



What is Brain Injury?

Brain Injury or Behaving Badly?

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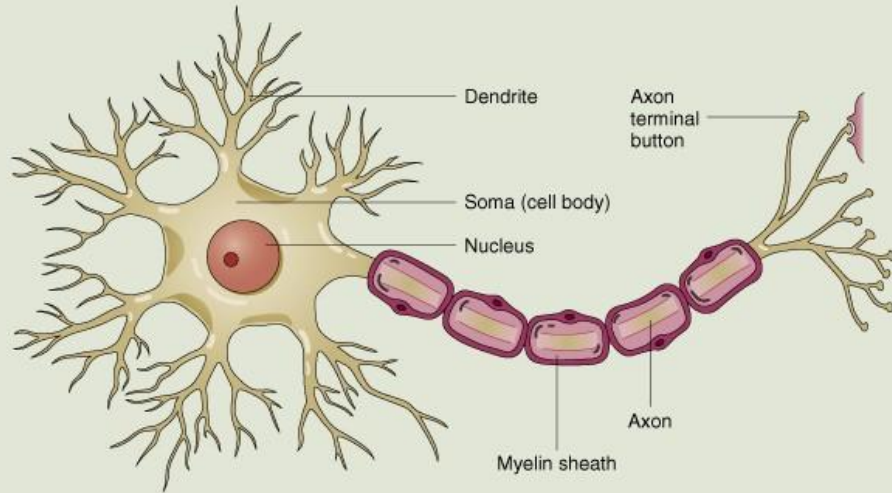
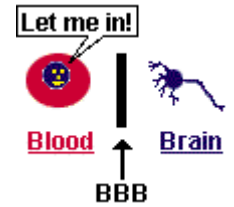
Mater Hospital

30 April 2013

Program

- The nerve cell
- Basic Brain Anatomy
- What are the syndromes and behaviours associated with Brain injury
[TBI/Alcohol/Hypoxia]

The Fragile Nerve Cell



- Protection: Bone, Blood brain barrier
- Support: CSF, Glial Cells
- Nourishment: Diet
- Growth: Neuroplasticity

- Oxygen
- Glucose
- Thiamine(B1)
- Neuro transmitters



Brain Injury

Neurone damage



Causes

- **Trauma**
- **From Birth**

Intellectual disability

- **Infection/Encephalitis**

HIV dementia, Tertiary Syphilis, CJD, Herpes simplex

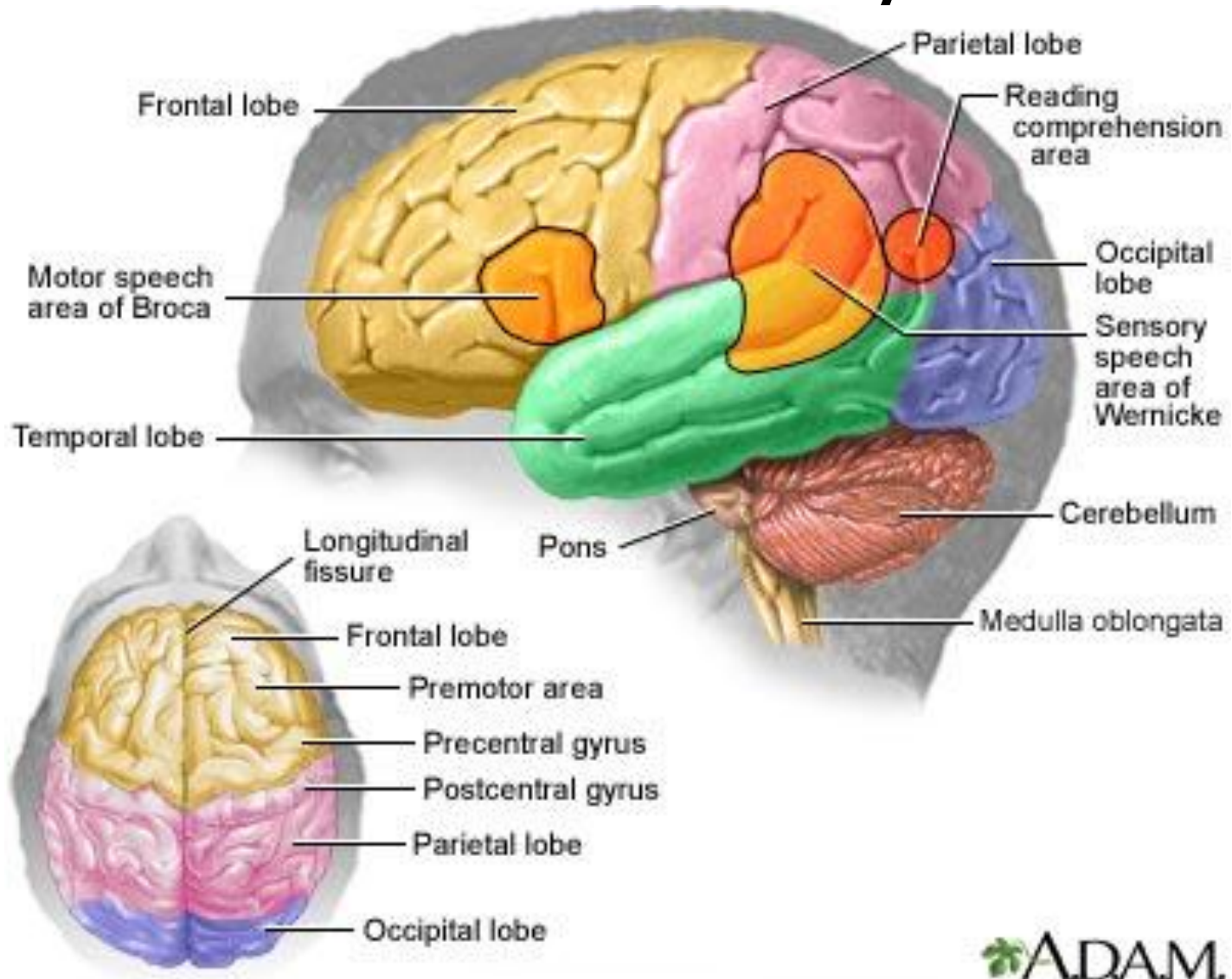
- **Lack of oxygen**

Associated with drug overdose, suicide, cardiac arrhythmia, stroke

- **Poisons**

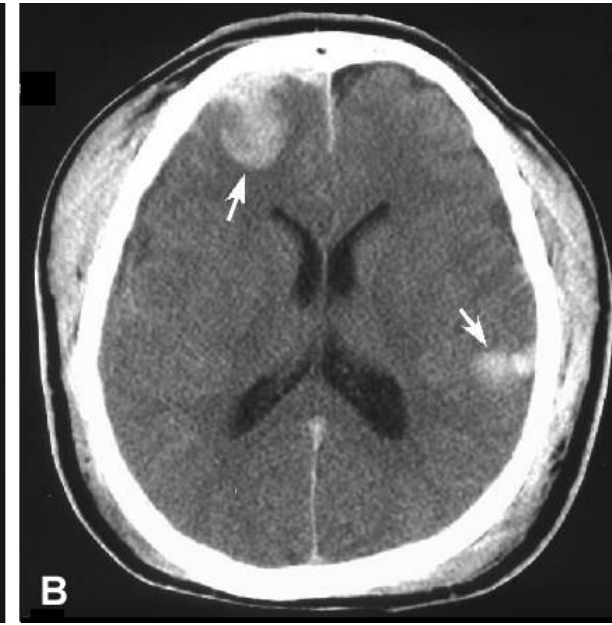
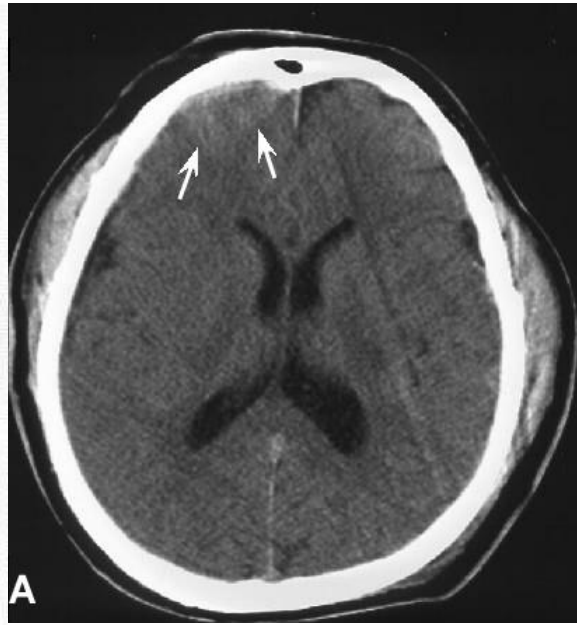
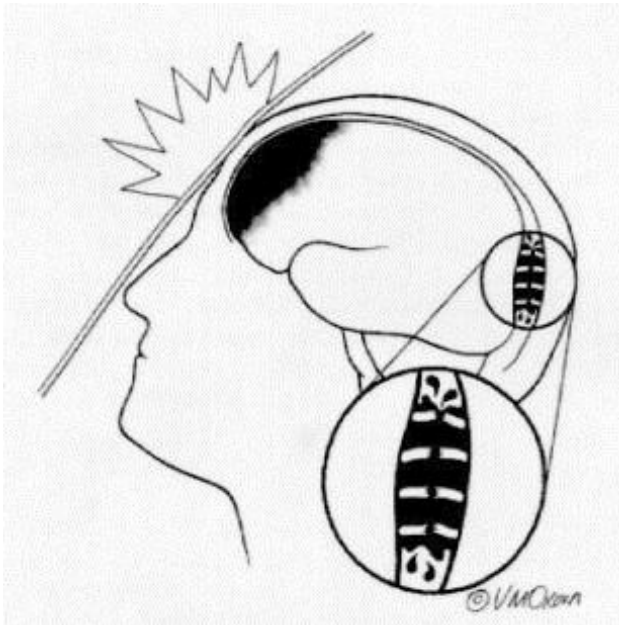
Alcohol, Methyl alcohol, Marijuana

Brain Anatomy



Traumatic Brain Injury Frontal Syndrome

Structures



Traumatic Brain Injury

Frontal /Executive Function

Behaviour

- Inability making decisions
- Motivation
- Inappropriate behaviour
- Controlling emotions
- Social behaviour
- Lack of Self-awareness
- Neglect appearance

Executive

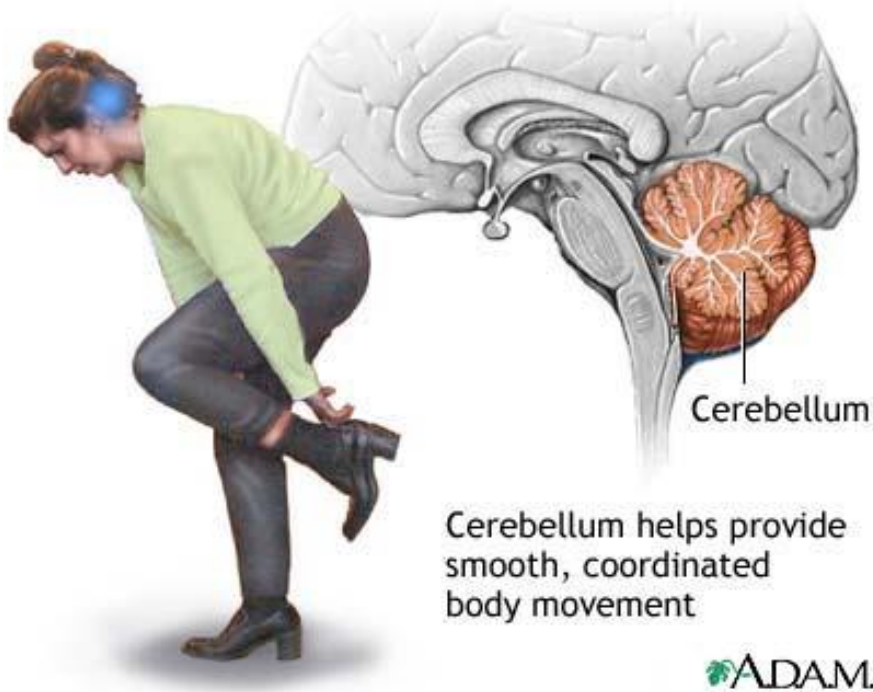
- Planning and organisation
- Flexible thinking
- Monitoring performance
- Multi-tasking
- Solving unusual problems
- Learning rules
- Concentrating and taking in information
- Delayed cognitive processing

Case Study



Alcohol

Structures



Cerebellum

Limbic system

Hippocampus

Peripheral nerves/sensation

Optic nerves (metho)

Alcohol Korsakoff's Syndrome

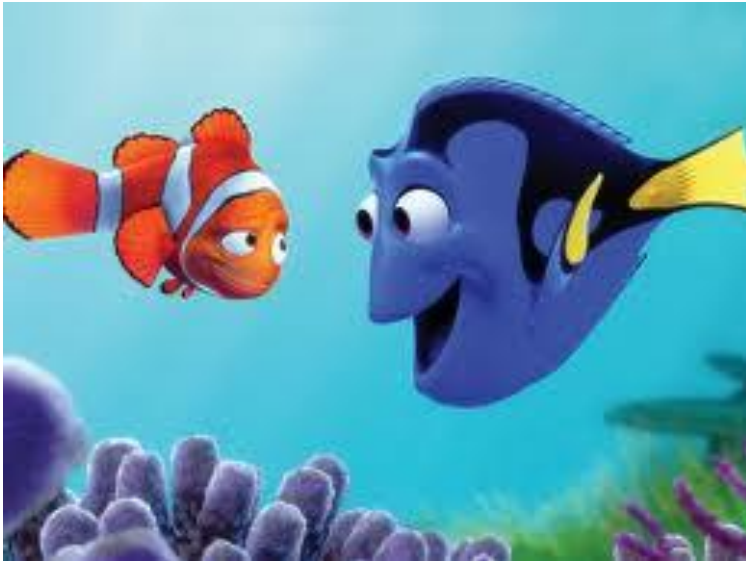
Symptoms

- Poor balance, Ataxia
- Numb feet
- Retrograde Amnesia
- Antero grade amnesia
- Heavy alcohol consumption
- Poor diet and thiamine deficiency

Behaviour

- Confabulation: invents events to fill the gaps in memory
- difficulty in acquiring new information or learning new skills
- Poor insight: believe that their memory is functioning normally
- Talkative repetitive

Case Study

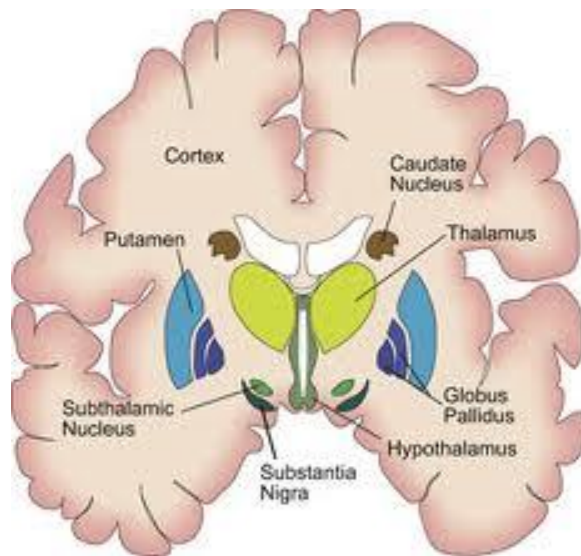


- Dory: I don't know where I am... I don't know what's going on. I think I lost somebody but I, I can't remember... and I can't remember...
- I suffer from short-term memory loss. It runs in my family... At least I think it does... hm. Where *are* they?

Hypoxia

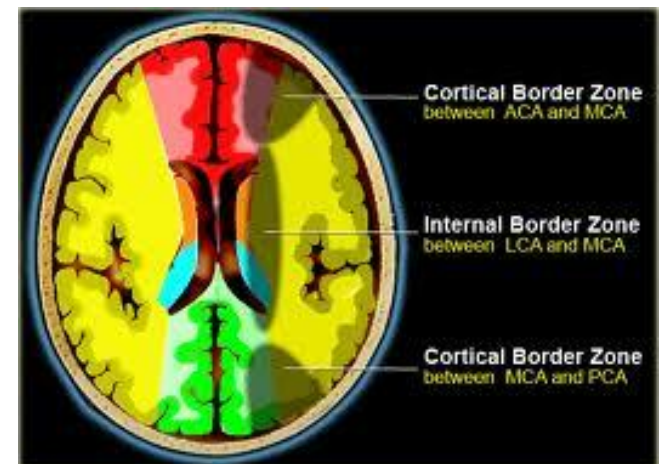
Structures

- Diffuse brain damage
- Boundary zone/Watershed
- Basal ganglia



Behaviour

- Movement disorders
- Gait Parkinsonism
- Epilepsy
- Cognitive impairment
- Agnosia
- Features of Korsakoff and TBI



Case Study



Conclusion

- Difficult to decide Psychosis vs Brain damage
- May be co existent
- Understanding the injury may help with managing behaviour

Questions?

