



ADHD AND DRIVING

Key Points For Physicians To Review With Adolescents and Adults Who Have ADHD

Risk Data:

- a) Clinical studies indicate that young drivers with untreated or sub-optimally treated ADHD have between *two to four times as many motor vehicle collisions (MVC)* and moving violations than a comparable non-ADHD population²⁰⁶
- b) These driving problems are seen *independent of comorbidity*. The problem profile commonly includes driving anger or road rage
- c) The presence of ADHD and *comorbid substance use disorders magnifies driving risk*
- d) *Neurodevelopmental immaturities in executive function* (resulting in problems with attention, impulse control and emotional regulation) combined with a lack of driving experience can lead to problem driving styles in young people in general
- e) Based on simulator studies, stimulant medication may reduce cognitive difficulties related to ADHD problem driving. However, there is limited real-time, on-the-road data demonstrating the benefit of stimulants. Adherence with stimulant medication is particularly poor in the evening, the time of maximum driving risk for young drivers.

Protective Factors:

- a) Restrictions on cell phone use, night time and weekend driving and on use of a manual transmission may all have an impact on improving driving performance. Psychosocial and legislative measures may prove to be a more effective preventative public health measure in the long run.
- b) Many patients with ADHD who drive are not at any significant risk of driving problems, particularly when informed of the risks and provided with good clinical care.

Evaluation of Driving Risk and Documentation:

- a) Discussion with young drivers and their families should include information on functional impairment and driving risks. Problems with speeding, following too close, road rage, inattention and distractibility when driving should be reviewed.
- b) When developing a therapeutic alliance with a family, it may be useful to encourage contracts between young drivers and their families where adherence with medications and other issues such as good school performance are exchanged for access to a motor vehicle.
- c) Documentation of discussions regarding driving safety, along with the use of an assessment of driving style and behaviour, would demonstrate that the clinician is exercising due diligence for their ADHD patients around driving safety issues. The current CMA Guidelines²⁰⁷ remind physicians that if ADHD drivers have a demonstrated problem with driving and are non-compliant with treatment, the doctor has a duty to report his or her concerns to the Provincial Ministries of Transportation. Reporting in Alberta, Quebec and Nova Scotia is discretionary.

The Jerome Driving Questionnaire (JDQ)

Why use it? Recent literature speaks to an increased risk of motor vehicle collisions and moving violations in young drivers with ADHD¹. The 2006 CMA guidelines “Determining Medical Fitness to Drive” recommend that Canadian physicians be aware that ADHD is a reportable condition if patients have demonstrated problem driving. Physicians need to consider it their duty to warn high risk drivers of the dangers of driving without the benefit of appropriate medical treatment which includes the use of long-acting stimulants, providing improved attention control and reduced impulsivity while driving². The JDQ printed in the Guidelines (which can also be downloaded from the CADDRA website or completed online at **www.adhddriving.com**) provides clinicians with a simple tool that assists them in deciding if their patient is at increased risk of problem driving. It also provides documentation in the medical record that the clinician has assessed this important functional skill in their patients.

How to use it The JDQ is a self-report instrument in two parts. **Part A** provides a lifetime driving history of driving exposure, moving violations and accidents. **Part B** provides a subjective account of the driver's driving style. It takes approximately five minutes to complete. Self and collateral observations can be collected and compared. Psychometric data have been reported²⁰⁸.

The JDQ will provide the physician, the patient and their family a view of the patient's driving record and a measure of strategic driving style. This instrument is meant to *augment* clinical evaluation, not to substitute or replace the physician's judgement about patient driving safety. It can help a health professional initiate discussion about driving safety with the patient and their family. The instrument provides the physician with a measure of the effects of medication and other behavioural interventions. Serial measures for each patient provide a visual analog record of change over time.

The **www.adhddriving.com** website allows JDQ data to be stored and displayed serially and downloaded for later analysis. The resource section contains educational videos that are helpful for patients and their families regarding the risk of untreated ADHD and driving. Review articles on driving risk and psychometric scale information will be updated periodically.

An expanded version of this appendix with references to the current evidence-based recommendations is available on the CADDRA website.



Patient Name:
Date of Birth:
Physician Name:

MRN/File No:
Date:

JEROME DRIVING QUESTIONNAIRE (JDQ)© 2010 *To be completed by the driver*

Name of Driver:		
Date of Birth:	DD MM YY	Date completed: DD MM YY
Please list all your medications and dosages, including over-the-counter medicines with mg doses if known:		
1.	2.	3.
4.	5.	6.
7.	8.	9.
10.		

Instructions: This section should be completed by the driver. Rate yourself on the following questions regarding past and current driving history.

Driving History Part A

1. At what age did you obtain your driver's license?	years	months
2. How many times did you take to pass your final driving test?	<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> or more
3. How long have you been driving?		years
4. On average, how much time per day do you spend driving?	<input type="checkbox"/> < 1 hour	<input type="checkbox"/> 1 - 2 hours <input type="checkbox"/> > 2 hours
5.(a) Estimate kilometres/miles driven in the last month (city):		km
(b) Estimate kilometres/miles driven in the last month (highway):		km
6.(a) How many motor vehicle collisions have you been in as a passenger?	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> or more	
(b) How many motor vehicle collisions have you been in as a driver?	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> or more	
7. How many times since you have been driving have you been determined to be at fault in an accident?		
8.(a) How many times since you have been driving have you had your licence revoked or suspended?		
(b) How many times have you driven when your licence was suspended?	<input type="checkbox"/> Never <input type="checkbox"/> Once	<input type="checkbox"/> Twice <input type="checkbox"/> Three or more
9. Did you ever go joy riding in a car? (Select all that apply)		
<input type="checkbox"/> As a driver before you held a valid license?	<input type="checkbox"/> As a passenger with a driver without a valid license?	
<input type="checkbox"/> As a passenger when the driver was intoxicated with alcohol and /or drugs?	<input type="checkbox"/> As a driver when intoxicated with alcohol and/or drugs?	
10. How many times since you have been driving have you received a parking ticket?		times
11. How many times since you have been driving have you received a speeding ticket?		times
12. How many times since you have been driving have you been given a ticket for failing to stop at a stop signal or sign?		times
13. How many times since you have been driving have you been given a ticket for reckless driving?		

14. How many times since you have been driving have you struck a pedestrian or cyclist while driving?	
15. How many times since you have been driving have you been given a ticket for driving while intoxicated?	
16. Have insurance rates increased as a result of driving problems?	<input type="checkbox"/> Yes <input type="checkbox"/> No
17. Has car insurance been denied because of driving problems?	<input type="checkbox"/> Yes <input type="checkbox"/> No

JEROME DRIVING QUESTIONNAIRE PART B ©2010

This form can be completed either by you the driver or a close friend or relative who observes you drive.

Date completed: _____ Completed by: _____

Instructions

The following questions are about your usual driving style over the last month. Try to answer all the questions. There are no right or wrong answers. Please put a mark "X" on the horizontal scale to indicate your rating regarding driving in the last month when out driving (a) in the city; (b) on the highway.

Select the correct answer to the following two questions:

In the last month have you driven (or driven with the driver) in the city? Yes No

In the last month have you driven (or driven with the driver) on the highway? Yes No

Since you last completed this questionnaire have you had any motor vehicle violations such as speeding or parking tickets or collisions? Yes No

Motor vehicle violations: Yes No; Collision(s): Yes No

1. Frustration:

a. City

no frustration _____ high frustration

b. Highway

no frustration _____ high frustration

2. Risk taking:

a. City

no risk taking _____ high risk taking

b. Highway

no risk taking _____ high risk taking

3. Show anger verbally or physically to other drivers:

a. City

no risk taking _____ high risk taking

b. Highway

no risk taking _____ high risk taking

4. Speeding:

a. City

no speeding _____ excessive speeding

b. Highway

no speeding _____ excessive speeding

5. Anxiety:

a. City

no anxiety _____ high anxiety

b. Highway

no anxiety _____ high anxiety

6. Experiences Panic:

a. City

no panic extreme panic

b. Highway

no panic extreme panic

7. Concentration on Road:

a. City

no concentration problems major concentration problems

b. Highway

no concentration problems major concentration problems

8. Alert to sudden changes in driving conditions:

a. City

alert not alert

b. Highway

alert not alert

9. Easily distracted by sights or sounds in the car or off to the side of the road:

a. City

no distraction high distraction

b. Highway

no distraction high distraction

10. Daydreaming:

a. City

no daydreaming frequent daydreaming

b. Highway

no daydreaming frequent daydreaming

11. Drowsiness:

a. City

no drowsiness major drowsiness

b. Highway

no drowsiness major drowsiness

12. Anticipating potential dangers from other cars or pedestrians (looking ahead):

a. City

always anticipating never anticipating

b. Highway

always anticipating never anticipating

Please note if any of your answers would be changed by driving with passengers. Please describe:
