When to assess?
Discussion

What might impact on your decision of whether to assess or not?
Should I assess or not? When should I stop assessing?

- What is the purpose of assessment? Will it provide benefit to the patient (either directly or indirectly through informing MDT/diagnosis/family/carers)
  - If there is no benefit, why assess?
- What are the risks/potential harm from assessing?
- Does the patient have the necessary prerequisites for testing
  - **Concentration**: Whilst assessment sessions can be shortened and carried out over several sessions, need to be able to be attentive for the time needed to administer any one test.
  - Pain (particularly headaches); preoccupation with worrying thoughts related to anxiety; fatigue and poor sleep all impact concentration.
  - **Comprehension**
  - **Motivation and effort**
Factors that impact on assessment

- Physical problems which affect performance (pain, sensory or motor disturbance)
- Intoxication with alcohol, recreational drugs or some prescription medication
- Current or pre-existing psychiatric disorder or learning disability
- Congenital or pre-existing neurological conditions including previous brain injury, insult or epilepsy
- Some medical illnesses
- Sleep deprivation
Factors which impact on assessment

- Recent psychosocial stressors
- People for whom the language in which they are tested is not their first language will be disadvantaged
- Many tests are culturally biased
- Sub-optimal effort
- Prior experience and practice
- Performance may vary from one testing session to another for a variety of reasons so caution in interpreting results from just one session
Case examples

Came in to do testing session – only had 2 hours of sleep the night before

Jane
Referred for neuropsychological assessment following subarachnoid haemorrhage – Anxiety ++, post ICU PTSD

Pete

Oliver

Referred for ? Cognitive difficulties following stroke. Very, very slow performance on testing
At numerous points during and following neuropsychological assessment anxiety can influence outcome

Initial assessment – anxiety can influence how events and experiences are interpreted. E.g. may interpret everyday forgetfulness as evidence for declining memory

Testing – how do they appraise the significance and interpret any errors, may result in selective investment of processing resources in rumination about errors, which may then impair performance.

Feedback during testing – even comments aimed at being non-specific encouragement such as ‘just do your best’, ‘your trying really hard’ may lend themselves to interpretation in an anxious patient.

Feedback of results – try and avoid ambiguity and jargon

So do we assess or not? - clinician judgement/service dependant
Depression

Cognitive domains often impaired in Major Depression Disorder
- Mental flexibility
- Semantic fluency
- Working memory
- Speed of information processing
- New learning

Cognitive domains infrequently impaired in MDD
- Intelligence
- Receptive language
- Object naming
- Visual-spatial perception

Cognitive domains sometimes impaired in MDD
- Concept formation
- Phonemic fluency
- Psychomotor speed
Fatigue

Fatigue affected by two sets of factors:
- Those that initiate fatigue (i.e. systemic disease) causing primary fatigue
- Those that perpetuate or exacerbate fatigue (e.g. depression, sleep disturbance, pain, medication effects, deconditioning) causing secondary fatigue

- Limited evidence for fatigue related performance decrements on assessment
- But what about sustained performance over the course of a working day?
Sleep

- Poor sleep impacts on the validity of the interpretation of neuropsychological findings in otherwise healthy people (Waters and Bucks 2011)
  - Decrease in response time (i.e. on TMT and Digit Symbol)
  - Attention and vigilance
  - Learning and memory
  - Mental arithmetic (slower performance and increased errors)
  - Executive functions (including working memory, inhibition (increased errors & latency on Hayling test), problem solving, and potential social cognition. Deficits more evident on more complex tasks.
  - Also effects motor performance/visuospatial skills)
  - Performance on ‘crystallised’ abilities lease effected
  - Quantative link with performance worsening with increased times awake
  - Even relatively moderate sleep reduction can have consequence of cognitive function

- Difficulties sleeping are intrinsically tied to neuropsychological disorders (fatigue, abnormal sleep wake patterns, increased night awakenings, sleep related movement disorders etc.) and mental health difficulties
Recommendations for sleep screening in neuropsychological assessment (Water and Bucks 2011)

- Ask client (or parents) if they (or their child) have a history of diagnosed sleep disorder
- Ask how they slept on the night before testing. How did it compare to normal sleep?
- Ask them to describe the nature of any sleep difficulties and what treatment (if any) are they using (could be over the counter remedies, alcohol)
- Include questionnaire on sleep quality (e.g. Pittsburgh Sleep quality Index for adults, Children’s sleep habits questionnaire)
- Ask if they are aware of feeling sleepy or fatigued during the day
- Ask them to describe impact of sleep difficulties on day to day functioning,
Pain

- Number of studies suggest chronic pain is associated with neuropsychological changes, most commonly being seen in attention, psychomotor speed and working memory.
- More difficulties noted with generalised and neuropathic pain than localised pain.
- Some studies suggest self-reported cognitive problems in people with chronic pain exceed objective neuropsychological findings.
- Objective impairments may be direct result of pain, stem from actual central nervous dysfunction (i.e. brain injury or neurological disease) or occur secondary to pain.
- Pain rarely occurs in isolation – sleep disturbance, mood disturbance, soatisation, neurological injury or disease, fatigue, chronic health problems)
- No impact of opioid treatment? Equivocal result
- Pain ‘demands attention’
Physical Health

- Diabetes
- Chronic renal disease
- Chronic Obstructive Pulmonary Disease
- Asthma
- Coronary heart disease
- Arthritis
Mental health

- Depression
- Anxiety Disorders
- PTSD
- OCD
- Bipolar disorder
- Psychotic disorders
- Eating disorders
- Personality disorder
Case example

- Type 1 diabetes
- Celiac disease (no intestinal symptoms)
- Previous breast cancer/chemotherapy
- Clinical Depression
- Anxiety
- Disturbed sleep
- Poor diet, insulin control, impulsive behaviour
Neurodevelopmental disorders

- Intellectual disability
- Learning difficulties (e.g. dyslexia, dyspraxia, dysgraphia)
- Autism spectrum disorders
- Genetic disorders (e.g. fragile X, Down's syndrome)
- Attention Deficit Hyperactivity Disorder
- Motor/coordination disorders e.g. Tourettes
- TBI (e.g. cerebral palsy)
Case vignettes – what may impact on assessment? What more information would you require?

- I would be grateful if you could see this gentleman (age 65) who has had previous oligodendroma who appears to be having fluctuation of deteriorating levels of memory. I would be keen to quantify the nature of his executive attention or difficulties and possible monitoring him over time ... about whether he is starting with a degree of dementia of whether anxiety is playing a role.

- Please see this lady (35 years) with a subarachnoid haemorrhage who has made quite a good recovery but has specific language difficulties, though comes across reasonably well. She certainly has problems with executive function, behaviour, anxiety, insight and adjustment which is making life difficult.

- I would be very interested in your views on this very interesting young man (age 20) who has a history of ADHD, genetic problems, quite a lot of moving about as his family are travellers. He has at least four documented skull fractures now related to head injuries, the most recent being 6 weeks ago. I would be very interested in your neuropsychometric testing.