Aging and Driving

UBC DIVISION OF GERIATRIC MEDICINE NOON ROUNDS

JANUARY 9, 2022

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PROVIDENCE HEALTH CARE

Objectives

1) Reviewing common medical and cognitive conditions impacting driving safety and restrictions
2) Understanding duty to report and medicolegal considerations of reporting a driver
3) Facilitate discussion among practitioners in BC and scoping the patterns of practice

Disclosures and Conflict of Interest

None

Disclaimer

I am NOT an expert on driver medical fitness

This presentation is meant to be a review and summary of available guides and resources to get you started

Focus on non-commercial driving

VANCOUVER SUN

Seniors / News / Local News / Local Health / Health

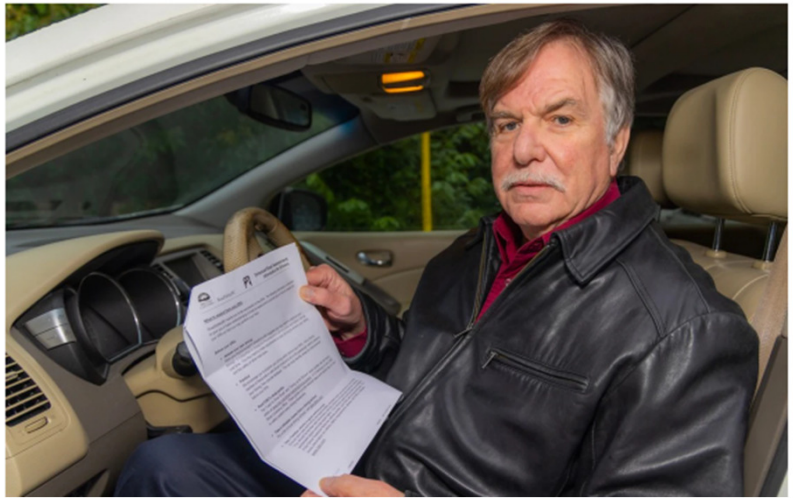
Family questions if B.C. driving test is fair for mother with mild dementia

The Alzheimer Society of B.C. says people recently diagnosed with dementia often find the referral for a driving assessment "jarring."

Glenda Luymes

Published Dec 11, 2022 • 4 minute read

51 Comments



“In October, after learning she was in the early stages of Alzheimer’s disease, she received a letter from RoadSafetyBC requiring her to complete an enhanced road assessment to keep her licence.”

“Determined to maintain some independence, his mother-in-law[…] booked her test. But when she got to the testing location, she began crying and surrendered her licence instead of taking the test.”

*“**This has taken away her independence to shop, go to church, drive to appointments and visit friends**,” he wrote in a letter to Mike Farnworth, B.C.’s public safety minister.*

Controversy

MP

• 22 DAYS AGO

Meanwhile. rationale and sane individuals question why an 82 year old is even permitted to apply for a driver's license, never mind one with dementia.

REPLY 3 REPLIES 1 4

BN

• 22 DAYS AGO

Either this guy himself has dementia or this is a parody: no way anyone can seriously claim that there is *discrimination* against people permanently and immediately banned from driving for having dementia, mild or otherwise.

Seriously: any dementia at all? Banned, now.

1 REPLY 6 0

ML

23 DAYS AGO

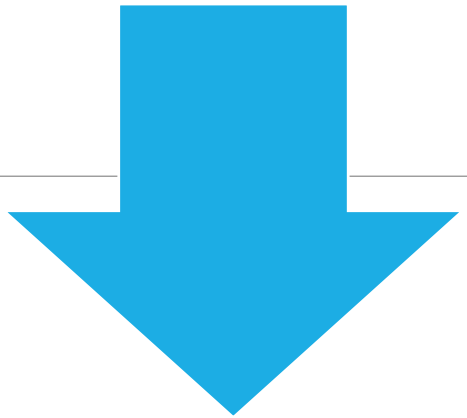
Please keep her off my roads!

REPLY 1 REPLY 19 0

Variation in pattern of practice

"[…]some doctors will refer people for a road test immediately, while others do not. As a result, the [Alzheimer's] society hears concerns from people[…]who are surprised by the test, but also from families who are concerned about a family member who is still driving when it may be unsafe."

Medical fitness to drive is a complex topic



Patient autonomy

Patient independence and access to resources/health care

Patient-physician relationship

Am I being unfair/discriminatory?

Public safety

Medicolegal consequences of not reporting

British Columbia (Superintendent of Motor Vehicles) v. British Columbia (Council of Human Rights) 1999

Claimant with homonymous hemianopsia was denied license repeatedly despite passing requisite tests

Court ruled in favour of claimant for direct discrimination due to SMV refusal to provide an individual assessment to prove reasonable road safety

Established precedent that:

- Drivers have a right to licence eligibility determined on an **individual functional assessment**
- A **diagnosis alone is not adequate to refuse licensure**
- Licensing authorities must **accommodate drivers wherever possible**, within safe limits

Emerging emphasis on functional assessments

Fitness to drive is a *risk assessment* looking at the functional effects of a medical condition on driving ability

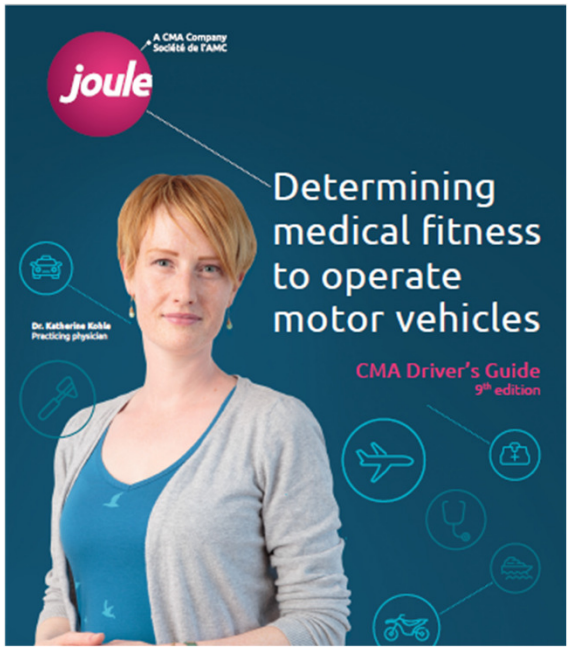
Physicians help identify clear capable vs incapable patients, and those who need additional functional assessment

Licensing authority performs functional assessment

- Evaluation by fitness adjudicator/nurse case manager
- Off-road evaluations and driving simulators
- Enhanced road test

Resources

BRITISH COLUMBIA | RoadSafetyBC



CCMTA | CCATM
Canadian Council of Motor Transport Administrators
Conseil canadien des administrateurs en transport motorisé

National Safety Code

CCMTA . NATIONAL SAFETY CODE STANDAR 6. 2021
ROADSAFETYBC. DRIVER MEDICAL FITNESS INFORMATION FOR MEDICAL PROFESSIONALS
CMA. CMA DRIVER'S GUIDE 9TH EDITION. 2017

Back to the basics – physiology of driving

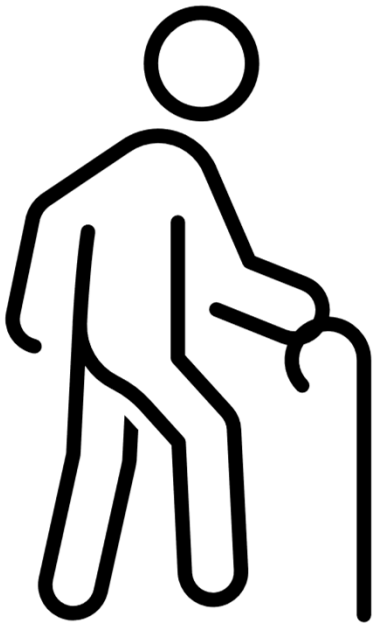
Conditions for driving safety:

Sensory input – auditory, visual

Cognitive capacity – attention, processing, judgement, visuospatial awareness, recall

Motor output – reaction time, coordination, flexibility, power

Many medical conditions and substances can temporarily or chronically affect these domains



Aging drivers

Age-related changes to:

- Sensory input – visual impairment (glaucoma, ARMD, cataracts), hearing
- Cognition – reduced complex attention, multitasking, slower processing speed
- Motor output – reduced proprioception, power, reaction time
- Accumulation of comorbidities and medication effects

Aging drivers

RoadSafetyBC sends out 70000 examination reports to adults >80yo annually – 98% keep their driving privileges

Healthy seniors are the safest drivers on the road due to driving experience and compensation strategies

Proportionally, older drivers involved in fewer crashes than younger drivers – but they suffer disproportionate morbidity and mortality

Driving restrictions based solely on age are inappropriate

Red Flags – the 3 Rs

Record – family/caregiver concerns of driving risk, unexplained damage to the patient's vehicle, moving violations (e.g., speeding tickets), near crashes or crashes

Recent crashes reported by patient (Joseph et al, 2014)

Restriction of driving to less complex situations (Classen et al 2013)

Any of these should trigger screening and evaluation of fitness to drive

FIGURE 1: **CANDRIVE fitness to drive assessment mnemonic***

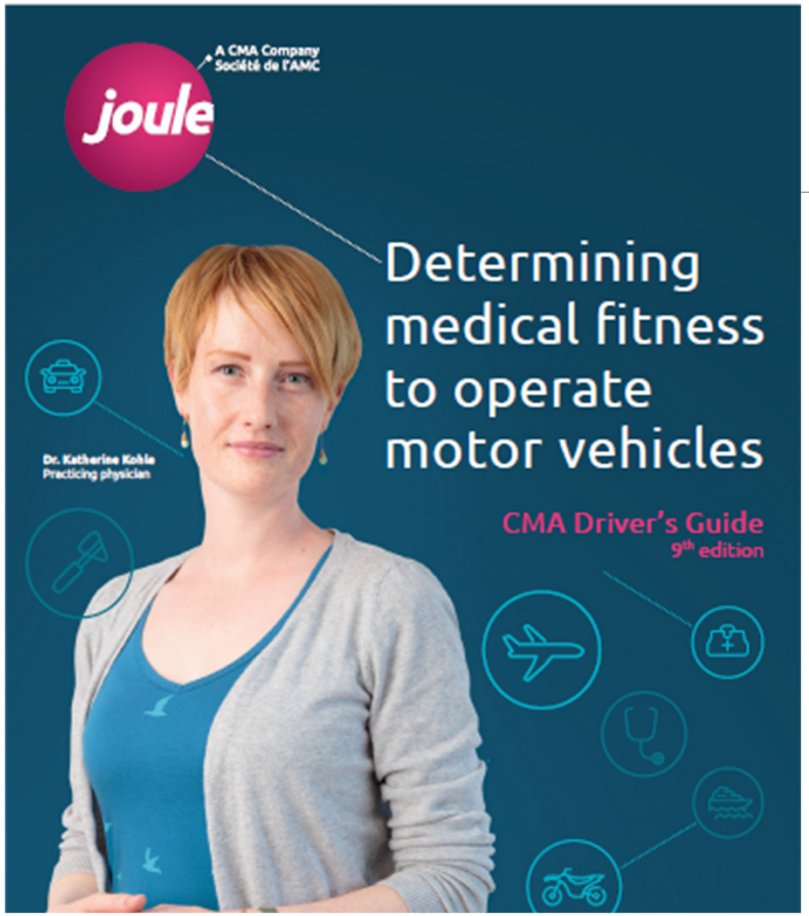
C	**Cognition**	Dementia, delirium, depression, executive function, memory, judgment, psychomotor speed, attention, reaction time, and visuospatial function
A	**Acute or fluctuating illness**	Delirium, seizures, Parkinson disease, and syncope or presyncope (cardiac ischemia, arrhythmia, postural hypotension)
N	**Neuromusculo-skeletal disease or neurological effects**	Speed of movement, speed of mentation, level of consciousness, stroke, Parkinson disease, syncope, hypoglycemia, hyperglycemia, arthritis, cervical arthritis, and spinal stenosis
D	**Drugs**	Drugs that effect cognition or speed of mentation, such as benzodiazepines, narcotics, anticholinergic medications (e.g., tricyclic antidepressants, antipsychotics, oxybutynin, dimenhydrinate), and antihistamines
R	**Record**	Patient or family report of accidents or moving violations
I	**In-car experiences**	Patient or family descriptions of near accidents, unexplained damage to car, change in driving skills, loss of confidence or self-restriction, becoming lost while driving, others refusing to be driven by patient, need for assistance of a copilot (particularly concerning would be the need for cues to avoid dangerous situations that could result in a crash), and other drivers having to drive defensively to accommodate changes in the patient's driving skills
V	**Vision acuity**	Visual field defects, glare, contrast sensitivity, comfort driving at night
E	**Ethanol use**	Physician's opinion regarding whether ethanol use is excessive and whether alcohol is imbibed before driving

** Reprinted, with permission, from Molnar FJ, Simpson CS. Approach to assessing fitness to drive in patients with cardiac and cognitive issues. Can Fam Physician 2010;56(11):1123–1129 (http://www.cfp.ca/content/cfp/56/11/1123.full.pdf).*

Hidden disease

Unexplained decline in driving habits or ability suggests underlying medical cause

CANDRIVE mnemonic to structure a review of underlying pathology and driving fitness



Conditions

Cognitive impairment

Heart disease

Syncope

Seizures

Diabetes

Frailty

Not a comprehensive list – see CMA guide, CCMTA standards, or RoadsafetyBC website for guidance

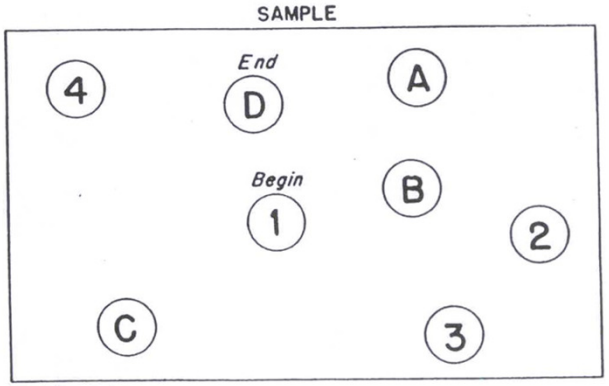
Mild cognitive impairment and dementia

Those living with dementia are at higher risk of adverse driving outcomes

Dementia affects specific or global cognitive domains

- Recall/learning – rule of road, issues with directions
- Visuospatial deficits - misjudging distances, road signs
- Vascular – increased processing and reaction time
- Judgement errors
- Frontal behavioural disturbance – disinhibition, aggression

Treatment with antidepressants or psychotropics and affect reaction time and sedation



SIMARD MD
Screen for the **I**dentification of the Cognitively Impaired **M**edically **A**t-**R**isk **D**river A **M**odification of the **D**emTect[1]

Dobbs & Schopflocher (2010)

Patient Sticker

Insert date if not on sticker

WORD LIST (Immediate Recall)

"I will now slowly read you a list of 10 words. When I have finished, please repeat as many of these words as possible. The order does not matter."

Apple	Ink	Nail	Bird	Book	Ticket	Tree	Chair	House	Ship
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

"Thank you. Now I will read you the same words again. Again, please repeat as many of these words as possible when I have finished."

Apple	Ink	Nail	Bird	Book	Ticket	Tree	Chair	House	Ship
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

No Points

NUMBER CONVERSION

For this task, turn the page over and say: *"As you can see from this example, we can write the number '5' as the word 'five'. This task is like writing out a cheque. Please write the numbers in words."*

209 = [ ] 4059 = [ ]

Score ____/2

SUPERMARKET TASK

"Please name as many things as possible that you can buy in a supermarket. You have one minute to do this. Are you ready? Please begin."

Cognitive testing

Intended to test cognitive domains in attention, memory, executive functioning

- MMSE/MoCA
- Clock drawing test
- Trails A/B – 3 errors or 3 minutes
- SIMARD-MD

Can Geriatr J. 2021 Mar 2;24(1):14-21. doi: 10.5770/cgj.24.444. eCollection 2021 Mar.

The SIMARD-MD is not an Effective Driver Screening Tool for Determining Fitness-To-Drive

Alexander M Crizzle [1 2], Nadia Mullen [3], Diane Mychael [4], Natasha Meger [5], Ryan Toxopeus [1], Carrie Gibbons [6], Simeon Ostap [3], Sacha Dubois [3 6 7], Michel Bédard [3 6 7]

Affiliations + expand

PMID: 33680259 PMCID: PMC7904326 DOI: 10.5770/cgj.24.444

Free PMC article

JOURNAL OF THE AMERICAN GERIATRICS SOCIETY

Clinical Investigations

The Mini-Mental State Examination, Clinical Factors, and Motor Vehicle Crash Risk

Philip G. Joseph MD, Martin J O'Donnell MB, PhD, Koon K. Teo MB, PhD, Peggy Gao MSc, Craig Anderson MD, PhD, Jeffrey L. Probstfield MD, Jackie Bosch MSc, Rasha Khatib MSc, Salim Yusuf DPhil

First published: 15 July 2014 | https://doi.org/10.1111/jgs.12936 | Citations: 23

N=17538 frequent drivers

Reviewed MVA incidence in in 4 categories of MMSE scores (30, 27-29, 24-26, and <24)

Lower scores NOT associated with crashes

Strongest predictor was **MVC within the previous 2 years** (HR = 2.68, 95% CI = 2.29–3.13)

Other indicators: depression, falls in 12 months, sleep apnea, lower baseline SBP

Cognitive testing

Some tests correlate with crash rates and driving performance, but not fully predictive of an individual driving competence

No point cut-offs to divide “safe” and “unsafe” drivers

Bottom line: tests alone do not have sufficient sensitivity or specificity to be used as a single determinant of driving ability

Abnormal test score should be a trigger for further driving assessment

Cognitive impairment

Diagnosis of dementia alone is not sufficient to withdraw driving privileges

- RoadsafetyBC: cancellation of license if report suggests severe dementia or severe safety risk
- CMA guide: moderate to severe dementia is a contraindication to driving – impairment of multiple IADL or any BADL

Physicians report should include:

- Nature or cause of cognitive impairment
- Whether cognitive impairment is progressive
- Cognitive screens/assessments (and confounding factors)

Patients with dementia deemed fit to drive should be reassessed every 6-12 months

Cardiac – non-commercial drivers

ACS – <70% left main disease on angiogram or revascularized

- STEMI/NSTEMI with significant LV damage – 1 month after d/c
- NSTEMI with minor LV damaged – 48h after PCI or 7 days after discharge without PCI
- UA – 48h after PCI or 7 days after discharge without PCI

Stable CAD – 48h after PCI

CABG – 1 month after discharge

Hear failure – NYHA 1-3, not requiring intermittent inotropes

Syncope

Typical vasovagal syncope

- Single - no restriction
- Recurrent – 1 week since last episode

Atypical/unexplained syncope

- Single – 1 week since last episode
- Recurrent – 3 months since last episode

Syncope with reversible cause, successfully treated – no restriction

Syncope with avoidable trigger (ex micturition) – 1 week since last episode

Syncope with treated cause (ex pacemaker) – 1 week after successful treatment

Cerebrovascular disease

Transient ischemic attack – no restriction if

- No residual effects
- Underlying cause has been addressed and treated

Stroke – no restriction if

- No residual effects
- Underlying cause has been addressed and treated
- No post CVA seizures
- No impairment in functional abilities necessary for driving

ROADSAFETYBC. DRIVER MEDICAL FITNESS INFORMATION FOR MEDICAL PROFESSIONALS. HTTPS://WWW2.GOV.BC.CA/GOV/CONTENT/TRANSPORTATION/DRIVING-AND-CYCLING/ROADSAFETYBC/MEDICAL-FITNESS/MEDICAL-PROF/MED-STANDARDS/4-CEREBROVASCULAR

Seizures

Alcohol withdrawal seizures – patient has undergone addictions treatment with favourable report from counsellor

Single unprovoked seizure – complete neurological assessment (not epilepsy), satisfactory CNS imaging and EEG results

Epilepsy – complex and nuanced set of rules, generally 6 months since last seizure or 3-6 months seizure free after medication change

Diabetes

Severe hypoglycemia

- 6 months without hypoglycemic event and stable glycemic control

Hypoglycemia unawareness

- 3 months since last episode and return of awareness or good control

Driving Conditions:

- Test blood glucose immediately before driving and every hour
- Wait 40 mins after treating hypoglycemia with BG >5.0

Ultimate decision by RSBC nursing CM or adjudicator

Frailty

"General debility and lack of stamina"

Driver may be affected by pain, fatigue/low energy, cachexia, physical disability, cognitive impairment

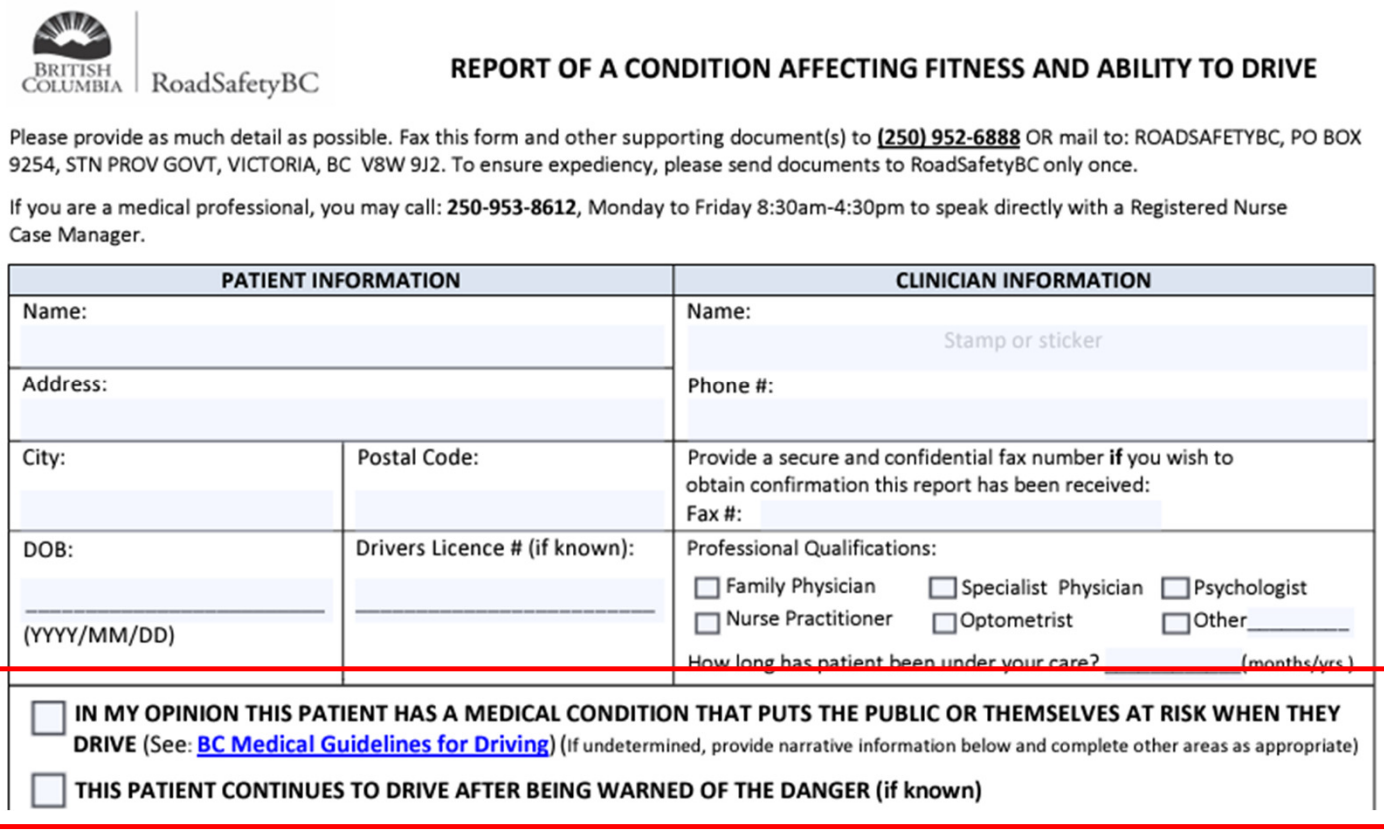
Report if above may be affect driving ability

Functional assessment

ROADSAFETYBC. DRIVER MEDICAL FITNESS INFORMATION FOR MEDICAL PROFESSIONALS. HTTPS://WWW2.GOV.BC.CA/GOV/CONTENT/TRANSPORTATION/DRIVING-AND-CYCLING/ROADSAFETYBC/MEDICAL-FITNESS/MEDICAL-PROF/MED-STANDARDS/8-GEN-DEBILITY

Driver medical reporting

Driver Reporting



BRITISH COLUMBIA | RoadSafetyBC

REPORT OF A CONDITION AFFECTING FITNESS AND ABILITY TO DRIVE

Please provide as much detail as possible. Fax this form and other supporting document(s) to **(250) 952-6888** OR mail to: ROADSAFETYBC, PO BOX 9254, STN PROV GOVT, VICTORIA, BC V8W 9J2. To ensure expediency, please send documents to RoadSafetyBC only once.

If you are a medical professional, you may call: **250-953-8612**, Monday to Friday 8:30am-4:30pm to speak directly with a Registered Nurse Case Manager.

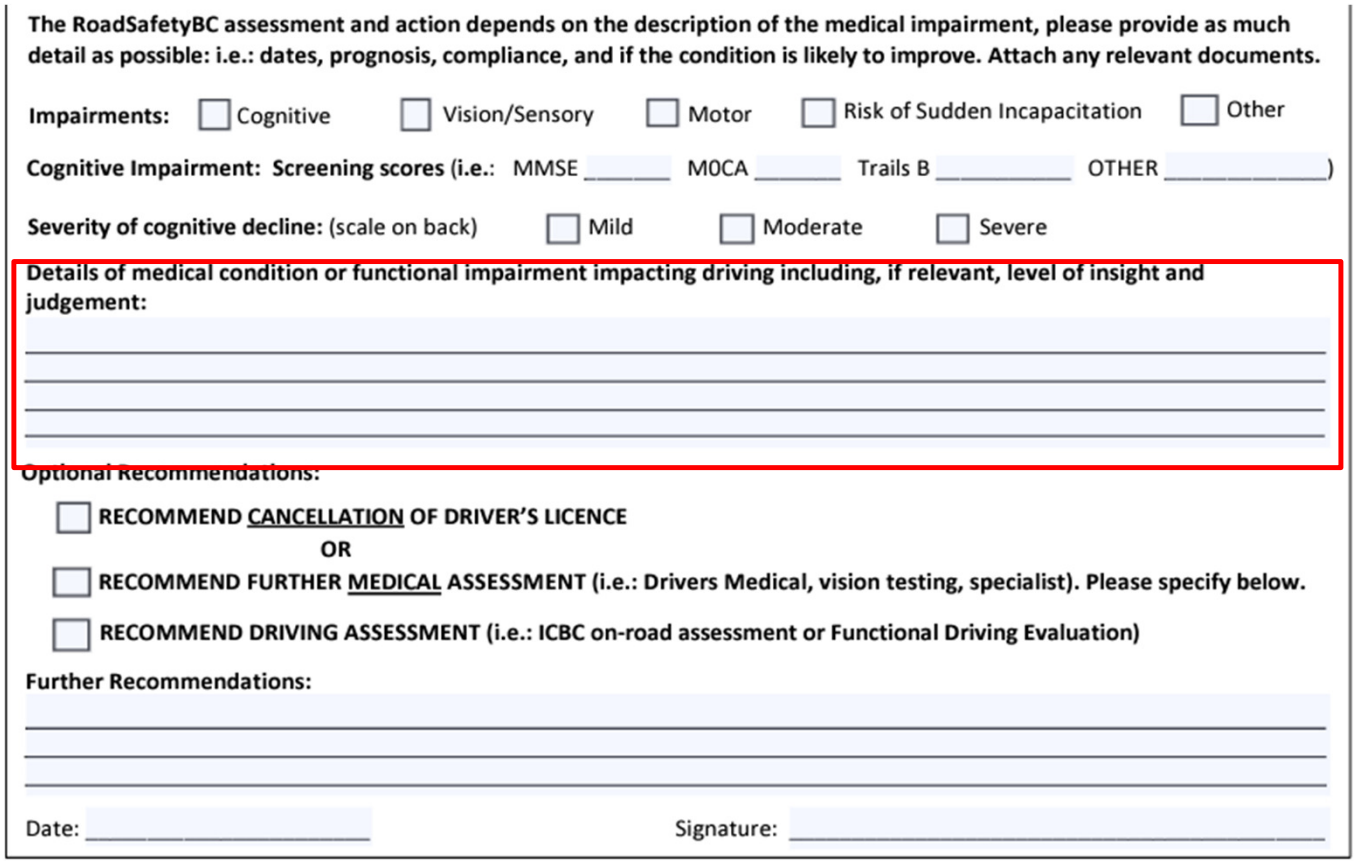
PATIENT INFORMATION		CLINICIAN INFORMATION
Name:		Name: Stamp or sticker
Address:		Phone #:
City:	Postal Code:	Provide a secure and confidential fax number **if** you wish to obtain confirmation this report has been received: Fax #:
DOB: _____ (YYYY/MM/DD)	Drivers Licence # (if known): _____	Professional Qualifications: ☐ Family Physician ☐ Specialist Physician ☐ Psychologist ☐ Nurse Practitioner ☐ Optometrist ☐ Other_____ How long has patient been under your care? _____ (months/yrs.)

☐ **IN MY OPINION THIS PATIENT HAS A MEDICAL CONDITION THAT PUTS THE PUBLIC OR THEMSELVES AT RISK WHEN THEY DRIVE** (See: BC Medical Guidelines for Driving) (If undetermined, provide narrative information below and complete other areas as appropriate)

☐ **THIS PATIENT CONTINUES TO DRIVE AFTER BEING WARNED OF THE DANGER (if known)**

HTTPS://WWW2.GOV.BC.CA/ASSETS/GOV/DRIVING-AND-TRANSPORTATION/DRIVING/ROADSAFETYBC/MEDICAL-FITNESS/MEDICAL-PROF/MV2351_CONDITION_AFFECTING_ABILITY_TO_DRIVE_2022MAY.PDF

Driver Reporting



The RoadSafetyBC assessment and action depends on the description of the medical impairment, please provide as much detail as possible: i.e.: dates, prognosis, compliance, and if the condition is likely to improve. Attach any relevant documents.

Impairments: ☐ Cognitive ☐ Vision/Sensory ☐ Motor ☐ Risk of Sudden Incapacitation ☐ Other

Cognitive Impairment: Screening scores (i.e.: MMSE _____ M0CA _____ Trails B _____ OTHER _____)

Severity of cognitive decline: (scale on back) ☐ Mild ☐ Moderate ☐ Severe

Details of medical condition or functional impairment impacting driving including, if relevant, level of insight and judgement:

Optional Recommendations:

☐ **RECOMMEND CANCELLATION OF DRIVER'S LICENCE**

OR

☐ **RECOMMEND FURTHER MEDICAL ASSESSMENT (i.e.: Drivers Medical, vision testing, specialist). Please specify below.**

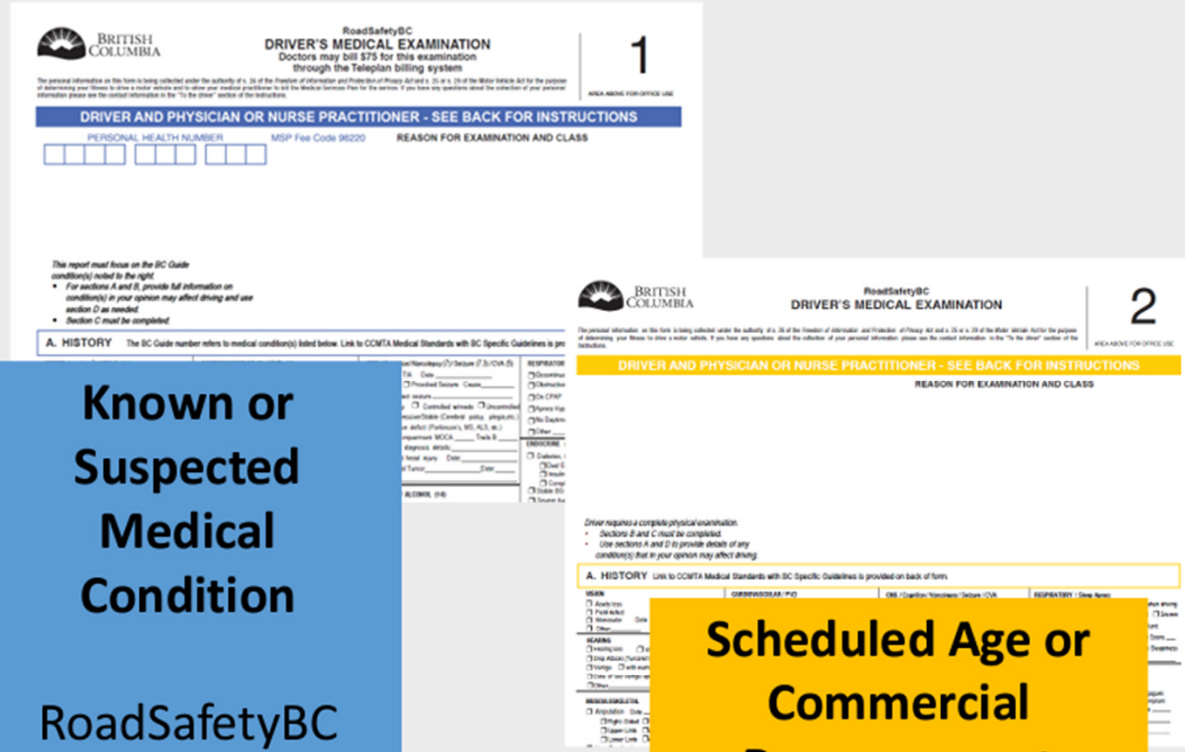
☐ **RECOMMEND DRIVING ASSESSMENT (i.e.: ICBC on-road assessment or Functional Driving Evaluation)**

Further Recommendations:

Date: _____ Signature: _____

- diagnosis
- level of severity
- associated symptoms
- acute/chronic
- prognosis
- treatment compliance
- assessments
- specialist reports
- reports from family or other

Driver Medical Examination Reports (DMERs)


RoadSafetyBC
DRIVER'S MEDICAL EXAMINATION
Doctors may bill $75 for this examination through the Teleplan billing system
1
DRIVER AND PHYSICIAN OR NURSE PRACTITIONER - SEE BACK FOR INSTRUCTIONS
PERSONAL HEALTH NUMBER
MSP Fee Code 95220
REASON FOR EXAMINATION AND CLASS
A. HISTORY
RoadSafetyBC
DRIVER'S MEDICAL EXAMINATION
2
DRIVER AND PHYSICIAN OR NURSE PRACTITIONER - SEE BACK FOR INSTRUCTIONS
REASON FOR EXAMINATION AND CLASS
A. HISTORY

Known or Suspected Medical Condition

RoadSafetyBC pays $75

Scheduled Age or Commercial Reassessment

Driver pays

Medico-legal Considerations

Reporting patients with medical conditions affecting their fitness to drive (published Dec 2010, revised Feb 2011)

67 CMPA cases reviewed – 50% legal, 50% complaints

3 principal categories

1. Failure to report a patient as unfit to drive due to medical condition
2. Patient complaint of report made to the licensing authority
3. Patient complaint of refusal to support application to restore driving privileges

1. Failure to Report

Physicians sued by injured person, their family, or the driver themselves for failure to counsel or report medically unfit driver

Reporting guidelines vary among provinces

Mandatory reporting in most provinces except

- BC – mandatory if unfit driver warmed of danger and continues to drive
- AB – interpreted as discretionary
- QC – discretionary

CMA guide recommends physicians should err on side of reporting, esp in mandatory reporting juristictions

When reporting:

Talk to the patient – point out physician only reports information and licensing authority makes final decision

Warn patients not to drive until authority has communicated their decision

Document on medical record that you have

- Warned patient not to drive
- Making a report to licensing authority
- Counseled patient of the process and time lag
- Document their reaction or response

Do not assume another physician has made the report – each treating physician should independently report

2. Complaints from driver reporting

Legislation on reporting protects physician against legal action when the report is made in good faith and reasonable grounds

Patients can still make complaint to the College challenging accuracy of report or breach of confidentiality

Generally college supportive of physician's decision to report

3. Complaints about refusal to support reinstatement

Done in cases where patient claims full recovery (cardiac, seizure, substance use, etc.)

Careful consideration if there has been significant improvement in their condition that alleviates previous concerns

Document consideration on record and explain reasons for declining to support

Access of information

Patient's right of access to physician's report and medical chart is variable across provinces

Contact CMPA for local legislation

Physician's Role

Identify and report the presence of a disability or medical condition that make it reasonably unsafe for a patient's to drive

It is NOT a physician's responsibility to

- Suspend or restrict a person's license
- Determine alterations to a person's privileges
- Enforce driving restrictions

Once physician has made report to licensing authority, they have discharged their legal responsibility

- Ethical considerations…

CMPA is an excellent resource

Driver Medical Fitness Program

Consists of adjudicators, Nurse Case Managers, and leadership

Based on information receive from healthcare professionals, family reports, traffic records, they decide

- Request further medical information
- Request an enhanced road assessment (ERA), commercial class re-examination, or OT specialist driving evaluation
- Cancel/downgrade a license
- Find driver medically fit to drive

Enhanced Road Assessment

For drivers with Class 5 or 7 licenses (non-commercial drivers)

Evaluates a driver's skills in the real world

90 minute assessment

- Pre-trip orientation
- 45 minute on-road drive
- Post-trip review

Refresher course to prepare for it

On Road Drive

Conduct basic driving maneuver – traffic rules, turns, navigating intersections, changing lanes

Adjust vehicle controls – wipers/lights

Follow multi-step directions (3 steps)

Reverse a driving route

Mid-point driving feedback

Assessment process

Review on road assessment for driving errors, traffic violations, dangerous actions

Also consider

- Response to feedback during assessment
- Reports from family members, physician, and police

Decision to maintain, re-issue, restrict, or cancel license

Pathway to apply for review of decision

Disclosing reporting a patient

Tips and tricks to “soften the blow”

CMA guide – communication strategies

Planning for “driving retirement”

Transport alternatives

HandyDart

Taxi Vouchers

Alternate Transport for Seniors – https://www.ualberta.ca/medically-at-risk-driver-centre/resources/forseniors/british-columbia-listing.html

Discussion and Questions

Citation

1. Luymes, Glenda “Family questions if BC driving test is fair for mother with mild dementia.” Vancouver Sun, Dec 11, 2022 (accessed Dec 31, 2022)
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