Is it brain injury, trauma or exaggeration? Exploring the boundaries of Neuropsychological Assessment, Diagnosis and Treatment

Presented by

Dr David Quinn
Halliday- Quinn Associates &
Head of Health Psychology and Neuropsychology
Hereford Primary Care Trust

Common reasons for medico-legal referral

- Identifying the **presence** of an acquired brain injury
- Clarifying the **functional consequences** of the ABI, primarily treatment, employment and care.
- Assessment of **capacity**
- Identification of **psychological trauma** ie PTSD, depression and anxiety related conditions
- **Assessment prior to the provision of a programme** of neuropsychological rehabilitation and / or psychotherapy.
- Evaluating the **effectiveness** of a treatment programme / intervention

What can I expect from a Neuropsychological Assessment?

ABI Assessment (4-5 hours, possibly over 2 sessions)

1. Thorough review of history and other expert evidence with summary of main findings and areas of contention
2. Thorough clinical interview including assessment of
    1. Personal, educational, social, employment and medical history
    2. Treatment, rehabilitation and care post injury
    3. Detailed history of the index event with estimate of Post Traumatic Amnesia, GCS and injury severity
    4. Cognitive impairment (attention, speed of information processing, memory, language / communication/ executive function and implications for activities and participation)
    5. Activities of Daily Living (mobility, hygiene, housework, shopping, financial management etc)
    6. Mood (anxiety / panic, depression, PTSD, AD and any organically related mood symptom or adjustment factors).
    7. Relationships and sexual functioning

8. Other 'organic' factors such as epilepsy, sensory loss or alteration, balance and coordination, dementia etc
9. Pain
10. Sleep disorders and Fatigue

3. Comprehensive neuropsychological assessment including

1. **Effort** – new generation (TOMM & WMT inc discrepancy obs':perform)
2. **Pre-injury level of functioning** (WTAR)
3. **Intelligence** (WAIS-III)
4. **Attention, Speed & Accuracy of Thinking** (AMIPB, D.KEFS, TEA)
5. **Memory** (WMS III)
6. **Executive Function** - Planning, initiation of activity, organisation, error correction, abstract thinking, behavioural and emotional control etc (D.KEFS, BADS, Hayling and Brixton, WCST)
7. **Language** (TROG, SCOLP, Vocabulary)
8. **Mood** (Beck scales of anxiety and depression, NFI, SCL-90R)
9. **Fatigue** (VAS-F, BIFS)

10. ***May*** involve a functional assessment of capacity but unlikely to be comprehensive.

4. Summary of main findings

5. Collation of previous evidence and results of interview and assessment to provide

1. Estimation of injury severity and prognosis, if possible.
2. Recommendations for treatment & rehabilitation (prognosis may have to wait until second assessment / examination)
3. Recommendations for care / support. This will depend on the experience and background of neuropsychologist.
4. Capacity for employment (same limitations as 2)

Assessment of Capacity

An assessment may be required to address specific matters in detail and should include a customised clinical interview, assessment of neurocognitive impairment as it relates to the specific question of capacity, a functional assessment of ability (write a cheque, understand a bank statement etc.), recommendations of support required to exercise capacity and the limitations on that capacity.

Assessment for treatment

- Time, expense and stress on the client will be saved if good records and assessments are sent before the initial evaluation, in chronological order if poss'.
- The clearer the referrer can be regarding the target for treatment the better.
- Agree source of funding prior to the programme being given and make sure the therapist / organization is properly trained and qualified to deliver the programme.
- If possible avoid direct payment from the client (**conflict of interest**)
- The report should clearly define
  - Treatment goals and outcome measures
  - An anticipated time course or period for review, with written reports
  - Treatment options and associated risks
  - Model to be used and the evidence base to support its use in this case
  - What other agencies that need to be involved, either for the management of risk or to maintain any improvement ie CMHT, Case manager, support workers

Issues in Assessment

Purpose of the assessment: If there is an ABI, with or without psychological trauma, you will need a neuropsychologist.

1. ***Full practitioner members of the Division of Neuropsychology*** **of the British Psychological Society will have a recognised standard of knowledge and expertise. http://www.bps.org.uk/ http://www.bps.org.uk/don/member-list.cfm**
2. ***Different neuropsychologists will have different expertise*** **so try and match your clients needs with the practitioner ie expertise in epilepsy, neuro-rehabilitation, psychotherapy, children and so on.**
3. ***Try and be clear with the issues you wish to have addressed,*** **including therapy and capacity. This gives the psychologist the opportunity to see if their skill set matches the instructions.**
4. ***Provide as much information as possible,*** **particularly with regard to GP notes, medical history, severity of the index event and education, work records and personal background. This saves problems later if an opinion needs to be 'revisited'**

How do Brain Trauma and Distress relate to each other

- You can experience a brain injury without any significant psychological trauma depending on

1. The severity of the original injury (PTA, GCS, L of C), Fractured skull?
2. The resilience, personality and coping style of the individual
3. The degree of perceived threat and challenge to the self-identity of the individual
4. The presence or absence of a previous injury

- You can experience a PTSD with a significant concussive ABI (and without). Secondary trauma ('Death' in the room)

Range of Post-ABI Difficulty

Antonak, Livneh, and Antonak (1993) identified eight specific reactions most commonly reported in the literature.

Shock, anxiety, denial, depression, internalised anger, externalised hostility, acknowledgment and adjustment.

Did not identify other areas of post-ABI adjustment such as:

• Substance misuse (Schmidt and Heinemann, 1999),

• Paranoia and psychosis (Lishman, 1987)

• Obsessive-compulsive disorder (Klonoff, Lage and Chiapello, 1993) Misdiagnosis with memory problems.

• Post traumatic stress disorder (McMillan, 2001) and

• Fatigue (La Chapelle and Finlayson, 1998) + poor sleep

• Hormonal difficulty about 25-59% (Micol Rothman et al 2007); (Schacter & Singer 1962 -misattribution)

Prevalence of Anxiety & Depression

Powell et al (1996) 31% Anxiety & Depression

29% HADS - 'Clinical Levels'

Godfrey - @ 6/12 Under-report Anx / Dep & over-report social skills

Jorge et al (1994) 10% co-morbid GAD with major depression.

15% Major depression alone.

Raskin & Stein (2000) 30% Report Depression after 1 yr

Varney et al (1998) 77% met diagnostic criteria for major depression vs 38% back trauma. Therefore can't be trauma alone

Only 18% **spontaneously** reported depression

48% only reported depression after 6/12/

Hoofien et al (2001) 10-20 years post injury

Anxiety = 43.8% (rels 35.3%) Depression = 45.3% (26.5%)

Holsinger et al (2002) 1718 WW2 vets for lifetime risk

With major ABI = 18.5%, without = 13.4% (trauma control)

Greater risk for men 1.5:1. Depression increases with severity

•General population (10-25% women lifetime risk of MDD)

•10-25% of patients with one episode of a pre-existing dysthymic episode go on to develop a major depressive disorder.

•60% of these will go on to experience another major depressive disorder

•70% of those will have a third MDD and 90% will have a fourth.

•MDD triggered by severe stressors eg bereavement, relationship breakdown, ABI, employment lost.

• A significant ABI carries with it an increased lifetime risk of anxiety and depression.

Dewer and Gracey (2007)

Loss of identity is emerging as a key theme following acquired brain injury (ABI).

Cognitive-behavioural therapy can be applied to construct a new model of the self in the context of behavioural, cognitive and social sequelae of the ABI, with consideration of pre-illness identity.

Carer burden, family stress and adjustment is a CRITICAL and substantially unseen and untreated post injury issue

Effort and Motivation

"…Although the problem is complex, a more concerted effort is needed to separate the truly distressed from those few that are malingering….."

Dikmen, Temkin and Armsden (1989)

Motivation refers to the initiation, direction, intensity and persistence of human behaviour (Green)

Many theories of motivation, probably the most familiar is Maslow's hierarchy of need – from basic to most complex -

Physiological
Safety and security
Social
Esteem
Self actualization

Awareness and Denial

(Karen Langer, 1999)

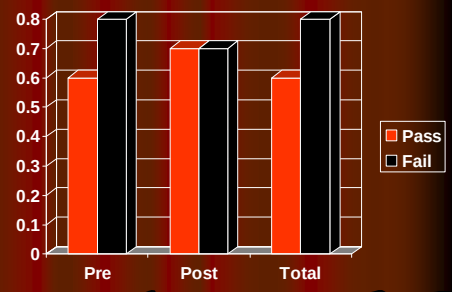
Denial as a defence mechanism

Anosognosia = Unawareness of deficit after neurological insult. Modality specific (awareness of one deficit may exist in the absence of another)

Prigatano "…*denial* is an attempt by the organism to cope, *anosognosia* represents a failure to recognise the need to cope…"

Understanding of any tests of 'effort' must take these factors into account.

Comparison of effort testing (pass and fail) and **Goal Attainment**

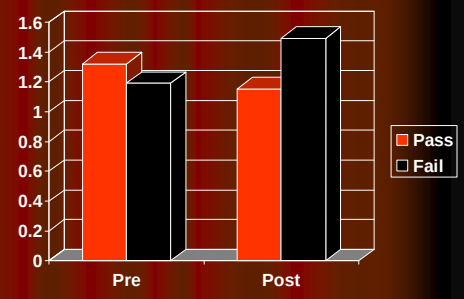


Kruskal-Wallis Test
Is there a significant difference between effort testing and goal attainment?

	Goal attainment
PRE effort testing	0.49
POST effort testing	0.82
TOTAL effort testing	0.46

Not significant – this supports the null hypothesis that there is no significant difference between pass or fail on effort testing and goal attainment achieved in rehabilitation.

Comparison of effort testing (pass and fail) and **GSI score (distress)**



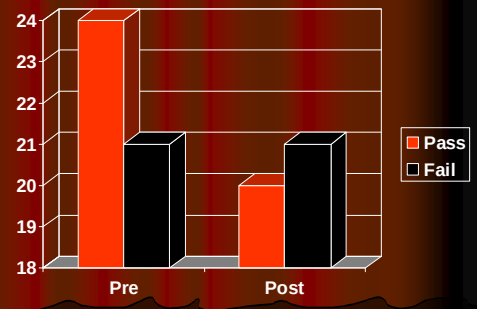
Kruskal-Wallis Test
Is there a significant difference between effort testing and mood (GSI)?

PRE GSI	
Pre effort testing	0.51
Post effort testing	0.56
Total effort testing	0.94

POST GSI	
Pre effort testing	0.60
Post effort testing	0.23
Total effort testing	0.32

Not significant – this supports the research and the null hypothesis that there is no significant difference between pass or fail on effort testing and mood (GSI).

Comparison of effort testing (pass and fail) and **Beck Depression Inventory (BDI)**



Kruskal-Wallis Test
Is there a significant difference between effort testing and mood (BDI)?

PRE BDI	
Pre effort testing	0.65
Post effort testing	0.46
Total effort testing	0.87

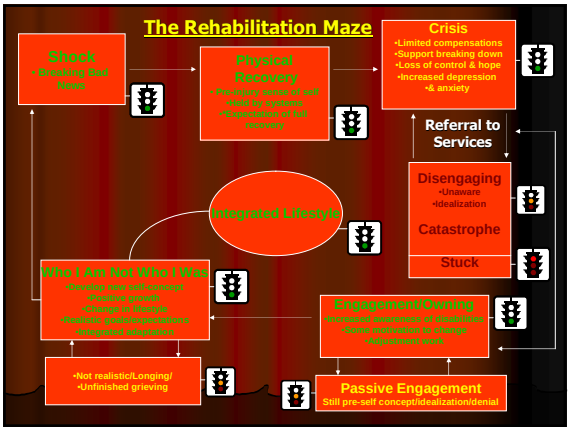
POST BDI	
Pre effort testing	0.72
Post effort testing	0.78
Total effort testing	0.66

Not significant – this supports the research and the null hypothesis that there is no significant difference between pass or fail on effort testing and mood (BDI).

Spearman's Rho Test
Is there a significant relationship between mood and goal attainment?

PRE BDI	0.21	**PRE GSI**	0.37
POST BDI	0.20	**POST GSI**	0.49

Not significant – this does not support the experimental hypothesis that there is a significant relationship between goal attainment and mood.


The Rehabilitation Maze
Shock
- Breaking Bad News
Physical Recovery
Crisis
•Limited compensations
•Support breaking down
•Loss of control & hope
•Increased depression
•& anxiety
Referral to Services
Disengaging
•Unaware
•Idealization
Catastrophe
Stuck
Integrated Lifestyle
Who I Am Not Who I Was
Engagement/Owning
Passive Engagement
Still pre-self concept/idealization/denial