

ACQUIRED BRAIN INJURY
An introduction
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Definitions

What is brain injury?

- Insult to the structure of the brain
- Contrast with:
 - degenerative conditions of the brain
 - psychological injuries (although often consequential).



Definitions

How is it acquired?

- At birth: hypoxia or trauma;
- Infective: meningitis;
- Acceleration/deceleration;
- Penetration;
- Epilepsy.



Diagnosis; Glasgow Coma Scale

	MOTOR RESPONSE	VERBAL RESPONSE	EYE OPENING
6	obeys commands		
5	localises to pain	oriented	
4	flexion/withdrawal to pain	confused	spontaneously
3	abnormal flexion	inappropriate words	to speech
2	abnormal extension	incomprehensible sounds	to pain
1	none	none	none



Diagnosis: PTA

Post-traumatic amnesia:

- Measurement difficulties: sedation, islands of memory.
- Duration indicative of severity:
 - <1 hour = very mild
 - 1-24 hour = mild
 - 1-7 days = severe
 - 1 week+ = very severe



Diagnosis: scans/tests

Scans:

- CT
- MRI

Tests:

- Psychometric tests



Consequences: organic

Post-concussion syndrome (DSM IV). Criteria:

- head trauma causing significant cerebral concussion
- evidence of attention or memory difficulty on formal testing
- 3+ specified dysfunctions lasting at least 3 months causing significant social or occupational functioning
- No other diagnosis fits better.



Consequences: organic/psychological

Overlapping *sequelae*:

- Attentional
- Memory and learning
- Behavioural
- Fatigue.



Consequences: epilepsy

A Population-Based Study of Seizures After Traumatic Brain Injuries

John F. Annegers *et al* The New England Journal of Medicine N Engl J Med 1998;338(1): 20-24:

- Correlation between severity of injury and
 - (a) chance of seizures developing, and
 - (b) duration of elevated risk.



Consequences: epilepsy (cont`d)

- Brain contusion and sub-dural haematoma strongest risk factors,
- Skull fractures and prolonged unconsciousness weaker but still significant risk factors,
- More significant risk factors last at least 20 years,
- Mild head injuries risk factors elevated for 5 years.



Consequences: epilepsy (cont`d)

Legal consequences of epilepsy/epilepsy risk:

- Provisional damages/variable PP award,
- Framing the return criterion,
- Provisionals where epilepsy established but stable
- Evidence re. "controlability" and future risks.



Consequences: work

- Rehab./supported return to work
- Reduced hours/lost promotion prospects
- Evidence re. consequences of epilepsy: loss of driving licence
- Evidence from colleagues re. reliability.



Consequences: home

- Lay evidence: subtle consequences not detectable clinically
- Expert evidence: BABICM



Experts: medical

- Neuropsychologist?
- Neuropsychiatrist?
- Neurologist?


