts learned long ago and stored in long term memory is particular parts of cortex (facts and school-based information)
- Free Recall (list learning) vs. Recognition Memory
- Vocabulary and Historical Testing

Henry Gustav Molaison: The Curious Case Of Patient H.M.

Henry Gustav Molaison, known as Patient H.M., is a landmark case study in psychology. After a surgery to alleviate severe epilepsy, which removed large portions of his hippocampus, he was left with anterograde amnesia, unable to form new explicit memories, thus offering crucial insights into the role of the hippocampus in memory formation.

Key Points

- Henry Gustav Molaison (often referred to as H.M.) is a famous case of anterograde and retrograde amnesia in psychology.
- H. M. underwent brain surgery to remove his hippocampus and amygdala to control his seizures. As a result of his surgery, H.M.'s seizures decreased, but he could no longer form new memories or remember the prior 11 years of his life.
- He lost his ability to form many types of new memories (anterograde amnesia), such as new facts or faces, and the surgery also caused retrograde amnesia as he was able to recall childhood events but lost the ability to recall experiences a few years before his surgery.
- The case of H.M. and his life-long participation in studies gave researchers valuable insight into how memory functions and is organized in the brain. He is considered one of the most studied medical and psychological history cases.



Hippocampus

Procedural Memory

- Motor acts or Procedures Recalled without Conscious Recall



Source Memory

- Where, When, Who was Present-Not Content of What Was Encoded
- Where were you on 911?

Autobiographical Memory

- Facts and Details of Your Own Life (Marilu Henner)
- Highly Superior autobiographical Memory (Hyperthymesia)
- Only 62 people in the world
- High Rates of Depression and Loneliness
- Difficulty with Relationships
- Can't Forget
- OCD or Features

Interview with Friend-Hyperthymesia

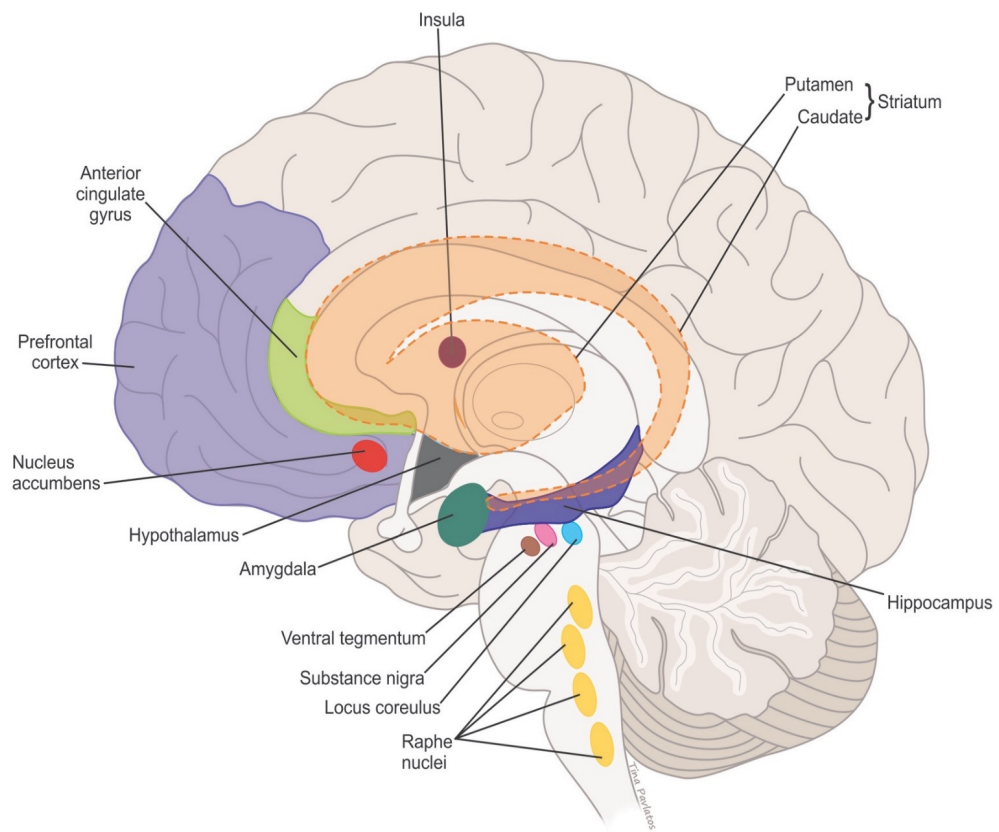


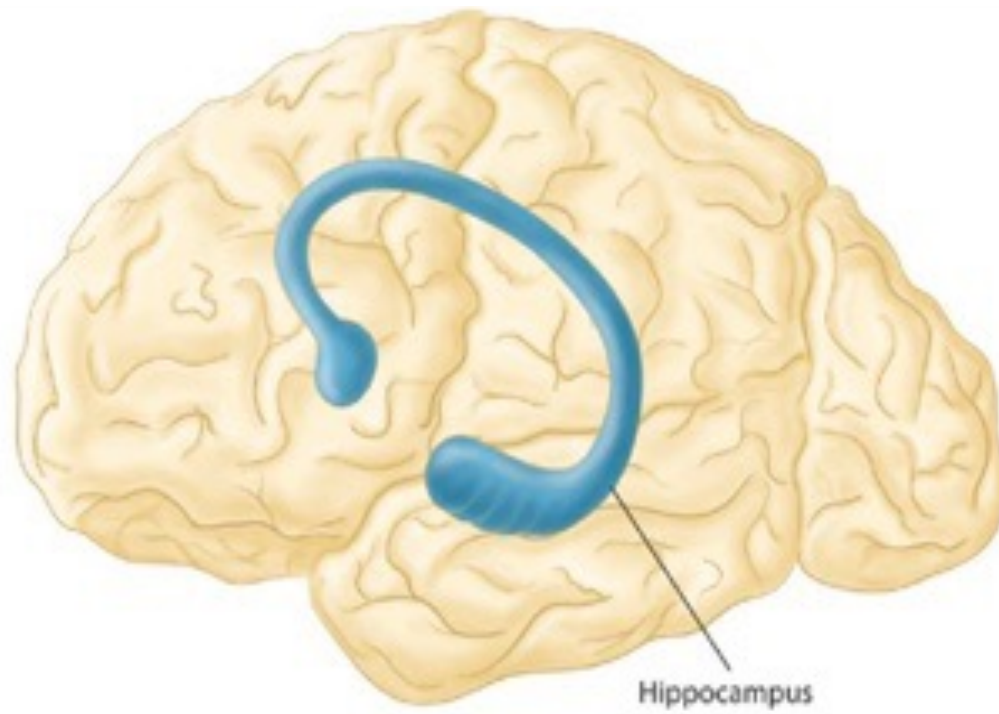
Working Memory

- Working on Information in Your Buffer
- Mental Gymnastics such as Rehearsal or Repeating
- Helps to Encode Information to Short Term or Primary Memory
- Lack of Focus, Attention, or Distractibility = Poor Working Memory (Digit Span Forward and Backwards)
- Remembering a Phone Number or Name

Prospective Memory

- Using Memory to Complete a Future Task
- Remembering to Remember
- Meet Someone at Such a Place and Time
- Drop A Package Off at This time
- Medication Distribution or Consumption





Hippocampus

Factors that Negatively Affect Memory or Learning

- Stress and Anxiety
- Advanced Age
- Sleep Deprivation
- Pain
- Mood Disorder
- Medication
- Older Age
- Dementia (75 or more Causes)
- Delirium
- Seizure Disorder or Epilepsy

Factors that Negatively Affect Memory or Learning

- Stroke
- Cerebrovascular Disease
- Substance use and Abuse
(Thymine Deficiency-
Korsakoff's-Wernicke's
Encephalopathy)
- Head Injury
- ECT
- Anesthesia
- Lack of Balance in Life
- Sensory Deficits
- Trauma (PTSD)

REMEMBER WHEN YOU
WET YOUR PANTS
IN SECOND GRADE?

REMEMBER WHEN
YOUR LOCKER
COMBO WAS
14-32-5?

REMEMBER WHEN
YOU SPILLED COFFEE
IN LAST WEEK'S
STAFF MEETING?

JEFF SOON REGRETTED BUYING
A MEMORY FOAM MATTRESS.

Psychogenic Amnesia

J Abnorm Psychology. 1988 Feb;97(1):100-4. doi: 10.1037//0021-843x.97.1.100.

Amnesia as a consequence of male rape: a case report

A W Kaszniak, P D Nussbaum, M R Berren, J Santiago

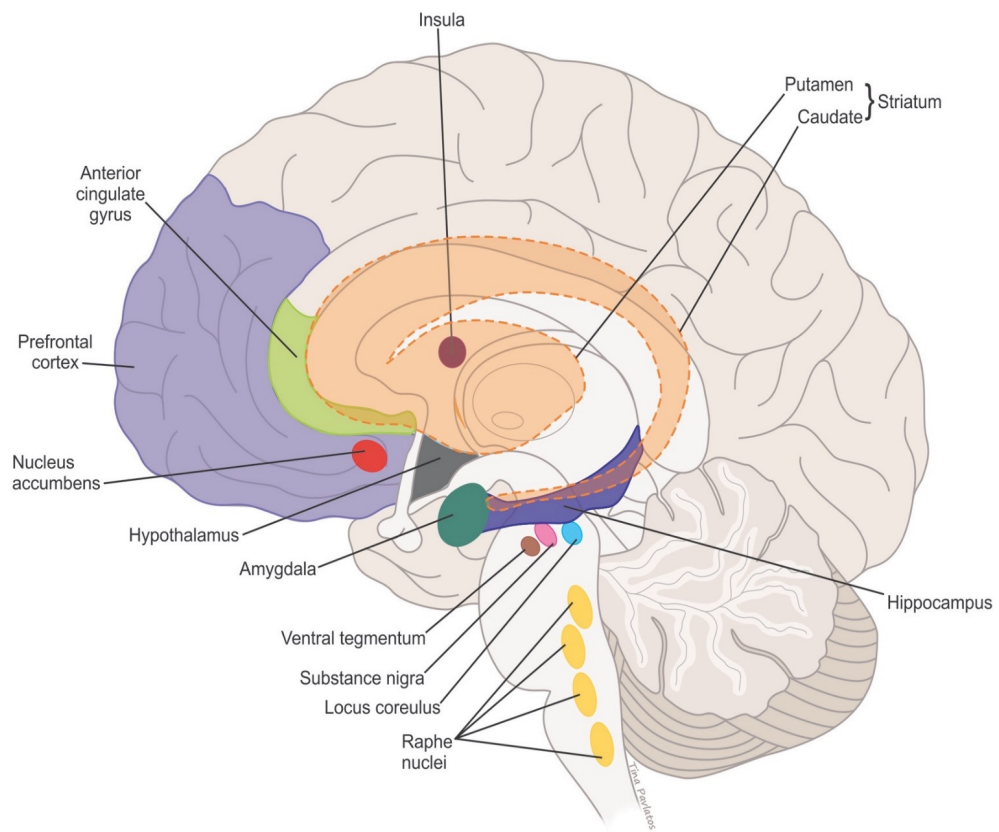
PMID: 3351105 DOI: 10.1037//0021-843x.97.1.100

Normal Age-Related Memory Versus Disease-Induced Forgetfulness

Free Recall Versus Recognition

- Bird
- Mountain
- Collar
- Tree
- Lion
- Sock

- Planet
- Snake
- Dress
- Ocean
- Turkey
- Glove



Ways to Help Nurture Memory/Learning

Lifestyle Matters



Medical Modifying Factors

- High Blood Pressure and Bad Cholesterol
- Diabetes
- Obesity
- Sleep
- Do Not Smoke
- Limit Alcohol
- Mediterranean Diet
- Exercise
- Stress Reduction
- Annual or more Visits to PCP (hearing and sensory functions)

Medical Modifying Factors

- **Alzheimer's Disease (AD) is the leading cause of dementia and strikes declarative memory early. The memory loss is progressive. These modifiable factors help to reduce one's risk of AD even if genetically predisposed.**

Lifestyle Factors For Brain Health/Memory

- See www.brainhealthctr.com for more information
- Embrace the Novel and Complex
- Embrace Stress Reduction
- Improve Sleep Hygiene
- Reduce Sugar Intake and Processed Foods
- Plant Based Diets
- Be Social with Smart Decisions
- Pray and Have Faith

Lifestyle Factors For Brain Health/Memory

- Companionship
- Role and Purpose
- Embrace Failure and Keep Trying
- Lifelong Learning
- Move and Get the Heart Pumping to Feed brain health
- Practice Memory (Names, Lists, Historical Trivia)
- Be Careful With Nootropics

Tips for Memory Training

1. Repeat and Rehearse
2. Acronyms
3. Chunk Information
4. Every Item has a Specific Place (Keys on Hook)
5. Practice Those Types of Information You Forget
6. Brain Training Apps (Cognifit, Posit, RC21X, IVORY etc)
7. Reduce Stress

Tips for Memory Training (Cont.)

8. Learn prior to Sleep (Consolidate)
9. Personalization will Enhance Encoding and Recall
10. Match Word with Picture or Object
11. Routine
12. Exercise Enhances Blood Flow
13. Coffee in Moderation and in AM

Tips for Memory Training (Cont.)

14. Review Medications and Talk to Doctor about Side Effects
15. Reduce Sugar
16. Enhance Omega-3 Fatty Acids in Fish, Nuts, etc
17. Write Things Down
18. Make Sure You can Hear and See
19. Use all Senses to Encode and Learn

Do elephants really 'never forget'?

- By [Joshua A. Krisch](#) ([lifes-little-mysteries](#)) published 29 January 2023
- Elephants are known for their extraordinary memories, but is it true that they never forget?





MAC

Memory Assessment Center

- Neuropsychological Assessments on Marco Island
- Empirical Measure of Cognitive & Emotional Functions
- Baseline for Annual Follow-Up of Cognitive Health



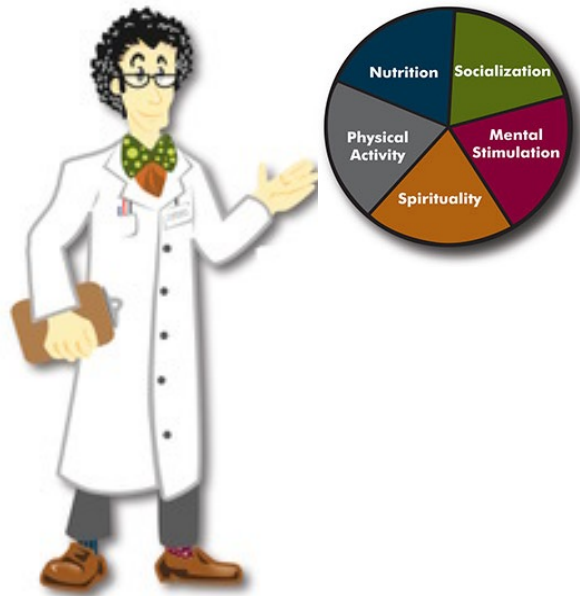
WHAT

- Differential Diagnosis (Normal Age Change V.S. Dementia)
- Care Management & Treatment Plan
- Dementia Type, Staging, & Placement Consideration
- Ongoing Resource to

NEXT STEPS - HOW

- Call (239) 388-4134 to schedule an appointment at MAC
- 3-4 Hour Initial Examination
- Clinical Interview, Assessment of Cognitive & Emotional Functions & Report
- Private Pay with > 40% Subsidy for MDR
- Follow Up Session to Review Results





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