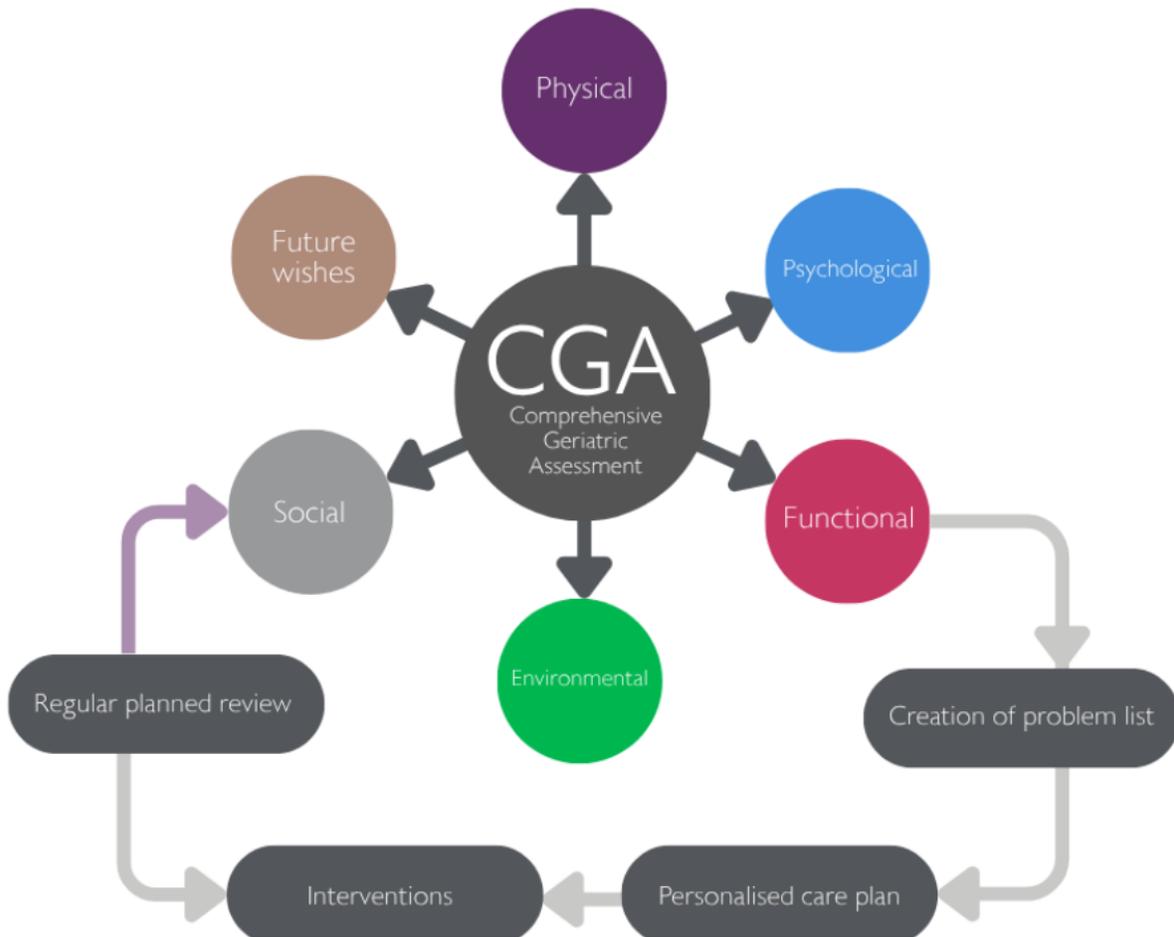


COMPREHENSIVE GERIATRIC ASSESSMENT

Family Medicine Course

Fifth year
Mutah University

Comprehensive Geriatric Assessment (CGA) is a multidimensional, multidisciplinary process that identifies a person's medical, social and functional needs and the development of an integrated and coordinated care plan to address these needs. It has multiple domains:



Physical

Covers medical history, frailty syndromes, long term condition management, multi-morbidity, polypharmacy and structured medication reviews, nutrition, pain management, and falls risk.

Psychological

Assesses cognition, mood, delirium risk, mental health conditions, and emotional well-being.

Functional

Focuses on mobility, activities of daily living (ADLs/IADLs), gait stability, and rehabilitation potential.

Social

Explores social support, carer needs, isolation, spiritual/religious beliefs and financial concerns.

Environmental

Examines home safety, accessibility, community services, technology aids.

Future Wishes

Includes advance care planning, treatment preferences, resuscitation status, and long-term care decisions. May include anticipatory care planning, which focusses on ceilings of treatment in an emergency should this occur in the future

Functional Ability

Initial Assessment

- Assess functional ability by evaluating
 - basic activities of daily living (ADL) - daily self-care activities such as eating, dressing, bathing, transferring between the bed and a chair, using a toilet, controlling bladder and bowel functions
 - instrumental/intermediate activities of daily living (IADL) - activities needed to live independently such as housework, preparing food, taking medications correctly, finance management, and using a phone

The Katz Index of Independence in Activities of Daily Living, commonly referred to as the Katz ADL, is the most appropriate instrument to assess functional status as a measurement of the client's ability to perform activities of daily living independently.

The Index ranks adequacy of performance in the six functions of bathing, dressing, toileting, transferring, continence, and feeding.

Clients are scored yes/no for independence in each of the six functions.

Interpretation:

A score of 6 indicates full function, 4 indicates moderate impairment, and 2 or less indicates severe functional impairment.

KATZ INDEX OF INDEPENDENCE IN ACTIVITIES OF DAILY LIVING*

<i>Activities</i> POINTS (1 OR 0)	<i>Independence</i> (1 POINT) <i>NO supervision, direction, or personal assistance</i>	<i>Dependence</i> (0 POINT) <i>WITH supervision, direction, personal assistance, or total care</i>
BATHING Points: ____	(1 point) Bathes self completely or needs help in bathing only a single part of the body such as the back, genital area, or disabled extremity.	(0 points) Needs help with bathing more than one part of the body, getting in or out of bathtub or shower. Requires total bathing.
DRESSING Points: ____	(1 point) Gets clothes from closets and drawers and puts on clothes and outer garments complete with fasteners. May have help tying shoes.	(0 points) Needs help with dressing self or needs to be completely dressed.
TOILETING Points: ____	(1 point) Goes to toilet, gets on and off, arranges clothes, and cleans genital area without help.	(0 points) Needs help transferring to the toilet, cleaning self, or uses bedpan or commode.
TRANSFERRING Points: ____	(1 point) Moves in and out of bed or chair unassisted. Mechanical transferring aides are acceptable.	(0 points) Needs help in moving from bed to chair or requires a complete transfer.
CONTINENCE Points: ____	(1 point) Exercises complete self-control over urination and defecation.	(0 points) Is partially or totally incontinent of bowel or bladder.
FEEDING Points: ____	(1 point) Gets food from plate into mouth without help. Preparation of food may be done by another person.	(0 points) Needs partial or total help with feeding or requires parenteral feeding.
TOTAL POINTS: ____ <i>6 = High (client independent)</i> <i>0 = Low (client very dependent)</i>		

* Slightly adapted with permission from Gerontological Society of America. Katz, S., Down, T.D., Cash, H.R., et al. (1970). Progress in the development of the index of ADL. The Gerontologist, 10, 20-30.

For problems with activities of daily living or instrumental activities of daily living, consider referral to

- occupational therapist, home care support, or social work

For problems with physical activity level/fatigue, consider referral to

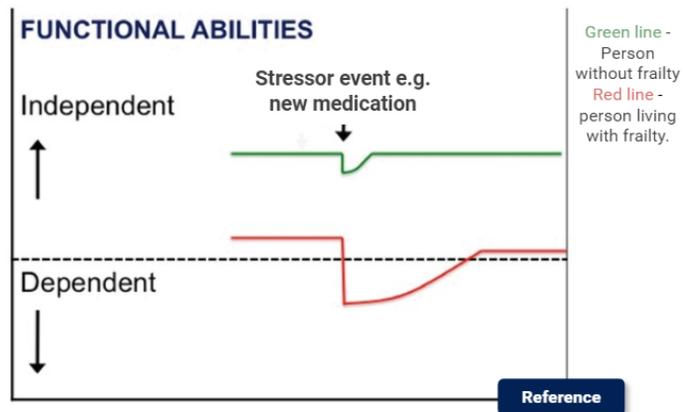
- community exercise program that includes balance, strength, flexibility, and endurance training
- physical therapist or occupational therapist

Frailty

Frailty is a distinct clinical state in which there is decline in multiple physiological systems.

This leads to a lack of physiological resilience and increased vulnerability to minor stressor events such as a urinary tract infection or introduction of a new medication.

When these stressor events occur in frailty, recovery may be harder, longer and incomplete. This is shown in the figure on the right



- Interventions to prevent frailty typically address known risk factors and may include
 - monitoring physiologic reserve
 - performing regular exercise or physical activity
 - maintaining a healthy diet
 - adhering to vaccination schedule to prevent illness
 - prehabilitation program before any anticipated hospitalization (to increase physiologic reserve)

Nutrition

Malnutrition and frailty are strongly linked; people who are malnourished are four times more likely to develop frailty.

Key considerations relating to nutrition and hydration should include:

- Appetite
- Fluid intake
- Polypharmacy (consider side effects of medication such as fluid loss by diuretics or weight loss with metformin and other antidiabetic agents)
- Psychological wellbeing
- Ability to carry out activities of daily living (shopping, cooking)

- Socioeconomic background/deprivation
- Sensory loss (smell, eyesight, hearing)
- Oral health
- Gastrointestinal symptoms
- Dysphagia
- Falls risk
- Vitamin D status

Oral nutritional supplements (ONS) are frequently prescribed for older adults with frailty.

The MUST is an assessment of a patient's **nutritional status** that aims to identify individuals who are **malnourished** or **at risk of malnutrition**, as well as **obesity**. The MUST assessment comprises **five steps**. Steps 1-3 gather important information about the patient's current nutritional status, and steps 4-5 categorise the patient based on risk and provide guidance on subsequent management.

- **Step 1:** body mass index (BMI) score
- **Step 2:** weight loss score
- **Step 3:** acute disease effect score
- **Step 4:** combines the scores of steps 1-3 to give a MUST score
- **Step 5:** management guidelines are directed based on risk of malnutrition

Interventions

1. **Addressing Underlying Causes:**
 - **Treating Underlying Medical Conditions:** Identifying and treating conditions like infections or chronic diseases that contribute to malnutrition is essential.
 - **Social and Economic Support:** Addressing poverty, food insecurity, and other social factors that impact nutritional intake is crucial.
2. **Dietary Improvements:**
 - **Balanced Diet:** Encouraging a healthy, balanced diet with sufficient calories, protein, and micronutrients.
 - **Fortified Foods:** Consuming foods enriched with essential vitamins and minerals

- **Increased Frequency of Meals:** Eating small, frequent meals.

3. Nutritional Supplements:

- **Micronutrient Supplements:** In cases of deficiencies, specific vitamins and minerals can be provided as supplements.
- **High-Calorie Supplements:** For severe malnutrition, specialized, high-calorie supplements may be necessary.

4. Refer to dietician



Step 1

BMI score

BMI kg/m ²	Score
>20 (>30 Obese)	= 0
18.5-20	= 1
<18.5	= 2

+

Step 2

Weight loss score

Unplanned weight loss in past 3-6 months	
%	Score
<5	= 0
5-10	= 1
>10	= 2

+

Step 3

Acute disease effect score

If patient is acutely ill **and** there has been or is likely to be no nutritional intake for >5 days
Score 2

If unable to obtain height and weight, see reverse for alternative measurements and use of subjective criteria

Acute disease effect is unlikely to apply outside hospital. See 'MUST' Explanatory Booklet for further information

Step 4

Overall risk of malnutrition

Add Scores together to calculate overall risk of malnutrition
Score 0 Low Risk Score 1 Medium Risk Score 2 or more High Risk

Step 5

Management guidelines

0 Low Risk Routine clinical care

- Repeat screening
Hospital – weekly
Care Homes – monthly
Community – annually for special groups e.g. those >75 yrs

1 Medium Risk Observe

- Document dietary intake for 3 days
- If adequate – little concern and repeat screening
 - Hospital – weekly
 - Care Home – at least monthly
 - Community – at least every 2-3 months
- If inadequate – clinical concern – follow local policy, set goals, improve and increase overall nutritional intake, monitor and review care plan regularly

2 or more High Risk Treat*

- Refer to dietician, Nutritional Support Team or implement local policy
- Set goals, improve and increase overall nutritional intake
- Monitor and review care plan
Hospital – weekly
Care Home – monthly
Community – monthly

* Unless detrimental or no benefit is expected from nutritional support e.g. imminent death.

All risk categories:

- Treat underlying condition and provide help and advice on food choices, eating and drinking when necessary.
- Record malnutrition risk category.
- Record need for special diets and follow local policy.

Obesity:

- Record presence of obesity. For those with underlying conditions, these are generally controlled before the treatment of obesity.

Re-assess subjects identified at risk as they move through care settings

See The 'MUST' Explanatory Booklet for further details and The 'MUST' Report for supporting evidence.

Falls

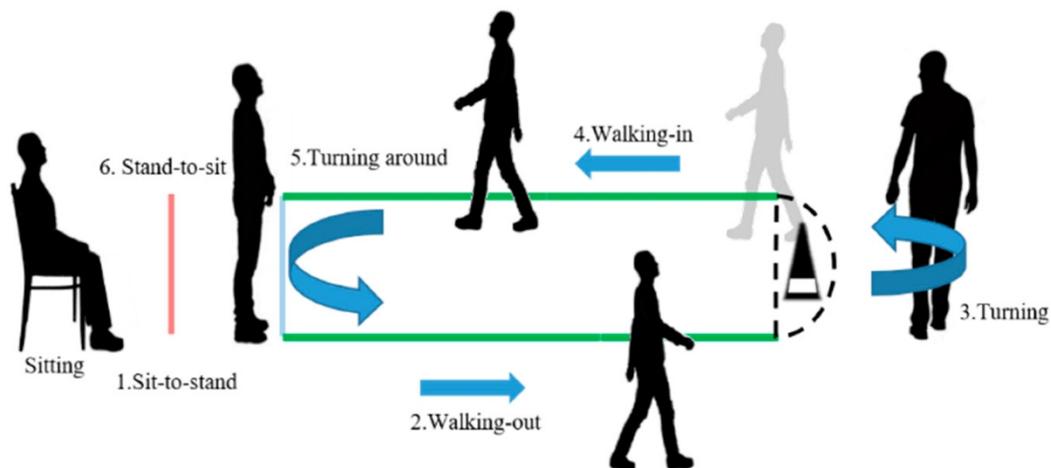
- Routinely screen for falls (**by asking**) in community-dwelling adults ≥ 65 years old.
- Formal multifactorial fall risk assessment should include the assessment of:
 - Perform balance and gait with gait speed and/or standardized tools such as the **Timed Up and Go (TUG) Test**.

Interpretation:

< 10 seconds = normal.

< 20 seconds = good mobility; can walk outside alone; does not require a walking aid.

20-30 seconds = walking and balance problems; cannot walk outside alone; requires walking aid, high risk of falls.



- Ask about **fall history**: What happened with the most recent fall? If multiple falls, what typically happens? Are there outlier falls (such as slipping on icy steps with no hand rail) and typical falls (such as difficulty navigating stairs)?
- Ask about **environmental factors** such as tripping hazards, inadequate lighting, or the absence or improper use of assistive devices.
- Ask about **current medications** (particularly known risks such as many psychiatric medications, opioids, and some antihypertensives)

- Assess **cognition**, particularly executive function
- Assess **cardiovascular function** including cardiac history, auscultation, and **orthostatic blood pressure**
- Ask about or test for visual acuity, hearing, dizziness, pain, urinary symptoms, depressive symptoms, chronic conditions, functional or mobility impairments (including use of mobility aids, and footwear).

Fall prevention :

- o Offer multifactorial interventions to all patients at high risk of falls focused on addressing individual, modifiable risk factors.
- o Offer exercises that target strength, gait, balance, and functional exercises to prevent falls in all community-dwelling adults.
- o Perform a medication review.
- o Assessment of orthostatic vital signs.
- o Vitamin D supplementation if patient has osteoporosis or vitamin D deficiency.
- o Other interventions that may reduce the risk of falls in community-dwelling older adults include:
 - Prompt involvement of multidisciplinary team (such as physical or occupational therapy)
 - Home safety interventions
 - Footwear modification
 - Appropriate vision care

Polypharmacy

Although there is no set definition of polypharmacy, experts agree it is a problem particularly for older adults, who often require multiple medications and be more vulnerable to adverse drug events.

Polypharmacy Adverse Effects:

1. Increases Adverse Drug Events
2. Increases Drug-Drug Interactions
3. Affects medication compliance.

Management:

- Ask patients bring in all medications ("brown bag" approach).
- Consider assessing the appropriateness of each medication for the patient.
- Consider asking the patient about medication-related concerns or beliefs.
- Consider deprescribing unnecessary medications, using either a list of inappropriate medications such as **STOPP/START criteria**.
- Avoid prescribing medication without reviewing the patient's existing medications, particularly for patients already on ≥ 5 medications.
- Avoid adding medications to treat symptoms caused by other drugs in the patient's regimen.
- Avoid adding duplicate medications to treat the same symptoms unless the patient's adherence to the existing regimen has been assessed

STOPP/START Criteria

- Screening Tool of Older Persons' potentially inappropriate Prescriptions (STOPP) and Screening Tool to Alert doctors to Right Treatment (START); a list of medications that require specific consideration to avoid harmful drug-related adverse effects (STOPP) or may be inappropriately omitted (START).
- General recommendations include: avoid or deprescribe
 - any medication prescribed **without clinical indication** that is evidence-based
 - any medication prescribed which has a well-defined recommended **treatment duration that has been exceeded**
 - any medication that constitutes a **duplicate prescription of the same drug-class**: monotherapy should be optimized prior to considering use of new agent.

Incontinence

Urinary incontinence is the involuntary loss of urine and affects approximately 50% of female individuals at some point in their lifetime with increasing incidence in older age.

Types

- **Stress urinary incontinence** occurs during physical exertion, effort, coughing, or sneezing.

- **Urge urinary incontinence** is characterized by an associated sudden desire to urinate; may be a problem for people who have diabetes, Alzheimer's disease, Parkinson's disease, multiple sclerosis, or stroke.
- **Mixed urinary incontinence** is a combination of urge and stress urinary incontinence.
- **Overflow urinary incontinence** is when urinary retention and bladder overdistension lead to urine leakage. (ex. Due to obstruction caused by enlarged prostate in men)
- **Functional incontinence** results from cognitive, functional, or mobility difficulties in a person who have normal bladder control.

Common causes in elderly

1. Urinary tract infections, vaginal infection or irritation.
2. Constipation.
3. Some medications can cause bladder control problems such as diuretics.
4. Weak bladder or pelvic floor muscles.
5. Overactive bladder muscles
6. Nerve damage from diseases such as multiple sclerosis, diabetes, or Parkinson's disease
7. Diseases such as arthritis that may make it difficult to get to the bathroom in time
8. Pelvic organ prolapse.
9. Most incontinence in men is related to the prostate gland; such as prostatitis, benign prostatic hyperplasia.

Management

1. Identify and treat underlying cause.
2. Lifestyle and behavioral interventions for all types of urinary incontinence:
 - Pelvic floor muscle training (PFMT) for ≥ 3 months as first-line treatment
 - Review the type and amount of fluid intake.
(Suggest a trial of caffeine reduction to patients with overactive bladder. Advise patients that reducing caffeine intake may improve symptoms of urgency and frequency but not incontinence)
 - Encourage weight loss
3. Medications, especially for urge incontinence and overactive bladder such as anticholinergic agents or beta-3 adrenergic agonists.
4. Surgery
5. Incontinence pads and containment devices.

Complications

1. Incontinence-associated dermatitis and skin infections
2. UTIs
3. Falls and fractures especially with urge incontinence.
4. Decreased overall quality of life
5. Social isolation
6. Depression and anxiety



Depression

Depression is more common in people with frailty, and prevalence increases with greater severity of frailty.

Depression in older people has similar clinical features to younger people but older people are more likely to report physical symptoms of depression e.g. gastrointestinal symptoms, fatigue, poor sleep and weight loss. Anxiety, agitation, hypochondriasis and slowing down of emotional reactions may also predominate.

Depression is more likely to have a chronic and relapsing course in older people than young people.

The two-question screener is a useful tool for brevity and ease of use.

1. During the last month, have you often been bothered by feeling down, depressed or hopeless?
2. During the last month, have you been bothered by having little interest or pleasure in doing things?

If the answer to either of these questions is yes, then further assessment must be performed. This can be done by detailed questioning about associated symptoms of depression or using a further assessment tool e.g.

- Geriatric Depression Score
- PHQ-9

Cognition

Cognitive disorders are highly prevalent in people living with frailty.

The Single Question in Dementia can be useful **“Has the person been more forgetful in the last 12 months to the extent that it has affected their daily life?”**

Early memory problems may include **forgetting events** or conversations, repeating questions within a short time period or increasingly misplacing items or getting lost in a way that has become unusual. These early signs along with the **loss of the ability to perform more complex tasks** like managing finances, or planning a journey may initially be mislabelled as part and parcel of normal ageing. **Taking less interest in activities** that they used to enjoy can also occur, and in the early stages of dementia can be difficult to distinguish from depression.

If memory problems are present then further information may be gathered with a collateral history from family members or carers.

A validated cognitive assessment tool such as **Mini-Cog test** can be used.

Mini-Cog®

Instructions for Administration & Scoring

ID: _____ Date: _____

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.^{1,3} For repeated administrations, use of an alternative word list is recommended.

Version 1 Banana Sunrise Chair	Version 2 Leader Season Table	Version 3 Village Kitchen Baby	Version 4 River Nation Finger	Version 5 Captain Garden Picture	Version 6 Daughter Heaven Mountain
--	---	--	---	--	--

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____

Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.

Mini-Cog © S. Borson. All rights reserved. Reprinted with permission of the author solely for clinical and educational purposes. May not be modified or used for commercial, marketing, or research purposes without permission of the author (soob@uw.edu). v. 01.19.16

Interpretation

- **Positive Screen (Possible Dementia):** A total score of 0-2, or a score of 1-2 with an abnormal clock drawing, is considered a positive screen for dementia.
- **Negative Screen (No Dementia):** A score of 3 with a normal clock drawing, or a score of 3-5 is considered a negative screen for dementia

More detailed tools such as the **Addenbrooke's Cognitive Examination** may be used by specialists e.g. in memory clinic.

Before a diagnosis of dementia can be considered, reversible causes should be addressed including blood tests (e.g. FBC, U+Es, calcium, LFTs, TFTs, B12, folate) and brain imaging, where appropriate.

Delirium

Delirium is also difficult to systematically detect without screening.

The Single Question in Delirium “**Has this person been more confused lately?**” should be used, alongside the **4AT**; a screening test with excellent sensitivity and specificity, yet takes <2 minutes to perform and does not require training.

Delirium (4AT) Screening Tool

Is your patient >65years old? If yes, please complete a delirium (4AT) assessment to assess for delirium and cognitive impairment and document in the neurology section of clerking booklet. The scoring for each category is as below:

<h4>Attention</h4> <p>Ask the patient to state the months of the year listed backwards</p>  <ul style="list-style-type: none">0 Lists 7 months correctly1 Lists <7 months/refuses to start2 Untestable	<h4>Acute changes or fluctuating course</h4> <p>Evidence of significant change in alertness, cognition and mental function</p>  <ul style="list-style-type: none">0 No4 Yes
<h4>Alertness</h4> <p>Observe patient if there are drowsy or agitated/hyperactive. Attempt to wake up and ask name and address</p>  <ul style="list-style-type: none">0 Normal0 Mild Sleepiness4 Abnormal	<h4>AMT4</h4> <p>Age, Date of Birth, place and current year</p>  <ul style="list-style-type: none">0 No mistakes1 One mistake2 Two or more mistakes

Scoring: 0 delirium unlikely, 1-3 possible cognitive impairment, >4 possible delirium +/- cognitive impairment

Reference: <https://www.the4at.com/> Poster designed by Dr P. Karia and Dr D. Durant for 4AT completion at Southend Hospital ED QIP

If delirium is present, then systematically addressing common contributors using the “**PINCH ME**” mnemonic is recommended:

Social Isolation

Social integration is a key determinant of good health as we age, including proven positive effects on health, mental wellbeing and cognition.

Data has demonstrated that older people who report **feeling lonely** show a **decline in activities of daily living (ADLs), mobility, cognition and even have an increased risk of death.**

Encourage social activities such as “meeting friends, attending events or functions, volunteering or participating in occupational duties or group recreational activities.”

References

Dynamed.com

BGS-British Geriatric Society

