

When a discussion about driving becomes necessary:

BE PREPARED

- Make a list of safety and medical concerns.
- Explore legal concerns and licensing requirements.
- Plan for future transportation needs.
- Plan early, especially if illness is progressive.

BE STRATEGIC

- Consider family dynamics; some family members may not acknowledge the problem.
- Decide who would be best to raise the topic.
- Be aware that the driver may lack insight about driving problems.
- Expect resistance. Find out what driving means to the person.
- Remain positive. Focus on what you can do.
- Be sensitive but resolved.

OPEN THE DISCUSSION

- When appropriate, acknowledge the driver's past driving record.
- Note that things have changed.
- Blame the medical condition, not the person.
- Discuss the implications of having a crash.
- Be responsive to their concerns.
- Focus on need for driving assessment.
- Address future transportation options.

WORRIED ABOUT SOMEONE'S DRIVING?

If you are worried about a loved one's driving ask their physician to refer for a **DriveABLE** assessment and get peace of mind.

Your local certified DriveABLE provider is:

DCAC  technology designed to assess drivers with medical conditions
DRIVER COGNITIVE ASSESSMENT CENTER, LLC

TEL 925-249-5947 • FAX 925-201-3957
4450 Black Ave., Suite D • Pleasanton, CA 94566
www.drivercognitiveassessmentcenter.com

BY APPOINTMENT ONLY

► DRIVEABLE.COM



DRIVEABLE





Driving skills can change.

What are the signs?

There are many warning signs to the driver or to a loved one that there may be a problem:

- **Unaware of driving errors**
- **Close calls**
- **Driving too slowly**
- **Unaware of other vehicles**
- **Missing traffic signs**
- **Getting lost or confused**
- **Confusing the brake and gas pedals**
- **Being honked at by other drivers**

Other non-driving signs such as a decline in ability to do everyday tasks, memory loss, disorientation, loss of strength or balance may indicate an assessment is necessary.

Objective and Unbiased.

The DriveABLE Cognitive Assessment was scientifically developed and validated through award-winning university research.

Designed specifically for experienced drivers with medical conditions that affect mental abilities, it provides an unbiased and objective measure of how the skills required for driving may have been compromised.

DriveABLE provides the answer for the sensitive and difficult driving issue facing drivers and their families when dealing with a brain injury, disease or debilitating medication use.

Talk to your loved one's physician about a referral for the test if you have concerns.

- **Medical conditions can affect people at any age, but they are more likely to occur as we age.**
- **Many medical conditions such as Alzheimer's, Heart Disease, and Diabetes can affect driving abilities.**
- **Medications can seriously impair the ability to drive.**
- **Even when no single condition is severe, several conditions can combine to make the person unsafe to drive.**

DriveABLE Cognitive Assessment Tool

One of the most difficult decisions facing physicians and families today is how to deal with the driving issue when a patient or loved one has a medical condition or is taking medications that may have affected the mental abilities necessary for driving.

When a person is unsafe to drive, that person must stop driving. The problem is in knowing when to stop.

The **DriveABLE Cognitive Assessment Tool** or **DCAT** is one of the world's leading technologies for providing fair and accurate information about the safety of your loved one and other road users.

Don't leave this important decision to chance. Ask for the assessment trusted by healthcare professionals and licensing authorities to provide this crucial information!



Medical Conditions & Driving Impairment

When is a Driving Evaluation Needed?

Many medical conditions can result in impairments that negatively affect driving abilities. Outcomes of these medical conditions can be classified either as **Persistent** or **Episodic**.

PERSISTENT OUTCOMES

Persistent outcomes are more stable and enduring, and the effects can be measured.

- Event and impairment is ongoing
- Assessment question: What is the ability of the driver?
- Assessment issue: Measure driving ability
- Best Practice: **Science-Based Driving Evaluation**

EPISODIC OUTCOMES

With Episodic outcomes, the event most often is sporadic and unpredictable, and lasts for a short duration.

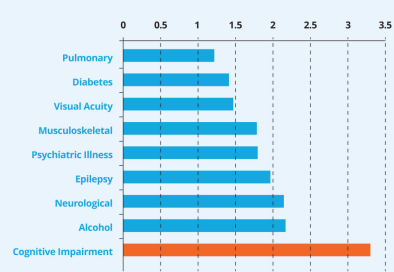
- When event occurs driving ability is impaired
- Assessment question: What is the likelihood of the event happening?
- Assessment issue: Judgment of risk level
- Best Practice: Consensus guidelines plus clinical judgment

Cognitive Impairments

Not everyone with a medical condition has their driving reduced to an unsafe level. Rather, the presence of one or more red flag medical condition (see next page for a list of red flags) indicates that the driver is at risk and that his or her driving may be (or may become) compromised to an unsafe level.

Driving competence should be evaluated by a science-based driving evaluation.

Increased at-fault crash risk: Selected Medical Conditions



Source: Diller, E, Cook, L, Leonard, D, Reading, J, Dean, JM, Vernon, D. Evaluating drivers licensed with medical conditions in Utah, 1992-1996. DOT HS 809 023. Washington, DC: National Highway Traffic Safety Administration.

Physical Impairments

When there are enduring physical impairments that make it unlikely the person can safely operate a motor vehicle:

- It may be possible to adapt the vehicle to accommodate the impairment
- Training to use the new equipment may be necessary
- Driving competence then should be evaluated by independent driving evaluation preferably by a certified driver rehabilitation specialist

Screen for Possible Cognitive Concerns

Perform cognitive screen to determine evidence of impairment.

Pass Screen

Re-screen at future date if concerns persist.

DriveABLE Cognitive Assessment Tool provides direct information about the driver's competence

- Accommodates the combined effects of comorbidities, treatments and medications
- Provides the best evidence, with clinical judgment evaluations providing a lower level of evidence

Evaluating & Reporting Fitness to Drive

When there is a fitness to drive concern about my patient, what do I do?

Advise Your Patient

- Patients should be advised of medical conditions, procedures, and medications that may impair driving abilities
- Recommend a science-based driving assessment as best practice
- Diagnosis are a poor predictor of a patient's fitness to drive. Often patients have several conditions and medications with complex, unknown interactions affecting function

Refer for a DriveABLE Assessment

- Enables evidence based decisions
- Developed through science
- Demonstrated to be equally fair for urban and rural drivers
- As an arm's length assessment, DriveABLE allows

you to focus on the outcome of the assessment and remain an advocate for your patient

Manage Your Litigation Risk by Documenting Thoroughly

- Chart actions
- Report concerns to your licensing authority
- Medical associations encourage health professionals to report medically at-risk patients to local licensing authorities to protect public safety and manage risk
- It is important for you to check with the licensing authority in your area for laws regarding medically at-risk drivers
- For your specific reporting guidelines contact your medical association or licensed DriveABLE service provider

RED FLAG MEDICAL CONDITIONS*

Cardiovascular Disease if associated with cerebral ischemia

- Cardiac Arrhythmias
- Artificial Cardiac Pacemakers
- Hypertrophic Cardiomyopathy
- Congestive Heart Failure
- Valvular Heart Disease

Cerebrovascular Disease

- Cerebrovascular Accident (Stroke)
- Transient Ischemic Attacks

Head Trauma

- Traumatic Brain Injury

Respiratory Diseases

- Chronic Obstructive Pulmonary Disease if associated with respiratory failure resulting in cognitive impairment due to generalized hypoxia
- Respiratory Failure

Renal Disease

- Chronic Renal Failure
- End Stage Renal Disease

Cognitive Impairment

- Non Dementia
- Mild Cognitive Impairment

Dementia

- Progressive Dementia (e.g., AD, MID)

Metabolic Diseases

- Untreated Hypothyroidism
- Diabetes - the chronic effects of diabetes

Psychiatric Disease

- Schizophrenia
- Personality Disorder
- Chronic Alcohol Abuse

*Adapted from Dobbs, B. (2005). Medical conditions and driving: A review of the scientific literature (1960-2000). Department of Transportation, National Highway Traffic Safety Administration Project DTNH22-94-G05297. Washington, DC: National Highway Traffic Safety Administration.

Medications

- Anti-depressants (the older tricyclics such as amitriptyline, imipramine)
- Anti-histamines (the older anti-histamines)
- Any drug that has prominent central nervous system effects

Neurological Diseases

- Multiple Sclerosis
- Parkinson's Disease
- Sleep Apnea

Other Possible Indicators

- Functional Concerns (crashes, tickets, getting lost, close calls)
- Functional Decline (changes in ADLs, IADLS)
- Falls



DRIVEABLE

Technology. Driven by Research

The DCAT in-office assessment system uses touch screen technology and a simple three button input. No mouse. No age limit. No experience necessary.



What is the DCAT? The DriveABLE Cognitive Assessment Tool or DCAT is a computerized cognitive assessment designed specifically to test the interaction of mental processes necessary for driving a vehicle.

Why does it work?



- 8 years of research and validation studies
- 1556 subjects
- On-Road testing of all subjects including a specially designed closed course and a public road evaluation
- Over 2000 hours of on-road video observations. Enough video to fill several new (large hard drive) computers
- Development of one of the only road tests in the world which measured competence defining errors and was built specifically for experienced drivers unlike DMV tests which are built for novice drivers and concentrate on "rules of the road" errors
- This gave us a criterion measure to develop an In-Office test using actual on-road ability and not the traditional crash risk criterion (you may ask why is crash risk not a good criterion measure, to which we answer with a question, "How do you determine if a crash was due to driver error, road conditions or competence decline?")
- Original in-Office research testing protocol included:
 - Full neuropsychological battery
 - Full rehabilitation medicine battery
 - Full research task battery
- A world class research team including PhD's, MD's, psychometrists, software developers and leading health biostatisticians
- Development of a highly predictive in-Office battery using 6 tasks, 22 weighted measures, age normed and standardized presentation
- Constant quality assurance and analysis to ensure our product maintains and improves its scientific integrity with every tested driver.

How has it performed in the real world?

A recently completed analysis of over 3600 drivers showed that the DCAT is very predictive of actual on-road driving with an approximate 7% mismatch rate across the sample between the in-office and on-road results. These results are amazing considering this sample was taken from 19 different sites across Canada, the United States and Australia.

What is the DORE? The DriveABLE On-Road Evaluation or DORE is an on-road functional assessment for those drivers who require additional evaluation.

DORE measures the errors that cognitively impaired drivers make that are different, either in terms of the type of error or the frequency and severity, from those of healthy normal drivers.

It is specifically designed to cognitively challenge the driver and provide an opportunity to demonstrate real world driving ability.

Client performance is measured in real time under real conditions.



DORE is one of the only tests in the world that measures competence defining errors and has been built specifically for experienced drivers.

Scientifically validated, DORE takes approximately 45 minutes to administer by a DriveABLE Certified Driving Evaluator in an instructor (dual-control) vehicle. The client is guided through the assessment with explicit directions for each driving maneuver. Minor handling errors typical of drivers in an unfamiliar vehicle are not part of the scoring. Only competence defining errors identified by research are scored.

Key areas of consideration:

- Errors that are different in frequency, severity or type from healthy normal drivers
- Errors that present extreme danger to the driver or others
- The number of errors
- Performance areas that were aborted due to safety issues
- Factors taken into consideration: road conditions, traffic volume, vision, hearing, and anxiety level of the client

Consideration of the client's other information including the DCAT results, family report, driving history, visual and physical deficits, episodic medical conditions and compliance to medications should be reviewed when making decisions regarding overall driving competence.

DriveABLE goal: To help healthcare professionals make the important decision of whether someone with cognitive impairment from a medical condition or medications, is competent to drive.

About DriveABLE

DriveABLE is the global leader in evidence-based assessment technology for the fair and accurate assessment of cognitively at-risk drivers. Through award-winning university research, the DCAT - The DriveABLE Cognitive Assessment Tool - was developed. It is the only cognitive assessment tool shown to be highly predictive of actual on-road performance.

DriveABLE seeks to protect safe drivers from misidentification, based solely on their medical condition or age, and accurately identify unsafe drivers to protect them, their families and other road users.