4. **In following patients diagnosed with dementia:**
    1. **Assess function and cognitive impairment on an ongoing basis.**
    2. **Assist with and plan for appropriate interventions (e.g., deal with medication issues, behavioural disturbance management, safety issues, caregiver issues, comprehensive care plans, advanced care planning, driving safety, placement) in the context of disease progression**
    3. **Manage comorbidities, including mental health problems based on the goals of care**
    4. **Review pharmacotherapy (e.g. side effects, drug interaction, polypharmacy)**

Patients diagnosed with dementia should be seen in person at least annually. Regular visits will allow a general assessment of the patient's dementia, their other medical conditions, as well as their social situation and the caregiver's status.

As we'll talk about in Objective 9, if there is concern for driving then these patients will need to be seen and more formally evaluated more frequently.

As I think goes without saying, it is extremely important to have good advanced care planning conversations with patients with dementia and their family. Ideally this should occur early on in the disease process while the patient is able to participate fully in the discussion. This helps direct where the patient will live, when that might change, who and how they will be taken care of, etc.

Along with this is the actual goals of care designation for the patient. Neurologic outcomes after cardiac arrest and similar events requiring resuscitation or intensive care can be poor for those with intact cognitive function at baseline, but this is likely worsened in those with preexisting cognitive deficits. Patients and their families should be aware of this and gently encouraged to explore goals of care that are appropriate to their situation and current status.

Of course this can and should be revisited intermittently, or if there are changes in cognition or comorbidities.

Polypharmacy and medication side effects are a problem for our elderly patients, and especially so for those with tenuous cognition. Consideration should be given to discontinuing any non-essential medications, and caution should be used when prescribing neuroleptics for example as patients may be prone to side effects. This is especially true for those with frontotemporal dementia.

5. Assess the needs of and supports for caregivers of patients with dementia.

Caring for patients with dementia can be challenging for clinicians even over short office or ED visits. Now imagine a caregiver managing this patient's needs and behaviours day in and day out! This takes an unbelievable amount of energy and compassion. We need to respect this and provide as many supports as we can.

First, for information, there are a number of good online resources available to support patients, their families and caregivers. These include the Alzheimer's Society, Dementia Friends Canada, and the Alzheimer's Association. These are linked in the show notes.

https://alzheimer.ca
https://www.alz.org
https://dementiafriends.ca/

For more physical things, consider daily home care visits to help with medications and bathing for example. Consider OT assessment to ensure the environment is as functional as possible.

Look into long term care before the care requirements become too much for the family as wait lists can be long. There may also be respite options in your community so try and find out what's available and offer that to patients' families when needed.

6. Report patients with dementia to the appropriate authorities if you suspect they should not be driving.

The CMA provides the definitive guide on fitness to drive from a medical perspective in a 192 page pdf document available for free to all CMA members.

The CMA guidelines suggest using multiple cognitive scoring tools to assess the level of impairment. Which, as we mentioned before, can include the MMSE, MOCA, clock drawing, or Trail Making Test.

The CMA suggests that given the test results and the global impression of the patient classify their impairment as mild, moderate, severe.

- Severe impairment is an absolute contraindication to driving.
- Moderate impairment presents a high risk and driving should be seriously discouraged. If a patient or family insists that they continue driving further assessment must be completed.

- Mild impairment presents some additional risk from the general population, but is not a contraindication to driving. If there is any concern or doubt, further assessment is recommended.
- Patients with mild or moderate impairment that continue to drive are at risk of deteriorating driving skills and have increasing risk with time. They should be followed closely for further cognitive decline. This means reassessment by the clinician at least every 6 to 12 months, sooner if a decline is suspected.

The CMA also suggests asking oneself: Given the results of my clinical assessment,

  - would I let a loved one get into a car that this patient is driving?
  - would I want to have a loved one cross the street in front of a car that this patient is driving?
- For each question, 3 answers are possible: “yes” (meaning there are no concerns that would trigger further testing), “uncertain” (meaning that more tests are needed) and “absolutely not” (meaning that the risk is clear and too high and the ministry should be notified)

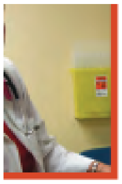
Another super helpful document is the Driving and Dementia Toolkit from the Regional Geriatric Program of Eastern Ontario. It has an algorithm and checklist to assess severity of impairment. This is linked in the show notes and makes this process way easier!

In addition to the pieces included by the CMA, this checklist also includes the type of dementia, family concerns, physical ability, drugs/medications, a ruler drop test, and a judgement question. If any of the checklist questions are positive this is an alert that driving may be unsafe.

I will definitely be using this checklist for assessing my patients in the future.

For those in whom driving risk is uncertain, there are road safety tests that patients can be required to take. Do not feel bad about making a patient take one of these if you are uncertain about the safety of their driving. Yes it costs the patient money, but so would an accident.

It is important to note that the requirement to report fitness to drive varies by province. Some provinces have mandatory reporting, others are discretionary, and BC has mandatory reporting only if the patient continues to drive after being told not to. Link in the notes.



10 MINUTE OFFICE BASED DEMENTIA AND DRIVING CHECKLIST

(Based on Clinical Opinion and Experience not Evidence. Development lead by and copyright held by Dr. W. Dalziel).

The checklist can take 10 minutes or less to complete as it is not necessary to complete all 10 items if it is obvious the patient is unsafe to drive based on early items.

PROBLEM

☐ **1.** Dementia Type:
Generally Lewy Body dementia (fluctuations, hallucinations, visuospatial problems) and Frontotemporal dementias (if associated behaviour or judgment issues) are unsafe.

☐ **2.** FUNCTIONAL IMPACT of the Dementia - According to *CMA guidelines* Unsafe if:
- impairment of more than 1 Instrumental ADLs due to cognition
(IADLs – SHAFT: Shopping, Housework/Hobbies, Accounting, Food, Telephone / Tools)
- OR impairment of 1 or more Personal ADLs due to cognition (PADLS – DEATH: Dressing, Eating, Ambulation, Transfers, Hygiene)

☐ **3.** Family Concerns: (ask in a room separate from the person)
Family feels safe/unsafe (make sure family has recently been in the car with the person driving)
* The grand daughter question - Would you feel it was safe if a 5 year old grand daughter was in the car alone with the person driving (often different response from family's answer to previous question)
Generally if the family feels the person is unsafe they are unsafe. If the family feels the person is safe, the person may still be unsafe as family may be unaware or may be protecting patient.

☐ **4.** Visuospatial: (intersecting pentagons/clock drawing numbers)
If major abnormalities – likely unsafe

☐ **5.** Physical inability to operate a car (often a "physical" reason is better accepted):
Medical/Physical concerns such as musculoskeletal problems, weakness/multiple medical conditions (neck turn, problems in the use of steering wheel/pedals), cardiac/neurologic (episodic "spells")

☐ **6.** Vision/Visual Fields:
Significant problems including visual acuity, field of vision.

☐ **7.** Drugs: (if associated with side effects: drowsiness, slow reaction time, lack of focus)
Alcohol/Benzodiazepines/Narcotics/Neuroleptics/Sedatives
Anticholinergic–antiparkinsonian/muscle/relaxants/tricyclics/antihistamine(OTC)/antiemetics/antipruritics/antispasmodics/others

PROBLEM

☐ **8.** Trailmaking A&B: (available at www.rgpeo.com)
Trailmaking A - Unsafe = > 2 minutes or 2 or more errors
Trailmaking B - Safe = < 2 minutes and < 2 errors (0 or 1 error)
Unsure – 2-3 minutes or 2 errors: (consider qualitative dynamic information regarding HOW the test was performed: slowness/hesitation/anxiety or panic attacks/impulsive or perseverative behaviour /lack of focus/multiple corrections/forgetting instructions/inability to understand test etc.)
Unsafe = > 3 minutes or 3 or more errors

☐ **9.** Ruler Drop Reaction Time test (Accident Analysis & Prevention 2007; 39(5): 1056 – 1063): The bottom end of a 12" ruler is placed between thumb and index finger (1/2" apart) let go and person tries to catch ruler (normal = 6-9"/abnormal = 2 failed trials)

☐ **10.** Judgment/Insight (Ask the person):
What would you do if you were driving and saw a ball roll out on the street ahead of you?
With your diagnosis of Dementia, do you think at some time you will need to stop driving?

CONCLUSION: Safe Unsafe Unsure

- Safe → Reassess 6-12/12
- Unsafe → Report to Provincial Registrar
- Unsure → If only driving an issue – refer to Specialized On Road Assessment
- Unsure → If driving and other dementia related issues refer to specialized dementia assessment services.

(reference Age and Aging 2009 and https://[illegible]ontario.editme.com/Driving)

https://joulecma.ca/evidence/CMA-drivers-guide
https://www.rgpeo.com/wp-content/uploads/2020/04/Driving-and-Dementia-Toolkit-3rd-Ed-pdf-July-2009.pdf
https://www.cmpa-acpm.ca/en/advice-publications/browse-articles/2019/hit-the-brakes-do-you-need-to-report-your-patients-fitness-to-drive

7. In patients with early-onset dementia, consider genetic testing

Inherited Alzheimer's typically follows an autosomal dominant pattern. Three genes have been identified as having a strong link to early development of Alzheimer's so far. These are:

- Amyloid precursor protein (APP)
- Presenilin 1 (PSEN1)
- Presenilin 2 (PSEN2)

Those with Trisomy 21 have an additional copy of APP and are likely to develop Alzheimer's before age 50

Testing can be performed for each of these 3 genes either in young symptomatic individuals, or preemptively in those with a family history.

Because of the personal and familial implications of gene testing, it is important that the patient or their guardian fully understands the risks and benefits of testing and that consent is documented. If they are unsure, or you're not satisfied that they really understand this, refer to a genetic counselor to have a further discussion prior to testing. These patients might need referral for genetic counseling after testing anyway, so it doesn't hurt to refer early.

There is also an association between late onset Alzheimer's and the gene apolipoprotein E epsilon 4 (APOE ε4), but testing is not recommended as the predictive value is not great, and clinical use is limited.