Neurocognitive Disorders

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Set the tone

- *“Clinicians always need to be alert to the possibility that brain impairment itself may be directly responsible for their patients’ symptoms.” (pg. 485)*

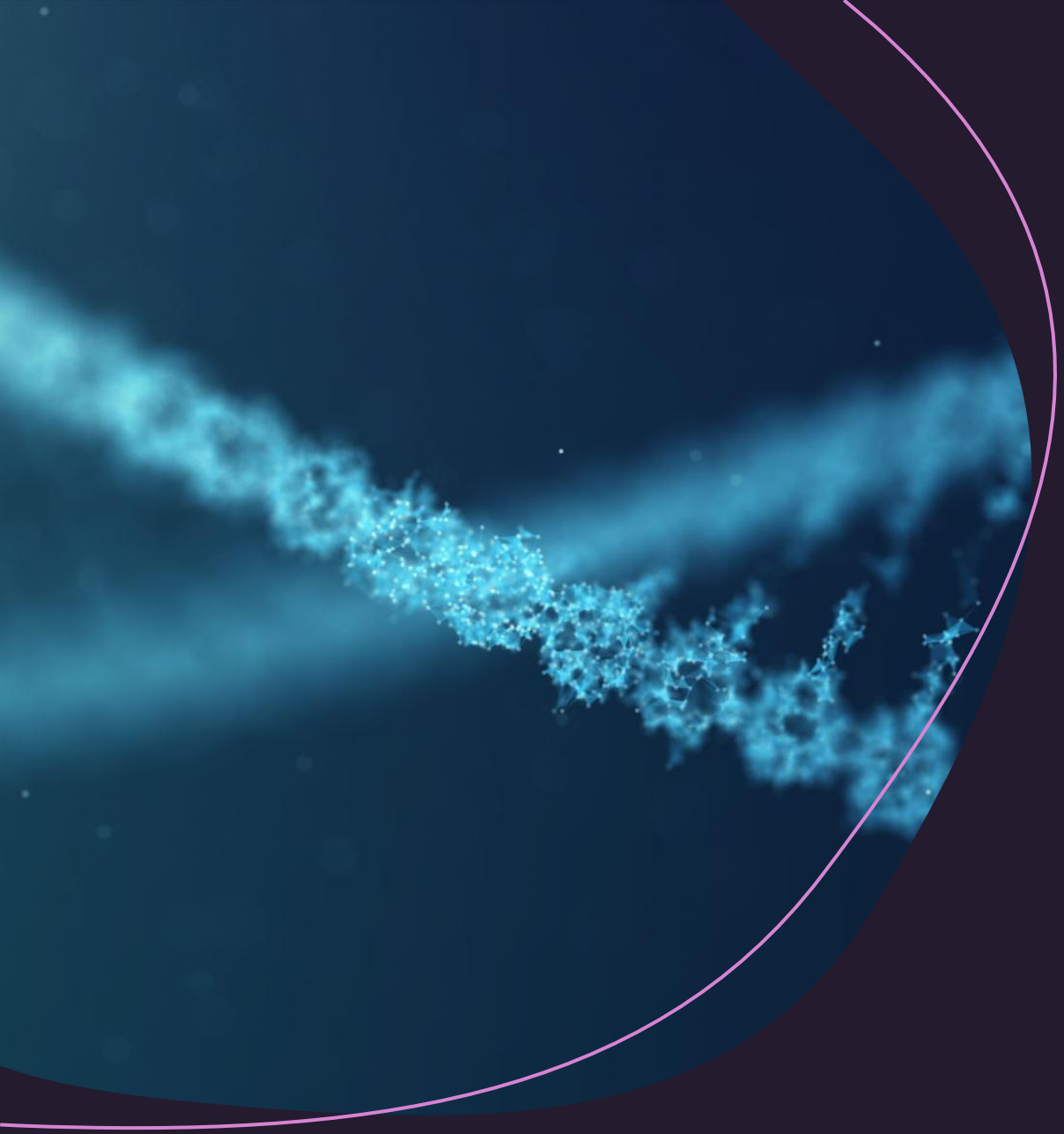
Symptoms of Mania, actually Tumors

The Brain

- Weighs 3lbs; consistency of firm jelly and the most complex structure in the known universe.
- The brain oversees everything!
- Enclosed around a thick outer membrane called the dura mater or hard mother in Latin which is encased by our skull;
  - FUN FACT! If pressure is applied slowly it could support as much as 3 tons alone! …However doesn't mean it can't be damaged

But why in Abnormal Psych?

- Discussed in this book because:
- 1. They are psychopathological (abnormal cognitions, behavior and experiences) conditions
- 2. Because some symptoms such as having brain tumors can cause symptoms that look like other abnormal disorders.
- 3. Brain damage can cause changes in mood and behavior changes; studying the brain and finding out what controls what in the brain helping with research for other disorders.
- 4. Many people who are diagnosed with brain disorders react with having depression or anxiety.



Our Focus

Focusing on disorders that arise because of changes in the brain’s structure, function, chemistry

DSM-5

- In DSM-5, the disorders that used to be known as “Delirium, Dementia, and Amnestic and Other Cognitive Disorders” are now grouped into a new diagnostic category called “Neurocognitive Disorders.” Hence the name of this chapter.
- Focusing on disorders that arise because of changes in the brain’s structure, function, chemistry

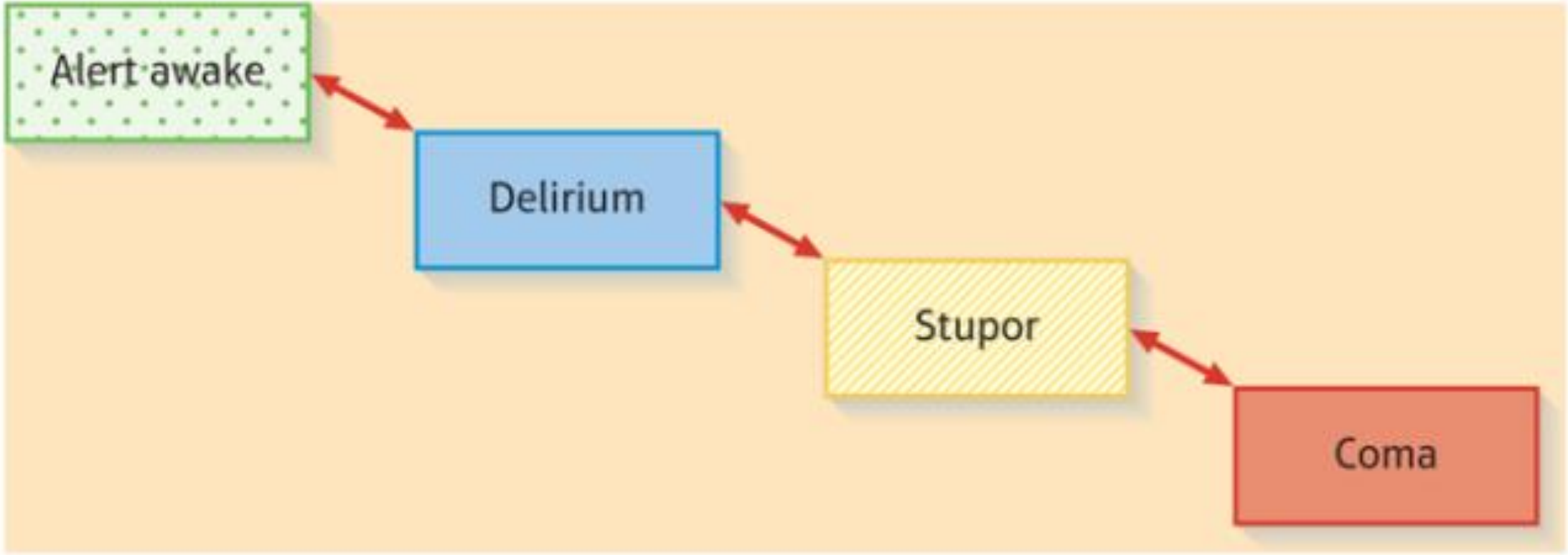
Consequences of brain disease, disorder and damage?

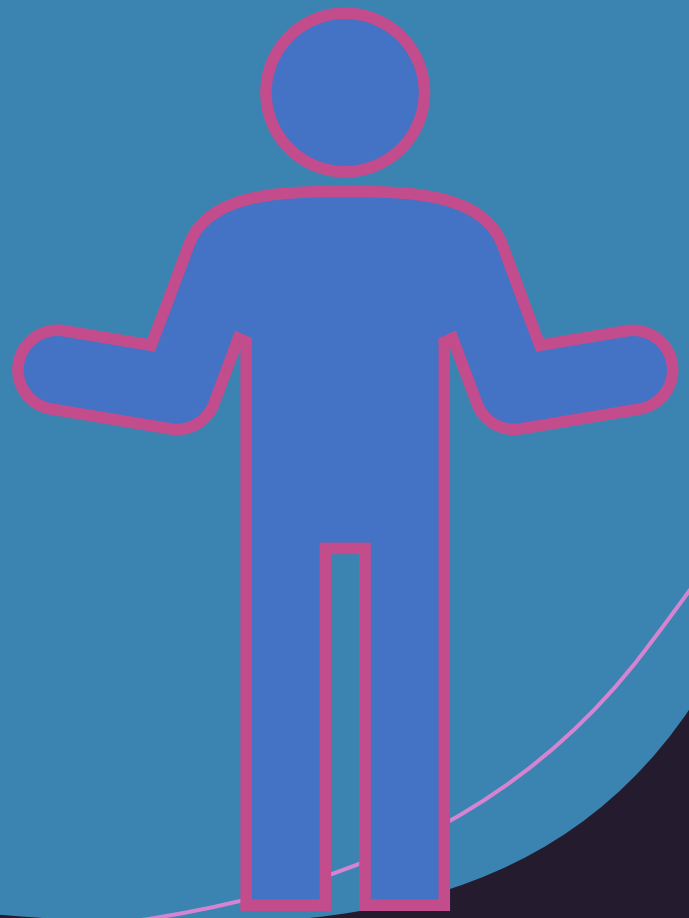
1. Impairment of memory
2. Impairment of orientation
3. Impairment of learning, comprehension, and judgement
4. Impairment of emotional control or modulation
    a. Overreactive laughing, crying, rage
5. Apathy or emotional blunting
6. Impairment in the initiation of behavior
7. Impairment of controls over matters of propriety and ethical conduct
    a. Lowering standards in various areas of life.
8. Impairment of receptive and expressive communication
    a. Unable to comprehend written or spoken languages
9. Impaired visuospatial ability
    a. Hard to coordinate motor activity

Delirium

Figure 14.3 Continuum of Level of Awareness

(Based on American Psychiatric Publishing Textbook of Neuropsychiatry and Behavioral Neurosciences, Fifth Edition, 2008.)





Delirium

- State of mental confusion characterized by relatively ***rapid*** onset of widespread disorganization of the higher mental processes, caused by a generalized disturbance in brain metabolism. May include impaired perception, memory, and thinking and abnormal psychomotor activity.

- Characterized by confusion, disturbed concentration, and cognitive dysfunction.

- Think of delirium as a condition with a sudden onset that involves a fluctuating state of reduced awareness.

Causes

Infections

Issues with kidney/liver function

Heart problems or heart attacks

Dehydration

Problems with bowel function

Too many medications

e.g. painkillers and tranquilizers

Dementia Vs Delirium?

DSM-5 Criteria for Delirium

1. A disturbance in attention and awareness
2. Develops over a short period of time, represents a change from baseline attention and awareness and tends to fluctuate in severity during the course of the day
3. An additional disturbance in cognition (disorientation in language)
4. 1 & 3 are not explained by a preexisting neurocognitive disorder.
5. Must have physical examination, or laboratory findings

Treatment

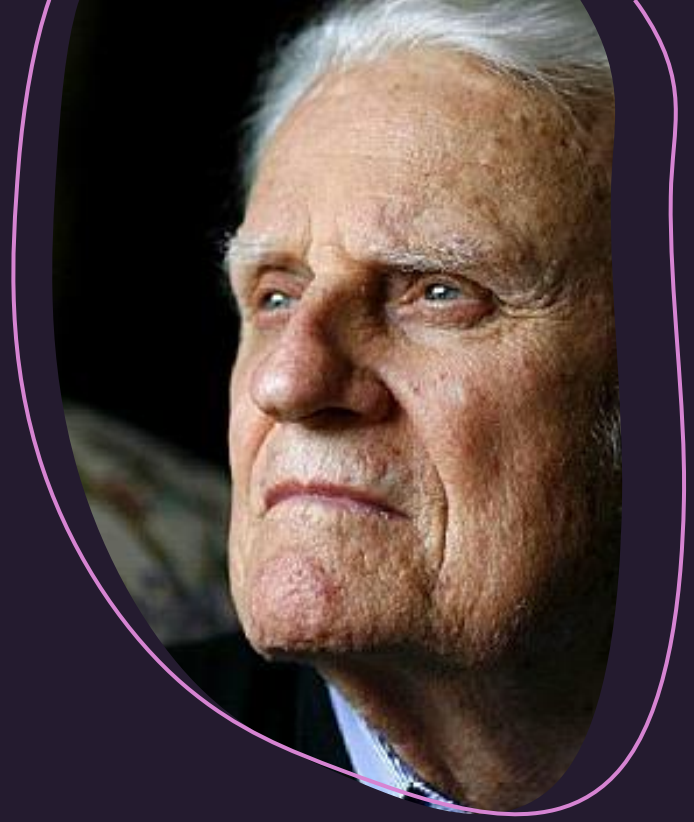
Most cases of delirium are reversible, except when the delirium is caused by a terminal illness or by severe brain trauma. Treatment involves medication, environmental manipulations, and family support.

Major Neurocognitive Disorders

- Those that involve marked deficits in cognitive abilities. These may be apparent in such areas as attention, executive ability, learning and memory, language, perception, and social cognition (skills required for understanding, interpreting, and responding to the behavior of others

Parkinson's Disease

- The second most common neurodegenerative disorder after Alzheimer's disease.
- Michael J. Fox diagnosed at the age of 29 Billy Graham at 71. Characterized by motor symptoms such as resting tremors or rigid movements.



Cause

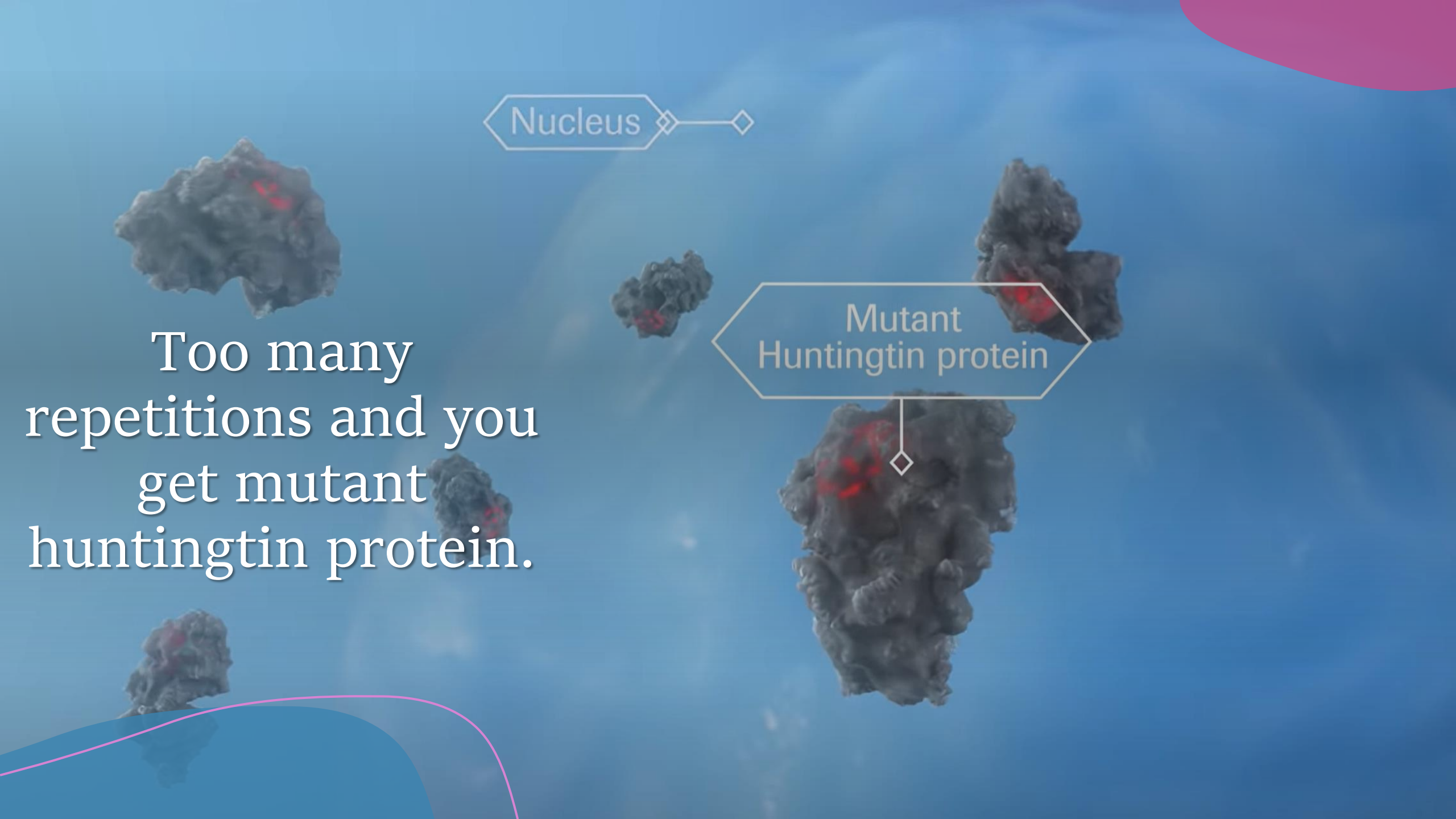
- The underlying cause of this is loss of dopamine neurons in an area of the brain.
- Have medication to increase the dopamine to help, but when medication wears off the symptoms return.

Huntington’s Disease

- Causes problems with the persons ability to think, behave and move and is fatal. Leads to a loss of independence and the ability to preform day to day activities. Affects people starting from age 30-50 years.

Classification of disease status in Huntington's disease (HD)

Description of gene	CAG repeat range	Risk of HD	Risk of HD in next generation
Normal	26 or fewer	No HD	No
High normal	27–35	No HD	Possible
Reduced penetrance	36–39	Possible HD	Yes
Full penetrance	40 or more	Definite HD	Yes



Too many repetitions and you get mutant huntingtin protein.

Result

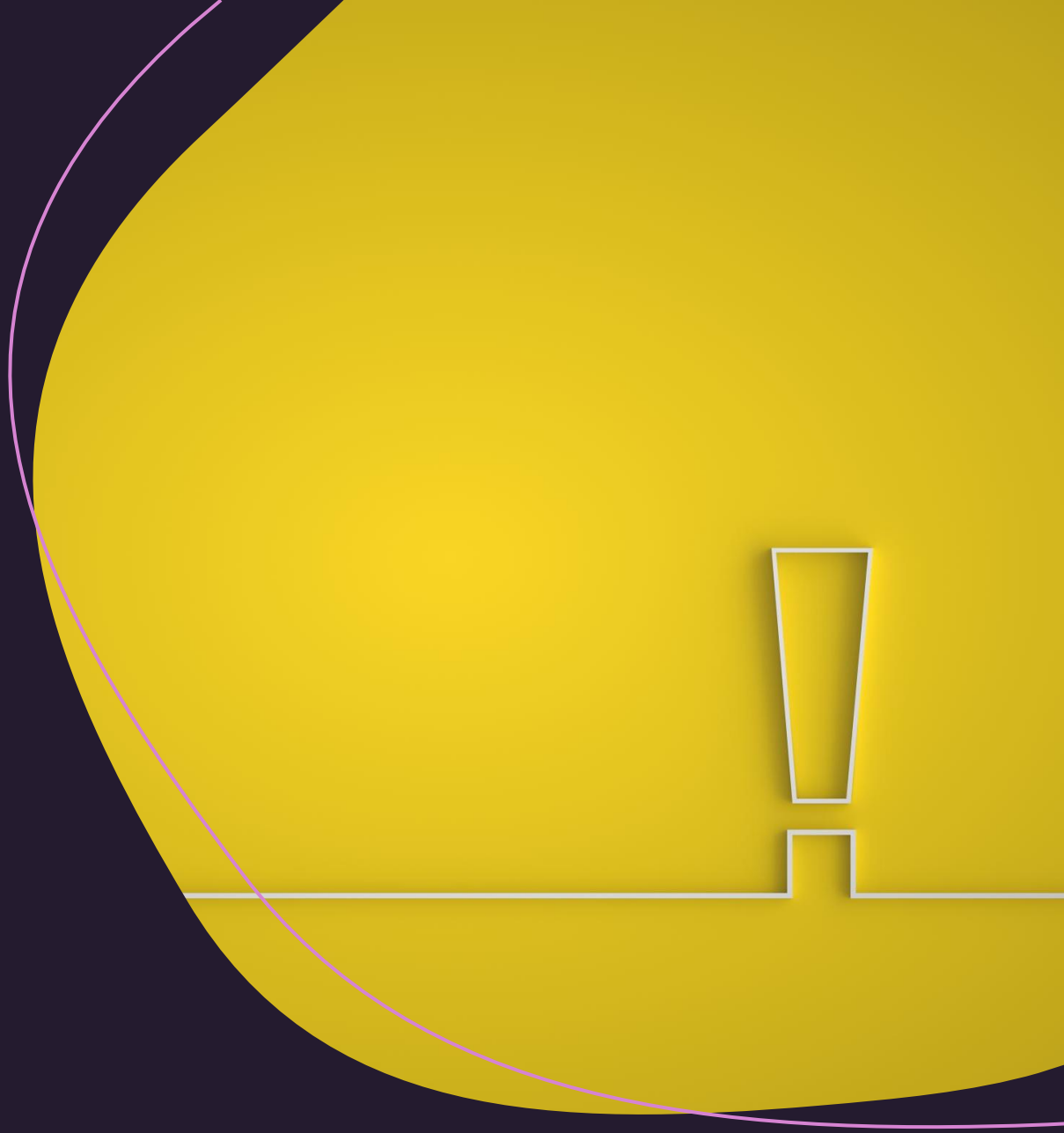
- Damages the normal function of neurons. Malfunctions and die prematurely. No treatment to slow or stop.

Alzheimer's Disease

A progressive and fatal neurodegenerative disorder. Every 4 seconds someone is diagnosed. Most common cause of dementia.

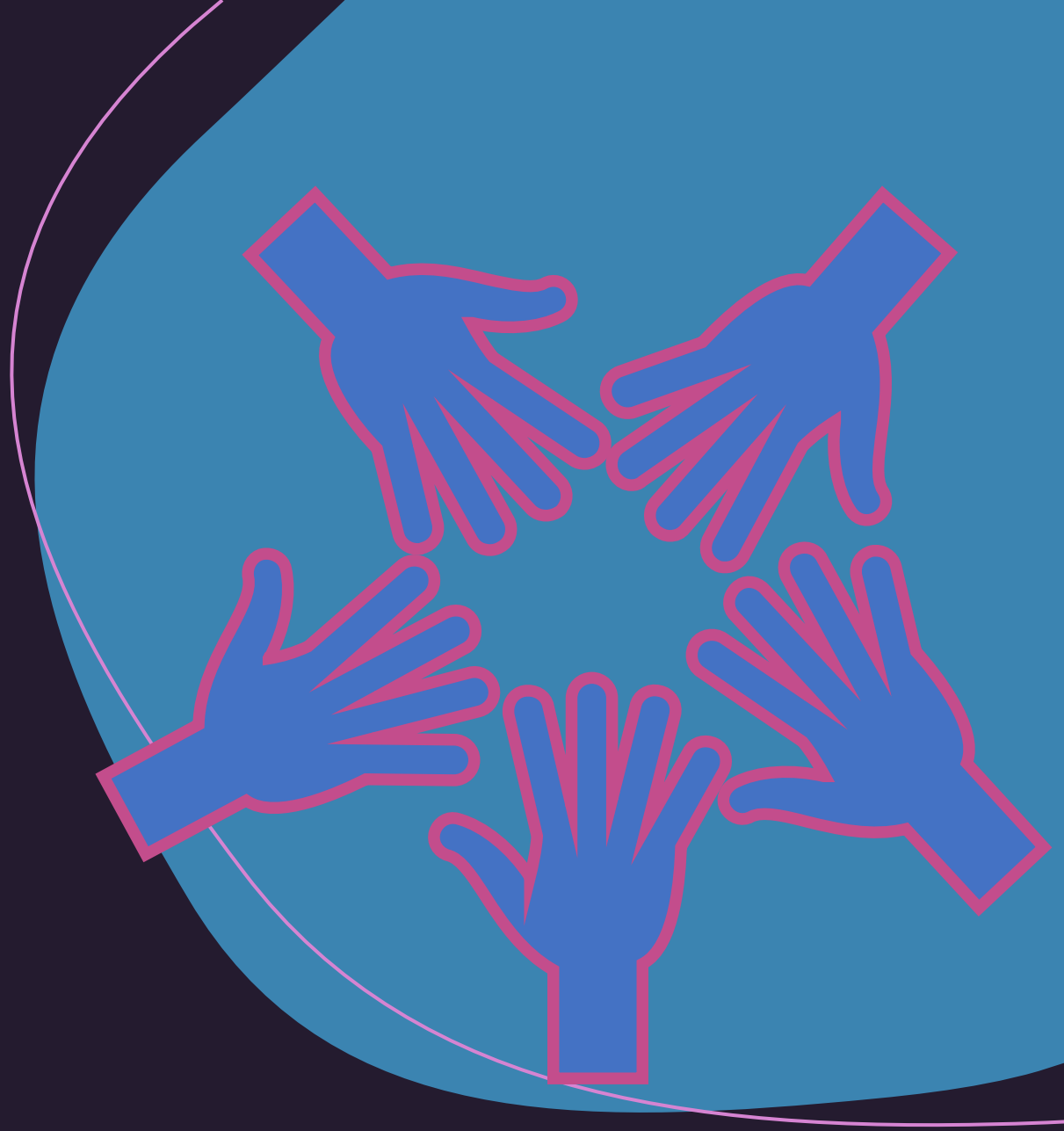
Facts:

- Discovered in 1907 and still not very well understood.
- Affects people in their 40s and older
- Early signs of onset: Getting lost, withdrawal to themselves, getting tired, unable to regulate hot and cold
- https://youtu.be/yJXTXN4xrI8 Ted-talk explanation.



Scary stuff

- Support groups and people who can help you go through it; coping & managing this disease and emotions that come along with it.



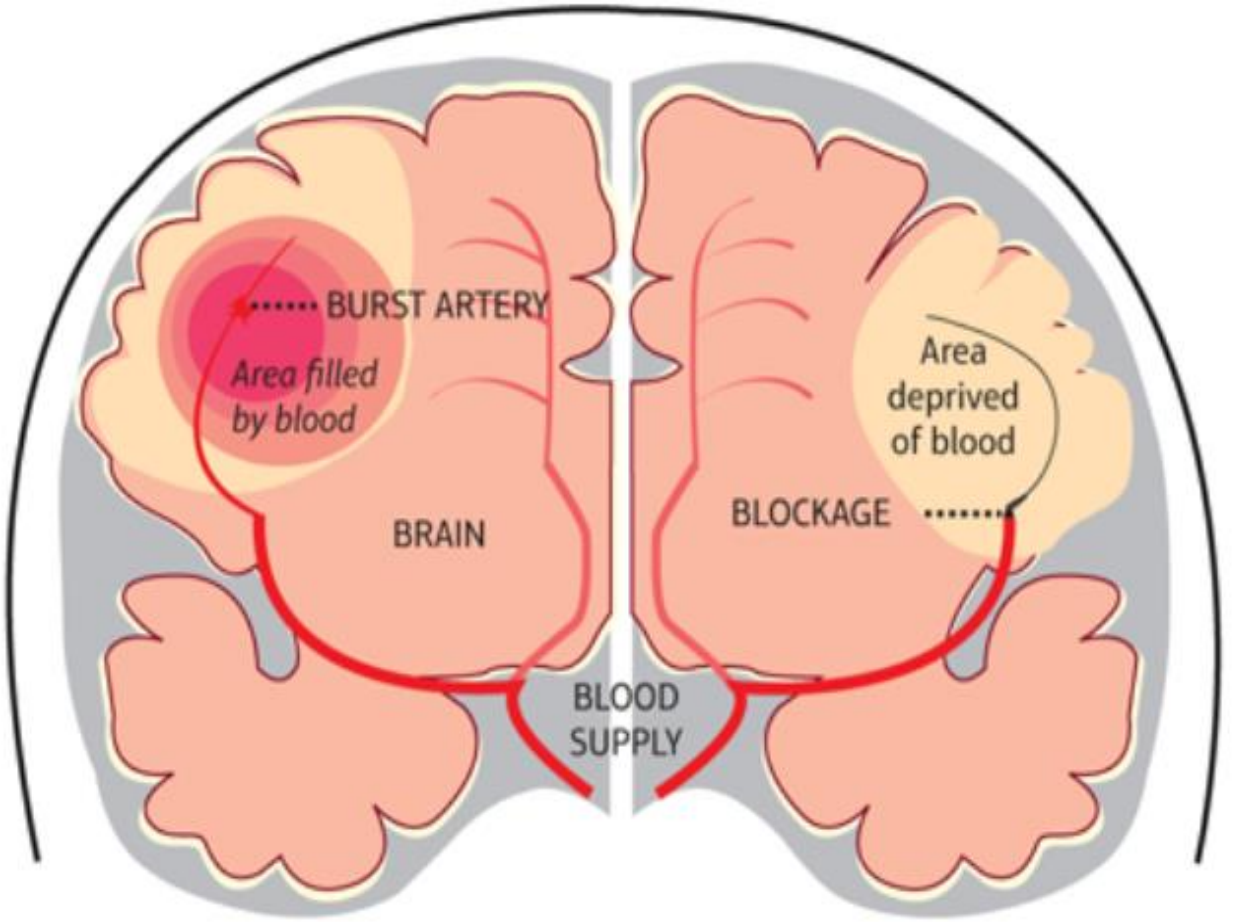
Another Neurocognitive Disorder: Stroke

HEMORRHAGIC STROKE

1. An artery in the brain bursts and either floods the surrounding tissue with blood or floods the surface and grooves of the brain.

2. The blood irritates brain cells, disrupting their functions and causing the brain to swell with fluid.

3. If the swelling continues, the brain is stopped by the skull and squeezed through the opening in the bottom of the skull, crushing the centers for consciousness and breathing.



ISCHEMIC STROKE

1. A blood clot forms and is swept into the brain where it blocks an artery. Clots usually form in the heart or in arteries of the neck that are damaged by atherosclerotic plaque.

2. The brain tries to protect itself by raising blood pressure, trying to clear the artery. Meanwhile, the brain cells, deprived of blood, shut down.

3. If the problem persists, brain cells swell and die.

Brain Injury

- Concussions, amnesia,
- Young boys should avoid tackle football till after 12 years old.
- Severe alcohol consumption. Head trauma, stroke, surgery infections
- There is no simple relationship between the extent of brain damage and degree of impaired functioning. Some people who have severe damage develop no severe symptoms, whereas some with slight damage have extreme reactions.

Thank you!