Working with Aging Populations:
Key Considerations for Successful Assessment and Intervention

Choosing the Right Assessment Tool for the Job

Presented by Bridget Barnett
OT Consultant
Pearson Clinical Assessment
Australia and New Zealand
bridget.barnett@pearson.com

What will we cover today?
- Ageing related issues
- Why use standardised assessments
- Assessments Suitable for use With Adults and Older People

Age related issues

Percentage of population aged 65 years and over in Australia: 1994 - 2014

Conditions More Prevalent in Older People...
- Diabetes
  Increased by 5% in those aged 75 and older between 2003 and 2012
  1 in 7 people aged 65 or over have been diagnosed with diabetes
- Dementia
  5% of people over aged 65
- Heart Disease
  One in five people aged 75 or over
- Stroke
  11% of those aged 75 and over have had a stroke
- Cancer
  63% of cancers diagnosed in people aged 65 and over
- Mental Health Issues
  Depression affects 1 in 5 older people living in the community, and 2 in 5 living in care homes
  Multiple conditions
  Concurrent problems, hidden illness, under-reporting

Sources: Health and Social Care Information Centre, Mental Health Foundation
Conditions to be Aware of When Working With Older People...

- **Sleep Disorders**
  Consequences include cognitive problems such as memory and attention, mental health problems such as depression and anxiety, increased risk of falls, decreased QOL, increased incidence of pain.
- **Eyesight problems**
  Do they have correct lens prescription?
- **Hearing loss**
  Difficulty tuning in to high and low frequencies; use of hearing devices; communication tools (e.g. telephone use).

- **Medication**
  Multiple medications; noncompliance (remembering medications; over-medicating; communication / instructions; side effects).
  Adverse effects that mimic other issues (fatigue, cognitive issues, depression, pain, falls)
- **Pain**
  Affects ADLS; sleep disturbance; social interactions; depression / anxiety; some may not be able to express pain; significantly affects quality of life.

---

Keep in mind that conditions fluctuate ... and may recover

Why do we use standardised assessments?

Advantages:
- Support your professional judgement
- Provide structure
- Developed by experts in the field
- Based on latest research
- Save time and money in the long term
- Support intervention planning

Disadvantages:
- Can become out-dated
- Cost of materials
- Using the wrong assessment wastes time and money
- How do you relate to everyday life

- **Age Range:**
  For what age range is it intended?
  Can you use outside of age range?

- **Clinical Application:**
  Were clinical samples used for validation?
  What is the research basis for the tool?
  On what population was it developed?

Considerations When Selecting Assessments
Considerations When Selecting Assessments

- **Physical Requirements:**
  - Do you have the necessary materials and/or space to administer the assessment?
  - Is the service user capable of completing the assessment?

- **What is the intention behind using the assessment?**
  - Progress monitoring – consider practice effects
  - Supporting placement decisions
  - Evaluating strengths and/or impairment levels.

Areas of Assessment and Intervention Supported by Standardised Assessments...

- **Personal ADL** – dressing, feeding, bathing, grooming
- **Instrumental ADL** – Cooking, cleaning, shopping, managing money, driving
- **Mobility / balance** – transfers, inside and outside mobility
- **Sensory and language impairments** – vision, hearing, receptive and expressive language
- **Cognitive / Behaviour Problems** – in context
- **Mental Health**
- **Caregiver support** – additional support needs
- **Relationships / social factors**
- **Environment** – comfort, accessibility, safety

Assessments Suitable for use With Adults and Older People

**BMAT**

**Development Goals:**

- Provide a motor assessment that targets more than pure motor skills, in selecting motor tasks directly related to ADL
- To develop an assessment to support service users, families, and clinicians in making placement decisions or determining adjustments to support ADL
- To provide an age and task appropriate assessment to support intervention planning and monitor progress
- To provide an assessment which allows tailored administration to target specific motor areas to support clinical and research purposes
- To develop an assessment sensitive to changes in the impaired range

**BADS**

**Short Form available**
**Author – expert in the field**
**Determine motor strengths and areas for intervention**
**Progress monitoring for disease progression and rehabilitation**
**Links motor domains to activities of daily living**

**RBMT**

**Simple and flexible administration**
**Specifically for adults aged 40+**
**Large normative sample; validated against a motor impaired group**
**Sensitive to subtle increments of change in the impaired range**

**PEARSON**
Cognitive assessments for adults

Related ADL tasks:
- Handling small objects
- Food Preparation
- Pills
- Dressing
- Fastening
- Buttoning

Potential challenges in assessing cognition:
- Time
- Standardised vs non-standardised
- Hard to detect subtle difficulties
- Lack of multi-disciplinary support
- Expectation to use particular tests
- Ecological validity? Does it reflect real-life?

Cognitive Assessment of Minnesota

- Published 1993
- Authored by occupational therapists in the US
  - Ruth Rustad, Margaret Jungkunz, Laureen Borowick, Terry DeGroot, Karen Freeberg, Ann Wanttie
- Designed to provide a hierarchical approach to screening cognitive skills
- Informs the need for further cognitive assessment
- Normed on adults aged 18 – 70 years

CAM Subtests (17)

- Attention span
- Memory / Orientation
- Visual Neglect
- Following directions
- Immediate memory
- Temporal awareness
- Matching
- Object identification
- Visual memory and sequencing
- Recall / Recognition
- Auditory memory and sequencing
- Simple money skills
- Simple maths skills
- Foresight and planning
- Safety and judgement
- Concrete problem solving
- Abstract reasoning

Administration

- Can be administered at bedside or in clinic in one or two sessions
  - If completing in two sessions give subtests 1 – 10 in first session
- Directions prescribed in manual / test cards
- Instructions may be repeated unless indicated otherwise
- ‘Rule out’ sections for each subtest

Clinical utility of the CAM

- General cognitive screen
- Designed for use when cognitive impairment is suspected e.g. due to CVA or TBI in either acute or outpatient settings
- Informs further assessment
- Items require either a verbal or motor response; many require vision
**Strengths and weaknesses**

**Strengths**
- Developed by OTs so anchored in function
- Hierarchical arrangement of items
- Provides a broad overview of cognition
- Provides an evidence-base to support functional observations

**Weaknesses**
- US-centric
- Relatively long administration time
- Doesn’t assess cognitive areas in detail

---

**Rivermead Behavioural Memory Test 3rd edition (RBMT-3)**

- Published late 2008
- Approx 30 mins to administer
- Ages 16-89 (7 age bands)
- 14 subtests
- Contains immediate, delayed and prospective memory

---

**RBMT-3 Subtests**

- First & Second Names – Delayed Recall
- Belongings – Delayed Recall
- Appointments – Delayed Recall
- Picture Recognition – Delayed Recognition
- Story – Immediate Recall
- Story – Delayed Recall
- Face Recognition – Delayed Recognition
- Route – Immediate Recall
- Route – Delayed Recall
- Messages – Immediate Recall
- Messages – Delayed Recall
- Orientation & date
- Novel Task – Immediate Recall
- Novel Task – Delayed Recall

---

**Clinical utility of the RBMT-3**

- Designed to predict everyday memory problems in people with acquired, non-progressive brain injury
- Found to be valid with other clinical populations e.g. Korsakoff’s
- Can be used to monitor change over time
- Most appropriate for rehab or outpatient settings

---

**Strengths and weaknesses**

**Strengths**
- Good correlation (0.75) between therapists’ observations of everyday memory failures and scores on RBMT
- Longitudinal studies show RBMT scores to be good predictors of independence / employment
- Chapter on rehabilitation / intervention
- Parallel series allows for re-testing

**Weaknesses**
- UK norms
- Needs to be administered in one sitting

---

**Behavioural Assessment of the Dysexecutive Syndrome (BADS)**

- Published in 1996
- A test battery aimed at predicting everyday problems arising from Dysexecutive Syndrome (frontal lobe impairment)
- Administration time approx 40 mins
- Age range: 16-87 years
- Six subtests + DEX questionnaire
Problems in assessing the Dysexecutive Syndrome

- Traditional neuropsych tests don’t always reflect real life demands of problem solving, planning and organising, setting priorities and adapting behaviour.
- Tests might be sensitive to frontal lobe damage but may not reflect everyday situations, making functional correlations difficult.

BADS

Subtests tap into executive functions including:
- The ability to initiate behaviour
- Inhibition of competing actions or stimuli
- Selecting relevant task goals
- Planning and organising a means to solve complex problems
- Shifting problem-solving strategies flexibly
- Monitoring and evaluating behaviour

BADS Subtests

- Rule Shift Cards Test
- Action Program Test
- Key Search Test
- Temporal Judgement Test
- Zoo Map Test
- Modified Six Elements Test

The Dysexecutive Questionnaire (DEX)

- A 20-item questionnaire. The items sample the range of problems commonly associated with the Dysexecutive Syndrome in four areas: emotional or personality changes, motivational changes, behavioural changes, and cognitive changes
- Each item is rated on a 5 point scale representing problem severity.
- Two forms; a self-report and a carer/relative report

Clinical utility of the BADS

- Useful for identifying subtle difficulties in higher level cognitive skills
- Useful in assessing and preparing for discharge into independent living or return to work situations
- Most appropriate for rehab or outpatient settings
- May be applicable in mental health e.g. schizophrenia

Strengths and weaknesses

Strengths
- Ecological validity for executive functioning higher than other neuropsych tests
- Engaging tasks
- DEX questionnaire allows measure of insight

Weaknesses
- UK norms
- Temporal judgement test has a cultural bias
- Usefulness for test-retest not established
**Independent Living Scale (ILS)**

**Published: 1996**

Originally designed to assess cognitive skills of adults with dementia. The ILS is significantly modified version of the earlier Community Competence Scale (CCS) after testing and clinical trials.

**Purpose**

The ILS is designed to objectively measure a person’s ability to safely take care of themselves as well as their home, money, transportation, social life and manage their health.

The ILS can help monitor a person’s improvements or deterioration. This information can then be used to determine if the person can live independently, whether they might need modifications or adjustments to do so, or whether alternative living situation should be considered.

**Populations**

The ILS is particularly useful for individuals who have had a recent decline in cognitive abilities.

There is normative data for adults 65+ years and above, as well as teens 17+ years and above with a diagnosis of dementia, traumatic brain injury, cognitive impairments and/or mental health disorder.

**Settings:**
- Inpatient rehab
- Home health/community rehab
- Mental health

**Requirements**

45 minutes administration time, 10 minutes scoring time.

ILS consists of:
- 7 screening items, 5 Subscales, (total of 70 tests)

Additional items required:
- Pencil
- Paper
- $10 note and varied coins
- Checks and money orders
- Stop watch
- Envelope
- Telephone book
- Telephone

**Subscales**

1. **Memory and Orientation**
   - Assess the individual's general awareness of their surroundings and short term memory.

2. **Managing Money**
   - Assess the individual's ability to count money, make monetary calculations, pay bills and take precautions with money.

3. **Managing Home and Transportation**
   - Assess the individual's ability to use the telephone, public transport and maintain a safe home.

4. **Health and Safety**
   - Assess the individual's awareness of personal health status and ability to evaluate health problems, handle medical emergencies, and take safety precautions.

5. **Social Adjustment**
   - Assess the individual's mood and attitude towards social situations.
FACTORS

Two factors can be derived from some of the items on the subscales:

Problem Solving - comprised primarily of items that require knowledge or relevant facts as well as the ability in abstract reasoning and problem solving.

Performance Information - comprised primarily of items that require general knowledge, short-term memory and the ability to perform simple, everyday tasks.

SCREENING QUESTIONS

Prior to commencement if assessment four screening items are completed to determine if examinee has vision, speech or hearing difficulties.

The Stimulus Booklet includes written instruction for hearing impaired.

If examinee is visually impaired read test items aloud.

If examinee has difficulty talking they are instructed to write the answer.

Examinees who are unable to perceive the test materials in any of the adapted modes should not be tested.

Clinical Applications:

The ILS can be used;
- to determine if an older adult can manage their own property or financial affairs.
- to provide information and facilitate decision making about the most appropriate living environment and any support services required.

The ILS is useful as a periodic (i.e. annually) review of an individual’s improvement or deterioration.

Scoring

0-1-2 Point System
- 2 points: correctly answers the question fully and reasonably
- 1 point: answers questions partially or depending on someone else for help (not available for questions with only one answer)
- 0 points: does not know, incorrect answer

Repeating questions

Repeating questions, if the client needs it. Can be done with all questions except #6 and #8 on the Memory/Orientation subscale.

Idiosyncratic responses

Should note them, but can ask for clarification. See if client is answering correctly (even if bizarrely).

POTENTIAL DRAWBACKS

- The ILS was developed almost 20 years ago (stimulus materials are outdated?)
- It may be difficult to attribute a verbal response to a numbered score (it may not be so clear what score to give while administering the test)
- Individuals with cognitive deficits may have a hard time going through all 70 items on the test in one sitting (which is what the assessment suggests doing)

STRENGTHS

- Visual is given of the materials required for administering the test in each section of the manual.
- A stimulus booklet with written directions is available for use with adults who have a hearing impairment. Additionally, the booklet has alternative pages with larger print available for clients who have a visual impairment.
- Problem solving skills and ability to perform with offered information are two areas that have separate scores provided for them (in addition to each subscale score) to identify level of functioning in these areas (high, moderate, or low).
CASE STUDY
Mary is an 82 year old woman, living alone. She attended school to the age of 12. She has been a widow for 2 years. She has one daughter who lives locally, and another living interstate.

Recently Mary’s daughters have raised concerns about her ability to live alone, reporting a decline in her ability to look after herself since her husband’s death.

Information gleaned from screening items;
- can read small print with use of bifocals
- walks slowly with use of a single point stick

CASE STUDY CONT ...
Memory/orientation tasks, high score nil concerns;
- able to recall important phone numbers/addresses
- able to recall list of items (i.e. shopping list) and appointment details
- oriented to person, place and time

Managing Money, moderate score;
- demonstrated understanding of day-to-day aspects of money handlings (counting change, paying bills)
- demonstrated reduced understanding of managing money (difficulty understanding how to avoid money scams, when to complete tax return)

Managing Home and Transportation, moderate score;
- demonstrated understanding of how to use the phone, address an envelop and use public transport.
- Mary reported her husband use to manage home maintenance and reported she is unclear how to get repairs completed or handle household problems (i.e. if the heater breaks, who to contact to clean roof gutters).

Health and Safety, moderate score;
- demonstrated awareness of how to contact the police, seek medical help, and manage her own physical care.
- demonstrated reduced judgement for ensuring safety when answering the front door or going out at night.

Social Adjustment, very low score;
- Mary reported she does not feel good about herself, often feeling ‘down’
- reported she does not often talk or see her friends

Problems Solving & Performance, moderate scores;
- Mary demonstrated she is able to perform basic tasks and has adequate knowledge about various issues however showed difficulty when applying information or coping with situations that required increased complex problem solving skills
- Mary’s reduced judgement concerning her safety or managing her home could place her in danger

RECOMMENDATIONS
Mary demonstrated adequate safety to remain living at home alone with support services such as;
- external home help (lawn mowing, gardening, home maintenance as required)
- fortnightly/monthly health visit from community nurse/support worker
- improved social interaction, encouragement to link in with local community groups
- review of driving ability and educate about alternative transportation options (due to decreased vision/mobility)
RECOMMENDATIONS

If support services are not available, Mary may benefit from moving into a retirement village where she can receive necessary services, regular safety checks and access to increased social contact with others.

DriveSafe DriveAware
DSDA

Driving is complex!

Involves integration of visual, physical, cognitive and psychosocial skills in a rapidly changing environment

A deficit in any of these areas can affect driving safety

Test Purpose

A cognitive screening tool that measures:

Awareness of the driving environment
Real driving situations represented
Driver must recall everyday hazards that can impact driving safety

Awareness of own abilities related to driving
(A person unaware of decline in their driving performance is unable to use compensatory strategies)

Who Can Administer?

- General practitioners / Physicians
- Occupational therapists
- Psychologists
- Practice nurses under the supervision of a GP

Who Can Be Tested?

For patients where ability to manage the cognitive aspects of driving may be impaired by:

- Age related changes
- A medical condition (e.g., stroke, dementia, Parkinson’s)
- Injury (e.g., traumatic brain injury)
On Road Assessment still required for:

- All patients with physical disabilities
- Beginning / learner drivers
- Non-English speaking background
- Aphasias and other communication difficulties
- Caution for patients with mental health disorders

Testing Format

3 Subtests:

- DriveSafe
- DriveAware
- Intersection Rules (Optional)

DriveSafe, Intersection Rules and part of DriveAware are self-administered.
DriveAware patient questions:

- Why have you been referred for this test?
- Do you have any concerns about your driving?
- Do you have difficulty planning who has right of way at intersections?
- Do you get surprised by vehicles/pedestrians ‘appearing out of nowhere?’
- How do you think you did on the test today?
Assessment of Fitness to Drive

- Physical Screening
  - Impact of deficits on operation of car controls
- Vision Screening
  - Legal for driving? Need further assessment?
- Cognitive Screening
  - Potential impact on safety / insight?

Assessing Fitness to drive

OT Driving Assessment:

Considered the *gold standard* as actual driving performance is observed at a particular place at a particular time.

Benefit of not testing all drivers on-road

- Clear pass/fail ➔ use financial & emotional resources more appropriately
- Scarce clinical resources for those who would benefit from rehabilitation
- Reduced waiting times for on road testing

Cognitive Assessment

*How can you test cognitive capacity for driving?*

- Mini Mental or MoCA?
- Clock Drawing?
- Maze Tests?
- Computer Tests?
- Combined Tests?

- Face Validity - does it look like it is testing driving?
- Where is the cut off?
- Is the test sensitive enough without over diagnosing?
- How much room for error are you willing to accept?
- How do you measure insight?

How do I get DSDA?

Download DSDA app from the Apple® Store onto your iPad

Step 1: Download the App
Step 2: Register with Pearson

Register as a test user with Pearson Clinical Assessment:

- You will receive a welcome email confirming your username and password (and 1 free test).
- Can purchase usages online or via phone
- Open app / enter details / set secure PIN

Pricing

<table>
<thead>
<tr>
<th></th>
<th>AUD$</th>
<th>Unit</th>
<th>NZD$</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x Report Usage</td>
<td>20.00</td>
<td>20.00</td>
<td>23.50</td>
<td>23.50</td>
</tr>
<tr>
<td>10x Report Usage</td>
<td>150.00</td>
<td>15.00</td>
<td>176.50</td>
<td>17.65</td>
</tr>
<tr>
<td>100x Report Usages</td>
<td>1250.00</td>
<td>12.50</td>
<td>1470.00</td>
<td>14.70</td>
</tr>
<tr>
<td>500x Report Usages</td>
<td>5000.00</td>
<td>10.00</td>
<td>5800.00</td>
<td>11.60</td>
</tr>
</tbody>
</table>

Note: 1x Report Usage includes the cost of administration, scoring and reporting. All three reports (summary, extended and patient) are generated instantly on completion of the test.

Questions?

Bridget Barnett
Consultant OT
Bridget.Barnett@Pearson.com
M: +61 (0)407 259 317