The Aging Brain

Identify changes that occur in the brain that are not normal
Identify normal changes in the aging brain
Identify factors that facilitate positive aging of the brain

Brain Development

Childhood:

Infants – reflexes
2 years – brain is 80% of adult size brain
Early to middle childhood – 85% of brain has developed: intellect, personality, motor, social skills.

Example: OMG, I have finally discovered what’s wrong with my brain: on the left side, there is nothing right, and on the right side, there is nothing left.
Teen Brain
Brain reaches adult weight (3 lbs.)
Increased activity in the frontal lobe

Young adult brains
20s – increase in frontal lobe (judgement, planning, making decisions, weighing decisions)
Late 20s – brain has reached peak performance

Middle age Brain
Late 30s to early 40s – aging processes begin
Cortical neurons thinner
Blood flow in the brain begins to decrease
Brain receptors don’t fire as quickly
Late 30s – memory slips as neurons decrease
40s – 60s
Reasoning skills slow
Decreased verbal fluency
Brain shrinks in size
Takes longer to learn new information

70s and up
Risk for developing Alzheimer’s disease goes up
By age 85 the chance of dementia is 50% 

Positive Aspects of Cognitive Aging
Increase in decision making
Increase in regulating emotions
Increase in the ability to read social situations
Starting around 40, the brain remembers positive images better than negatives.
Abnormal Aging in the Brain

Senile Dementia – The loss of brain function beyond the normal loss of physical adeptness and memory that occurs with aging.

Stroke

Ischemic – lack of blood flow due to a blockage
Hemorrhagic – lack of blood flow due to a bleed

Traumatic Brain Injury

Falls – decreased balance
Car accidents – poor reaction time
Assaults – elderly abuse
Factors that Facilitate Positive Brain Aging

- Physical exercise
- Cognitive exercise
- Social involvement

Nutrition

MIND diet – hybrid of the Mediterranean diet and the DASH (Intervention for Neurodegenerative Delay diet)

Limit alcohol

Limit to moderate use: 1 drink or less per day for women and men over 65. 2 or less drinks per day for men under 65.
Hydrate

Drink plenty of water
Remember soft drinks, coffee, and tea can be dehydrating

Sleep

Sleep is very important to our brain.
During sleep our brain converts short term memories to long term memories.

Strategies to Assist with Cognition

Routine schedule, put things in the same place
Use external devices (pill box, planner, Alexa)
Take more time to process new information
Use associations
Use visual images
Fun Facts:

- In their 90s, Robert Frost was writing poems, and George Bernard Shaw was writing plays, Georgia O'Keeffe was painting pictures, and Pablo Casals was playing cello.
- Frank Lloyd Wright designed his last building at 89.
- Leopold Stokowski recorded 20 albums in his 90s and signed a six-year contract at 96.
- Oliver Wendell Holmes was still dominating the Supreme Court until he retired at 91.