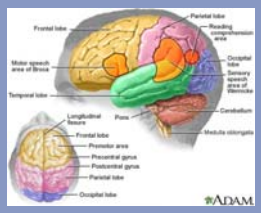
Promoting safety, justice and healing by recognizing and responding to the Brain's Response to Trauma and Abuse



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SAFEta.org
The Ultimate Source for Sexual Assault Forensic Examiner Technical Assistance

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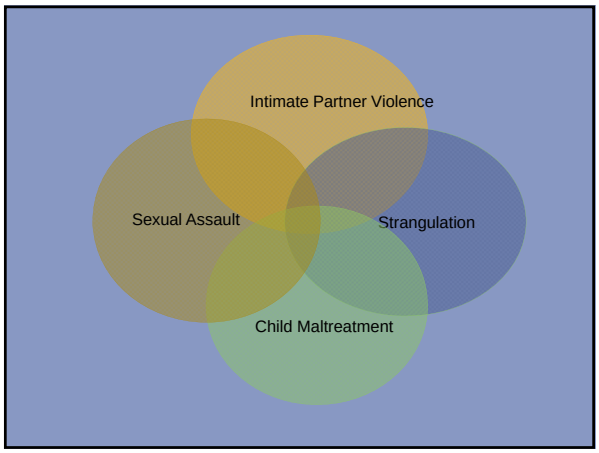
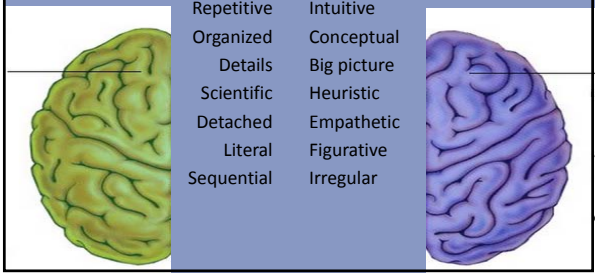
Objectives

- Recognize the anatomy and physiology of the brain;
- Recognize the neuro-biologic responses to physical and psychological trauma, including strangulation
- Summarize the need for medical intervention, both from the victim, healthcare and legal perspectives.
- Discuss the impact that this can have on responding to victims of sexual assault.

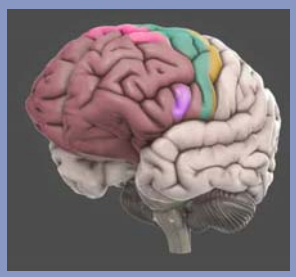


Left Brain	Right Brain
Analytical	Creative
Logical	Imaginative
Precise	General
Repetitive	Intuitive
Organized	Conceptual
Details	Big picture
Scientific	Heuristic
Detached	Empathetic
Literal	Figurative
Sequential	Irregular



Frontal Lobe

- the largest of the brain's structures
- Higher cognitive area
- Thought, voluntary movement, decision making and language



Damage to Frontal Lobe

- Paralysis
- Loss of spontaneity in social interactions
- Mood changes
- An inability to express language
- Atypical social skills and personality traits

Occipital Lobe

- Primary Visual Area
- Responsible for determining where objects are located and what objects are

Damage to the Occipital Lobes

- Hallucinations
- Blindness
- Inability to see color, motion, or orientation
- Synesthesia (sensing a sense other than the one being stimulated)

Parietal Lobes

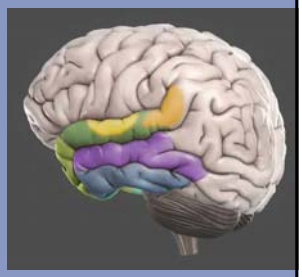
- Takes information from different senses to build a coherent picture of the world
- Visual spatial processing, number representation

Damage to the Parietal Lobes

- inability to locate and recognize objects,
- events and
- parts of the body (hemi-spatial neglect)
- difficulty in discriminating between sensory information
- Disorientation
- lack of coordination

Temporal Lobes

- Perception, face recognition, object recognition, memory acquisition, understanding language, and emotional reactions.

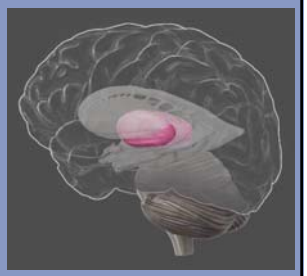


Damage to the temporal lobes

- Difficulties in understanding speech, recognizing faces and objects
- Inability to attend to sensory input
- Persistent talking with long– and short–term memory loss
- Increased/decreased interest in sexual behavior
- Aggression

Thalamus

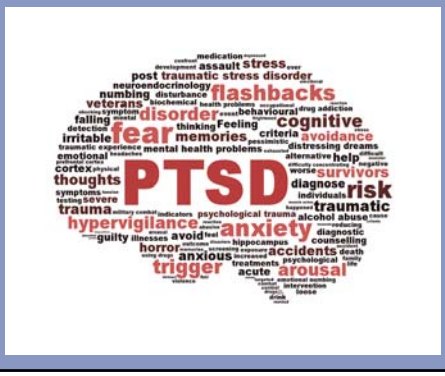
- Relay station for information between the cortex and brain stem and within different brain structures
- Perception, attention, timing and movement



Damage to the Thalamus

- Amnesia or memory loss
- Apathy
- Coma
- Dementia
- difficulty speaking (aphasia)
- loss of alertness
- Sleepiness
- impaired processing of sensory information
- Inattention
- impaired movements and posture
- pain

What is Trauma??



Who can suffer from brain injury or trauma?

Traumatic Brain Injury

- TBI is the leading cause of injury-related death in children and young adults in the United States
- A leading cause of injury death and disability in the United States
- Approximately 1.7 million U.S. civilians sustain a TBI annually (2002-2006)
- 1.4 million of these are treated and released from emergency departments (EDs)
- 275,000 were hospitalized and discharged alive
- 52,000 died
- TBI-related deaths represent one third of all injury-related deaths
- This does NOT include TBI sustained while serving abroad in the U.S. military or those who did not seek medical care
- the highest combined rates of TBI-related ED visits, hospitalizations, and deaths occur in young children (aged <5 years)
- followed by adolescents (aged 15--19 years) and
- adults aged ≥75 years
- Males make up 59%, females 41%
- The leading causes of TBI are
  - falls (35%),
  - motor vehicle--related injuries (17%), and
  - a strike or blow to the head from or against an object (e.g., workplace or sports-related injuries [16.5%],
  - assaults [10%], and
  - other and unknown causes [21%]

Source: CDC.gov/traumaticbraininjury/get_the_facts.html

Mild TBI (Post Concussion)

- A concussion is a type of mild TBI
- Caused by a bump, blow, or jolt to the head that can change the way your brain normally works
- Can be from a fall or a blow that causes the head and brain to move quickly back and forth
- Usually not life-threatening
- Effects can be serious

Remembering	Physical	Emotional/ Mood	Sleep
Difficulty thinking clearly	Headache Fuzzy or blurry vision	Irritability	Sleeping more than usual
Feeling slowed down	Nausea or vomiting (early on) Dizziness	Sadness	Sleep less than usual
Difficulty concentrating	Sensitivity to noise or light Balance problems	More emotional	Trouble falling asleep
Difficulty remembering new information	Feeling tired, having no energy	Nervousness or anxiety	

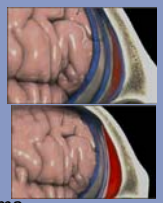
Source: CDC www.cdc.ogv/concussion/signs_symptoms.html

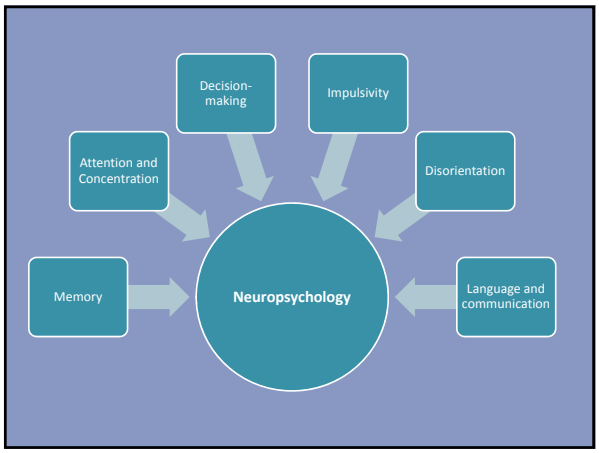
Severe TBI

- **Closed** – an injury to the brain caused by movement of the brain within the skull. Causes may include falls, motor vehicle crash, or being struck by or with an object.
- **Penetrating** – an injury to the brain caused by a foreign object entering the skull. Causes may include firearm injuries or being struck with a sharp object.

Severe TBI can range from

- Subdural Hematoma
- Epidural Hematoma
- Intracerebral Hematoma
- Diffuse Axonal Injury





Trauma Effect on Neurobiology of the brain

- Neurobiological changes can cause unexpected emotions or emotional swings or altered responses
- Neurobiological changes impact how memory is stored and can make recall of information difficult OR impossible

Understanding Neurobiology of Trauma

- http://www.nij.gov/multimedia/presenter/presenter-campbell/Pages/welcome.aspx

What impact should this have on our practice?

- Understand that the brain and subsequently the victims behavior can be impacted by trauma
- These changes can impact memory and recall
- Tonic Immobility is real and frightening

What Impact should this have on my practice?

- Recognize the importance of medical intervention in TBI
- Understand that there can be long term effects from trauma
- Encourage victims to seek care

Changing practice

- Let others know about this!
- Teach about Neurobiology in your classes and when you are training new employees- it will change the way you respond to victims!
- Take a look at what you are doing with any victim of trauma and start using this approach- can you think of any others who you work with that need to know about this?

Questions?

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