

Supporting AOD Clients with Cognitive Impairment

Practical Recommendations and Strategies



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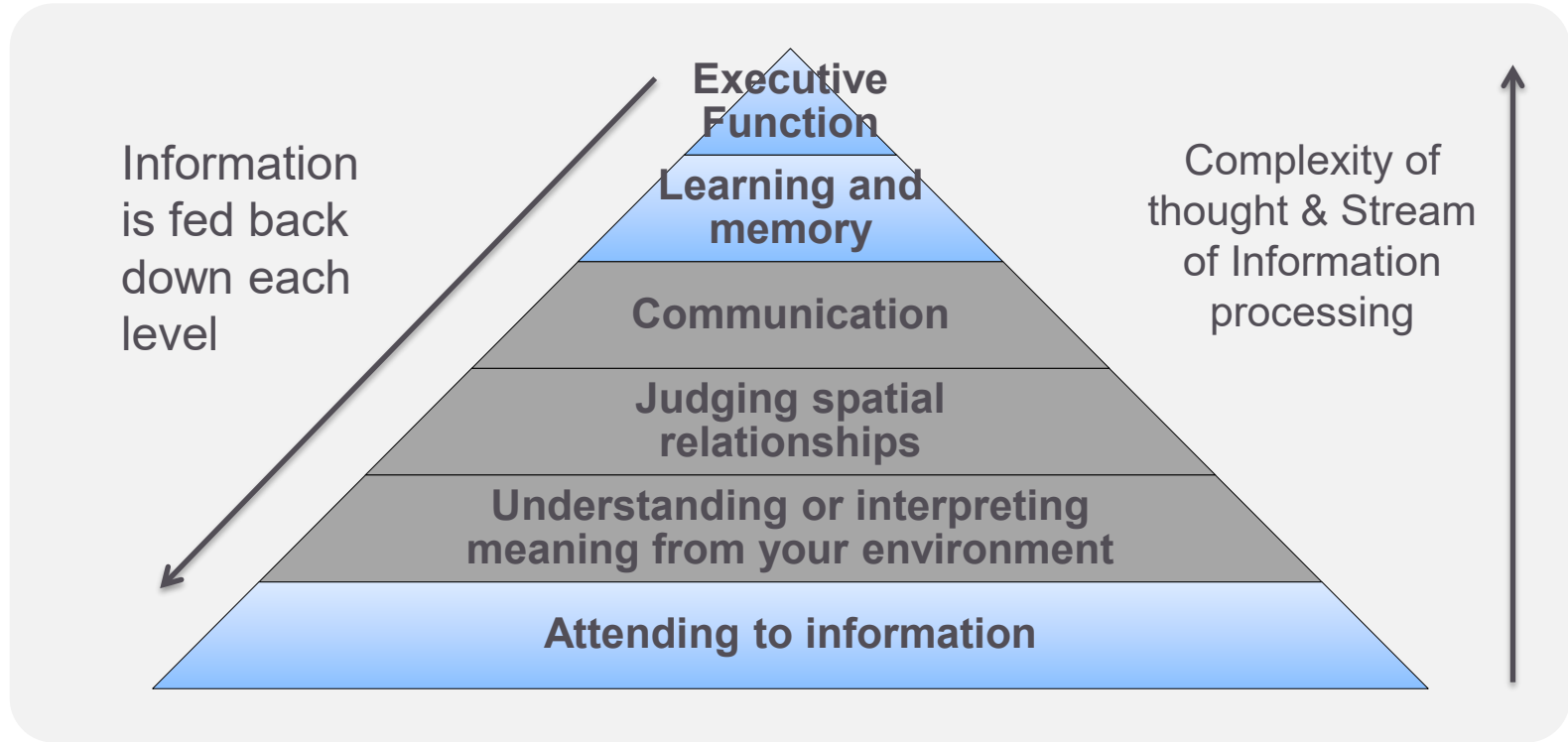


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Cognitive impairment and Acquired Brain Injury

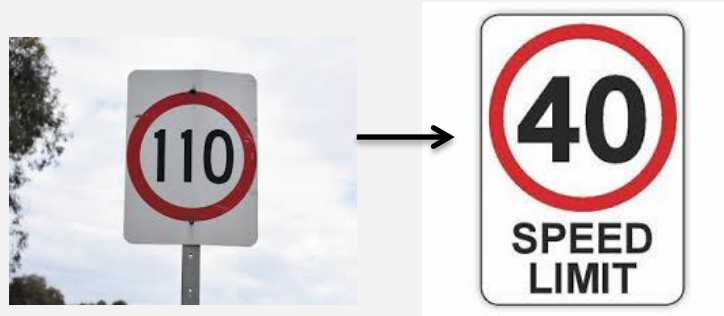
Brief overview of cognition



How does impairment present?

Speed of thinking

- Slowed response times
- Easily overwhelmed
- Appear to miss information



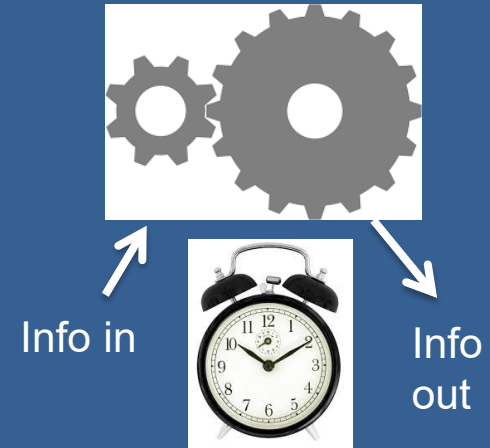
Attention and working memory

AKA “Short term memory”

May present as:

- Poor focus, easily distracted, appear absent minded, doesn't absorb information, 'forget everything', misplace things.
- Loses track of conversations, TV, book (might report difficulties reading)
- Trouble working through problems in mind (ie calculating change, problems with more than one step)

How many items can we attend to, juggle and manipulate in our mind at once?



Memory has different components

Encoding

Process of registering and attending to information



Consolidation

Process of storing information for later use



Retrieval

Process of accessing previously stored information



How memory can break down

Encoding → **Consolidation** → **Retrieval**

Information is missed



Information is lost



Information might be there but it is hard to find



Memory Problems

- Forget appointments, conversations, names, events, items etc.
- Vague recall of recent events
- Sudden vs gradual decline
- Remote memory is generally better than recent memory
- Things to consider:
 - How specific or vague is the reported memory difficulty?
 - How important is the information they are forgetting?
 - How extensive or endorsed is the reported difficulty?

Executive Functioning

- A set of higher level skills coordinated by the frontal lobes
- The CEO of the brain
- “Enable a person to engage in independent, purposeful, self-directed, and self-serving behaviour” (Lezak et al, 2012)
- Integrate and interact with all other cognitive domains
- Skills such as:
 - Planning, organisation and strategy use
 - Control impulsivity, monitor errors and maintain self-awareness
 - Problem-solving, flexible thinking and reasoning
 - Emotional regulation, motivation, behaviour, social interaction

Executive Functioning Problems

- Concrete thinking, inflexibility
 - Has difficulty understanding or following new concepts
 - Unable to generalise, think creatively or generate different solutions to a problem
- Disorganisation and poor planning
 - Chaotic, no system, doesn't think ahead
 - Arrives late or misses appointments
 - Unable to use or generate strategies
- Impulsivity, poor self-monitoring
- Lack of insight

Executive Functioning Problems

Behaviours

- ↑ frustration tolerance, ↑ irritability, ↑ anger
- Egocentric
- ↑ socially inappropriate behaviour

Emotions

- Change in emotional responsiveness or expression (flat or elevated)
- ↓ emotional control
 - inappropriate/disproportionate reactions

Prospective Memory

- Remembering to remember: Prospective memory
 - Remembering to act in the future
 - *E.g. Remembering to call my mother tomorrow*
 - Vital for everyday memory function due to it's role in most activities of everyday functioning (Kinsella et al., 1996)
 - Utilises both memory and executive functioning abilities due to the need to plan, monitor, recall and execute the intended act.
 - All this occurs in the context of delays for when intended act has to occur, a response window, the absence of reminders to prompt retrieval and distracting activities.

Is the cognitive impairment an ABI?

- An ABI is an injury to the brain that occurs after birth.
- The injury results in the deterioration of cognitive, physical, sensory, emotional and/or independent functioning.
- Not all cognitive impairment you observe is an ABI.
- However, cognitive compensatory strategies and recommendations can still be important tools to support clients, regardless of their ABI status.

Acquired Brain Injury

- Traumatic brain injury (TBI)
 - E.g. Motor vehicle accident, fall, assault
 - Blunt force trauma to the head
 - Head trauma \neq TBI
- Non-traumatic brain injury
 - E.g. Chronic alcohol and substance abuse
 - Hypoxic event (brain deprived of oxygen)
 - Tumour / stroke / neurological disorders



Wondering about TBI?

Ensure a genuine potential cause for impaired brain function

- Generally, there is:
- Loss of consciousness (> several mins);
- Hospital admission;
- Significant change in thinking and memory skills after event.
- This change is affecting your client's current day-to-day functioning.

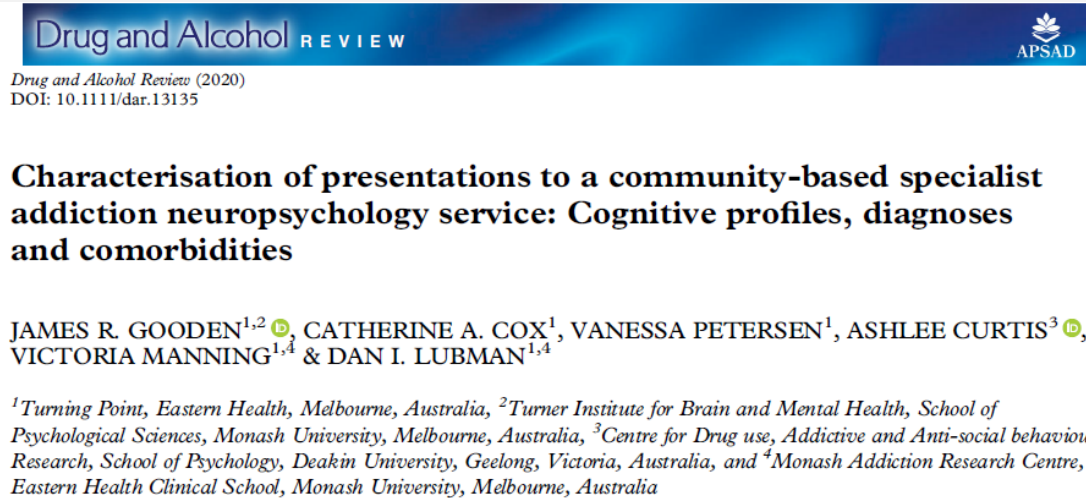
Cognitive Impairment

Persistent Causes	Variable Causes
Acquired Brain Injury*	Psychological conditions
Traumatic Brain Injury*	Acute substance use
Degenerative conditions	Sleep deprivation, insomnia
Medical conditions	Medical conditions
Developmental conditions	Diet (i.e. malnutrition)
Age	Stress caused by homelessness, social isolation, trauma, socioeconomic disadvantage

*The persistence of impairments associated with ABI and TBI will vary based on severity of injury and individual differences.

Neuropsychology Database

- Reviewed 200 case files between 2014 and 2018
- Extracted clinical histories, assessment scores and neuropsychological opinions including new diagnoses



Characterisation of Presentations

- 41% had head trauma w LOC
- 19% had untreated Hep C
- 21% had OD'd
- 11% of these had multiple OD's
- 29% were using daily at Ax



MENTAL HEALTH

71% had a history of mental health difficulty



TRAUMA HISTORY

40% had a history of complex trauma



SUICIDAL IDEATION

35% reported past ideation
7% reported active ideation

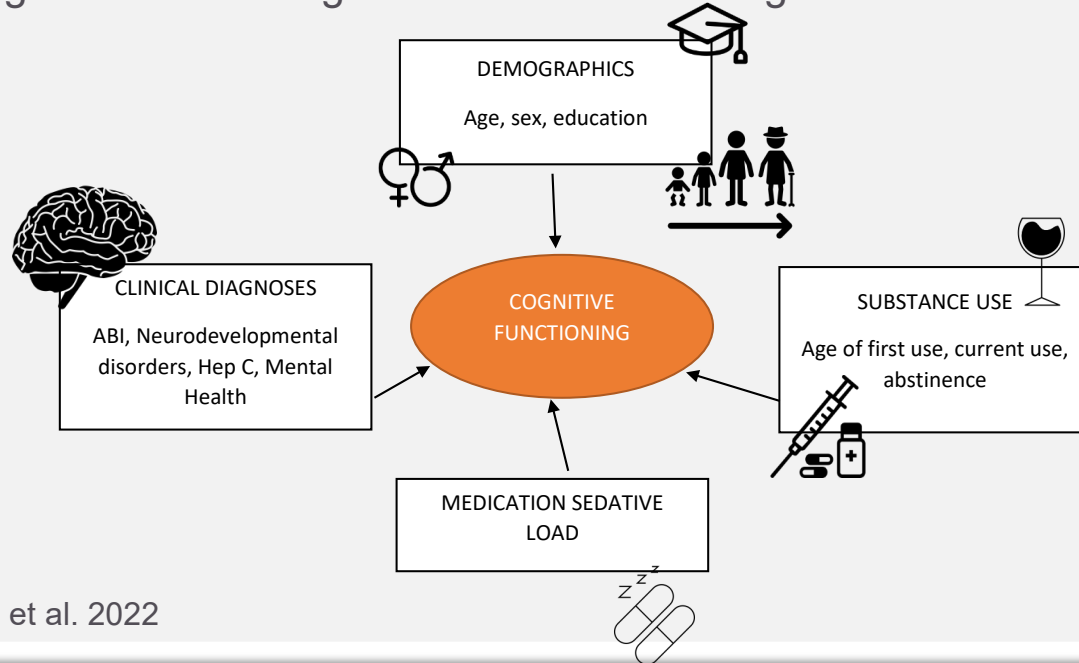
Neuropsychology Opinions

Table 5. *Neuropsychological opinions regarding the primary aetiologies underlying observed impairment*

	<i>N (%)</i>
Unremarkable neuropsychological profile	33 (16.6)
Multiple contributing aetiologies ^a	48 (24.1)
Current substance use	17 (8.5)
Mental health condition	21 (10.6)
ABI (not including TBI)	29 (14.6)
TBI	10 (5.0)
TBI + mental health + substance use	4 (2.0)
Developmental disorder	16 (8.0)
Learning disorder	9 (4.5)
Physical health condition	6 (3.0)
Neurodegenerative disorder	1 (0.5)
Malingering or poor effort	5 (2.5)

Predictors of Cognitive Impairment

- To identify the individual contribution of biopsychosocial variables to cognitive functioning in individuals attending our service

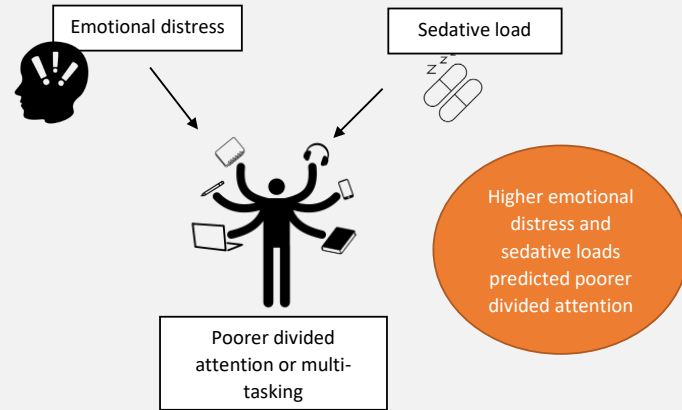


Gooden et al. 2022

Predictors of Cognitive Impairment

In addition to the contribution of Age, Sex and Education:

- Higher emotional distress predicted:
 - Information processing speed & working memory
 - Verbal skills & divided attention
- Higher sedative loads predicted:
 - Visual memory & divided attention
- Having a developmental disorder predicted:
 - Verbal skills & working memory
 - Verbal memory (X education)
 - Cognitive Inhibition (X education)
- Having an ABI predicted:
 - Nonverbal skills & visual memory



Variables for mental health diagnoses, trauma, hepatitis C & current substance use were not significant.

Key Points

- Findings support the view that many biopsychosocial factors can influence cognitive test performance in AOD clients, **not just substance use!**
- Some of these may be modifiable such as the use of multiple sedating medications or heightened emotional distress.
 - The impact of both of these has been previously well established in other populations (Cohen et al., 2013; Robinson et al., 2013; Rock et al., 2014, Crowe & Stranks, 2018; Tannenbaum et al., 2012).
 - Sedating medications are also highly prescribed in AOD populations, contrary to guidelines, with associated increased risks of overdose and death (Foulds et al, 2018; Australian Bureau of Statistics, 2017).
 - Benzodiazepines in particular are associated with long term cognitive outcomes and may represent a wholly preventable risk factor for cognitive difficulty (Crowe & Stranks, 2018).

Take home messages

1. Our client group faces a huge set of bio-psychosocial challenges, all of which can impact on cognition.
2. Many of the contributors to cognitive impairment are treatable or modifiable.
3. Take care when reading the research around cognition and substance use, it is messy and can be misleading.
4. Refrain from diagnosing the client with an ABI especially based on their reported history or if they are currently using substances.

Practical recommendations and strategies

Compensatory Strategies

- Normalise strategy use.
- Strategies to be individually tailored.
- Play to the person's strengths. Use strengths to compensate for any weaknesses.
- Build on previous strategy use.
- Internal vs external
 - AOD population tend to find internal strategies difficult, so we will focus on external strategies

Memory

- The more you work with information the more likely you are to remember it
 - Action, feelings, sensation, context etc.
 - Repetition, Staggered Rehearsal, Associations
- Recognition is easier than recall
 - Prompts and cues aid memory
- Forgetting is adaptive
 - We cannot and are not meant to remember everything.
 - Salient or important information gets priority

Compensatory Strategies: Memory

External Strategies



Memory Station

Shopping List

Reminder from family

Medication +
dose
reminder
and water



Appointment Reminder

Bill to pay

Calendar

Important items to
remember

Compensatory Strategies: Info Processing

Speed of thinking

- Pacing is important to avoid missing information
- Adjust sessions accordingly
- Encourage client to:
 - Ask people to slow down
 - Clarify information
 - Summarise back to you



Compensatory Strategies: Info Processing

Attention

- Fatigue management
 - Build rest-breaks into activity / session
 - Consider fatigue levels, e.g. appointment time
- Modify environment
- Minimise distractions e.g. quiet space, phones off...
- Break down instructions / info into small chunks
- Complete one task at a time



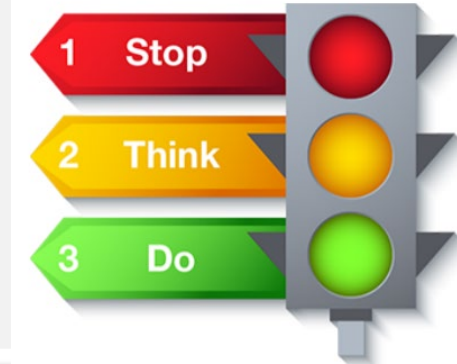
Compensatory Strategies: Info Processing

Working memory

- Write down or record information
- Use scrap paper for working things out and solving problems
- Have pro's and con's lists
- Chunk / group information

Compensatory Strategies: Executive Functioning

- Concrete thinking and rigidity
 - Use simple language & link it to what the individual knows already
 - Limit number of topics/issues discussed
 - Practice new skills in lots of different situations to encourage generalisation
- Impulsivity
 - Encourage to spend time considering task, checking mistakes, no rushing



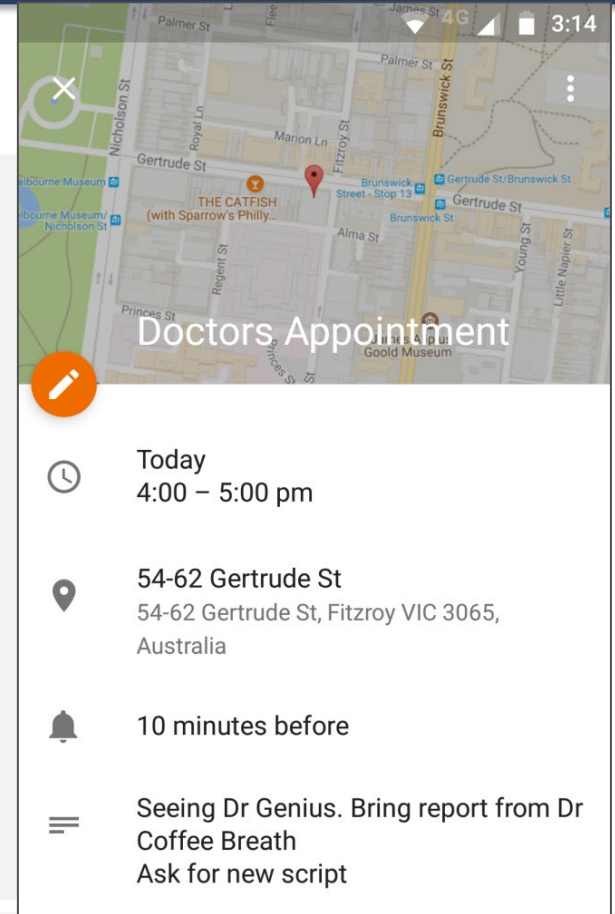
Compensatory Strategies: Executive Functioning

Initiation and planning problems:

- Good Routines that have structure support executive functioning
- Fewer choices
- Goal Planning / structured planning templates. Use the same one over and over again.
- Use pro's and con's lists
- Break task down into small achievable steps.
- Write down steps. Diagram. Flow chart.

Google Calendar

- Set timed reminders with written and sound prompts
- Reminder list
- Goals
- Syncs between devices and you can add others' calendars
- Set up daily agenda



Apps: Google Calendar

- McDonald et al., 2011
 - Study of ABI patients comparing diary use with Google calendar
 - More effective in improving prospective memory performance than a diary with a 24% increase in performance observed
 - Highlighted the key difference between the strategies where one provides active reminders and the other passive

Apps: Google Calendar

- McDonald et al., 2011
 - Timed text messages were most beneficial.
 - Supported the triggering and retrieval of intentions within the response window,
 - reduced pressure and stress and the need for monitoring
 - One participant had limited motivation for certain reminders – the task needs to align with the client's own goals.

Compensatory Strategies

- External strategies quicker and easier to adopt
- What does the evidence say?
 - Review of 20 years worth of studies (Ehlhardt et al., 2008 as cited in Ponsford 2013)
 - There is no one solution
 - A variety of techniques can be effective
 - No single approach was always effective
 - Level of self-awareness a critical factor re. success / failure

Sleep

- Why is it important?
 - We sleep for restoration, memory consolidation and pruning, emotional processing, creative insight (Walker et al, 2009).
 - Substance use, sleep disorders, altered day/night patterns & mood can impact the *quality* of sleep and the above sleep processes.
- What does the evidence say?
 - Sleep disruption can result in fatigue; poor mood; reduced cognition; and reduced work performance. Also impacts health such as blood pressure, heart disease. (Waters et al, 2011)

Sleep

- Commonly impacted in AOD users.
- 90% of clients sampled reported poor sleep quality.
- Improving sleep quality leads to better MH with a dose response relationship.
- CBT-I is a very effective tool in treating insomnia (Ashworth et al 2015).

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BRIEF REPORT



Sleep disturbance in clients attending a specialist addiction clinic

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CLINICAL REVIEW

Improving sleep quality leads to better mental health: A meta-analysis of randomised controlled trials



Alexander J. Scott^{a,*}, Thomas L. Webb^c, Marrison Martyn-St James^b, Georgina Rowse^d,
Scott Weich^b

Sleep - Strategies

MAKE SURE THE ENVIRONMENT IS RIGHT FOR SLEEPING



Fresh air



USE YOUR ALARM
CLOCK

Have a regular sleep
pattern:

Try to go to bed at the
same time every night,
and get up at the same
time each morning.



Refer for Neuropsych assessment:

- If the client is worried about their thinking skills / engaged in the process
- If you are worried about their cognition
- If you have noticed a decline.
- If you have excluded other organic reasons for changes in cognition

***The more specific your referral question,
the better able we are to answer it.***

Contact

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