APPENDIX C

Clinical Team Resources

- Clinical Assessment of Driving Related Skills (CADReS) Score Sheet
- Evidence Table for Assessments (selected in Ch. 3)
- Medical Review Board Sample Letter
- Modified Driving Habits Questionnaire
- Montreal Cognitve Assessment (MoCA) and Form
- Motor Vehicle Adaptive Equipment Descriptions and NHTSA’s Adapting Motor Vehicles for Older Drivers brochure
- Sample Driving Cessation Plan
- Snellen Chart
- Snellgrove Maze Test and Form
- Three Levels of Spectrum of Driver Services
- Trails A Test
- Trails B Test
1. **Visual fields**: Shade in any areas of deficit.

   Patient’s L R

2. **Visual acuity**: _______ OD _______ OS _______OU

   Was the patient wearing corrective lenses? If yes, please specify:
   ________________________________

   If acuity in either eye is worse than 20/40, consider referral to ophthalmologist.

3. **Rapid pace walk**: __________ seconds

   Longer than 10 seconds is abnormal; consider referral for driving evaluation and/or evaluation of gait disorder. Was test performed with a walker or cane? If yes, please specify:
   ________________________________

4. **Range of motion**: Specify “within normal limits (WNL)” or “not WNL.” If not WNL, describe.

<table>
<thead>
<tr>
<th>Right</th>
<th>Left</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neck rotation</td>
<td></td>
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<tr>
<td>Finger curl</td>
<td></td>
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<tr>
<td>Shoulder and elbow flexion</td>
<td></td>
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<tr>
<td>Ankle plantar flexion</td>
<td></td>
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<tr>
<td>Ankle dorsiflexion</td>
<td></td>
</tr>
</tbody>
</table>

   With any deficiencies or pain, consider referral to physical therapy for exercises or pain management or to occupational therapy if impacting ADLs/IADLs as indicated, and/or consider referral for comprehensive driving evaluation if adaptation for driving is needed.

5. **Maze Test**: Risk Categories _____  Seconds _____ Errors _____

   If completed in 61 seconds or longer, with or without errors, then the person is not cognitively fit to drive safely.
   If completed in up to 60 seconds, but with two or more errors, then the person is not
cognitively fit to drive safely.

If completed in up to 60 seconds, with zero or one error, then the person is cognitively fit to drive safely.

6. **MoCA**: Total score:_____

A score of 26 or above is normal (add a point if the older adult has less than 12 years of formal education). A score of 18 or less indicates driving safety risk. A score above 18 but below 26 warrants further evaluation, including a comprehensive driving evaluation.

7. **Trail-Making Test, Part B**:______ seconds

A score longer than 180 seconds is abnormal; consider referral for a comprehensive driving evaluation and/or evaluation for cognitive, visual, or motor impairment.

8. **Clock-drawing test**: Please check “yes” or “no” to the following criteria.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only the numbers 1–12 are included (no duplicates or omissions).</td>
<td></td>
</tr>
<tr>
<td>The numbers are drawn inside the clock circle.</td>
<td></td>
</tr>
<tr>
<td>The numbers are spaced equally or nearly equally from each other.</td>
<td></td>
</tr>
<tr>
<td>The numbers are spaced equally or nearly equally from the edge of the circle.</td>
<td></td>
</tr>
<tr>
<td>One clock hand correctly points to 2.</td>
<td></td>
</tr>
<tr>
<td>There are only two clock hands.</td>
<td></td>
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<tr>
<td>There are no intrusive marks, writing, or hands indicating incorrect time.</td>
<td></td>
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</tbody>
</table>

If any elements are abnormal, consider referral for a comprehensive driving evaluation and/or evaluation for cognitive, visual, or motor impairment.
### Table of Selected Studies Supporting the use of Screening Tools in CADReS.

<table>
<thead>
<tr>
<th>Citation</th>
<th>Target Population</th>
<th>Tools (significant)/Outcome Measure</th>
<th>Main Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classen, S., Witter, D. P., Lanford, D. N., Okun, M. S., Rodriguez, R. L., Romrell, J., et al. (2011).</td>
<td>Parkinson’s Disease</td>
<td>MMSE, Rapid Pace Walk, UFOV, Acuity, Contrast Sensitivity</td>
<td>Individuals with PD did more poorly on UFOV, Rapid Pace Walk, global score of the BTW, and maneuvers scores. UFOV and Rapid Pace Walk accounted for most of variance with the on-road test and can be considered as good screening tools for PD.</td>
</tr>
<tr>
<td>Stav W. B., Justiss, M. D., McCarthy D. P., Mann, W. C., &amp; Lanford, D. N. (2008).</td>
<td>Older adults</td>
<td>Contrast Sensitivity, slide B, Rapid Pace Walk, UFOV Rating, MMSE total score</td>
<td>Using stepwise regression, the strongest model included: Contrast Sensitivity slide-B, Rapid Pace Walk, UFOV rating, and MMSE total score. These accounted for 44% of the variability in Global Rating Scale of the standardized road test. All assessments listed were significantly correlated with the Global Rating Score individually.</td>
</tr>
<tr>
<td>Study</td>
<td>Group/Participants</td>
<td>Test/Outcome</td>
<td>Result/Conclusion</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Crizzle, A.M., Classen, S., &amp; Uc, Y. (2012).</td>
<td>PD</td>
<td>Evidence review that examined measures for predicting on road and simulator performance.</td>
<td>No standard battery is able to predict driving performance of PD, more vigorous studies needed. Some evidence for subtest 2 of UFOV, contrast sensitivity, Trails B and B-A, functional reach, Rey-Osterrieth Complex Figure Test.</td>
</tr>
<tr>
<td>Classen, S., McCarthy, D. P., Shechtman, O., Awadzi, K. D., Lanford, D.N., Okun, M. S., Rodriguez, R. L., Romrell, J., Bridges, S., Kluger, B., &amp; Fernandez, H.</td>
<td>PD</td>
<td>19 individuals with Parkinson’s Disease and 104 age matched controls. Compared UFOV with on road assessment outcome, global rating scale, and sum of maneuvers scale.</td>
<td>UFOV had strongest correlations with on road and driving errors. Those who failed on-road did worse on Trails B and UFOV than those who passed. Cut off scores for UFOV subtests suggested.</td>
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<td>---------------------------------------------</td>
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<tr>
<td>Uc, E.Y., Rizzo, M., Anderson, S.W., Shi, Q., &amp; Dawson, J.D. (2005).</td>
<td>AD</td>
<td>33 Alzheimer’s compared to 137 normal controls on cognitive tests, vision tests, on road drive to identify landmarks and traffic signs.</td>
<td>Significant difference between groups in landmark and traffic identification; Driving errors higher in AD group; Trails B, auditory verbal learning test, contrast sensitivity, judgment of line orientation were predictors of total landmark and traffic sign identification.</td>
</tr>
<tr>
<td>Whelihan, W.M., DiCarlo, M.A., &amp; Paul, R.H. (2004).</td>
<td>AD</td>
<td>23 with CDR of .5 and 23 controls. Battery of screening measures compared with outcome measure of road assessment.</td>
<td>Trails B, Maze navigation time, UFOV, letter cancelation significantly related to on-road for patient group, but for controls, it was only age. Regression showed maze navigation time, Trails B time, and UFOV part 1 accounted for 46% of variance (Trails B added insignificantly). UFOV too challenging for even early dementia. Maze navigation may be good screening tool.</td>
</tr>
<tr>
<td>Edwards, J. D., Bart, E., O’Connor, M. L., &amp; Cissell, G. (2010).</td>
<td>Older adults</td>
<td>1,248 participants tested at baseline and 5 years later on physical and cognitive issues.</td>
<td>Final regression models: Age at baseline, days driven per week and slower processing speed (UFOV performance, subtest 2) were significant indicators of risk for driving cessation. Other models showed rapid pace walk,</td>
</tr>
<tr>
<td>Munro, C.A., Jefferys, J., Gower, E. W., Munoz, B. E., Lyketsos, C. G., Keay, L., ... West, S. K. (2010).</td>
<td>Older adults 980 adults 67-87 years who had lane change data Subjects enrolled in the Salisbury Eye Evaluation and Driving Study</td>
<td>Significant predictors of lane change errors included: Brief Test of Attention, Hopkins, Trails B, VMI, and Visual Attention. Multiple regression demonstrated: Brief Test of Attention and VMI scores predicted lane change errors. Also those participants that resided in rural vs. urban predicted lane change error. Made on assumption that lane change translates into errors of driver safety.</td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>Classen, S., Horgas, A., Awadzi, K., Messinger-Rapport, B., Shechtman, O., &amp; Joo, Y. (2008).</td>
<td>Older adults 127 older adults to compare demographics, cognitive functioning, comorbidities, medications, and failing driving evaluation.</td>
<td>The strongest predictor of failing the BTW was advanced age, and time to complete Trails B were major predictors of failure and driving errors. Having a neurological diagnosis was associated with test failure and increased driving errors.</td>
<td></td>
</tr>
<tr>
<td>Oswanski, M. F., Sharma, O. P., Raj, S. S., Vassar, L. A., Woods, K. L., Sargent, W. M., &amp; Pitock, R. J. (2007).</td>
<td>Retrospective study 232 over 55 years old referred to driving program. Subjects categorized into two groups: capable &amp; incapable</td>
<td>Mean score for the three measurements significantly different between two groups. ROC for MVPT was ≥32 with 60% sensitivity and 83% specificity. ROC clock task was ≥3 with 70% sensitivity and 65% specificity. Processing time &lt; 6.27 seconds with 61% sensitivity and 79% specificity</td>
<td></td>
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</tbody>
</table>

This table was modified from Tables developed with funding from the Gaps and Pathways Project, the AOTA/NHTSA Cooperative Agreement.
[Official letterhead, state licensing authority or the state transportation Medical Advisory Board]

Dear Mr./Mrs. __________________:

You are receiving this letter because it has come to our attention that you may have a medical condition that could affect your driving. Please provide the information requested on the enclosed form within the next 30 days.

Upon receipt of your form, our staff will perform a thorough, individual review of your medical fitness to continue driving. Additional information or assessments may be requested in order to complete your review. This may include information from your primary health care provider or an assessment by a driving rehabilitation specialist.

The purpose of this action is safety for you, your family, and the community. Because of the broader commitment to highway safety, drivers that fail to respond and/or provide the information requested by the due date may be considered for suspension of their driving privilege.

Sincerely,

State Licensing Authority/ State Transportation Medical Advisory Board
Modified Driving Habits Questionnaire

Current Driving

1. Do you wear glasses or contacts when you drive?  ____ Yes  ____ No

2. Do you wear a seatbelt when you drive?  ____ Always  ____ Sometimes  ____ Never

3. Which way do you prefer to get around?
   ____ Drive yourself
   ____ Have someone drive you
   ____ Use public transportation or a taxi

4. How fast do you usually drive compared with the general flow of traffic?
   ____ Much faster  ____ Somewhat slower
   ____ Somewhat faster  ____ Much slower
   ____ About the same

5. Has anyone suggested over the past year that you limit your driving or stop driving?  ____ Yes  ____ No

6. How would you rate the quality of your driving?
   ____ Excellent  ____ Good  ____ Average  ____ Fair  ____ Poor

7. If you had to go somewhere and didn’t want to drive yourself, what would you do?
   ____ Ask a friend or relative to drive you
   ____ Call a taxi or take the bus
   ____ Drive yourself regardless of how you feel
   ____ Cancel or postpone your plans and stay at home
   ____ Other (specify): __________________________

Exposure

8. In an average week, how many days per week do you normally drive?  ____ days per week

9. Please consider all the places you drive in a typical week. Check those places and list how many times a week and the number of miles from home.
   
   ____ Store  ____ times a week  ____ miles from home
   ____ Church  ____ times a week  ____ miles from home
   ____ Work/School  ____ times a week  ____ miles from home
   ____ Relative’s home  ____ times a week  ____ miles from home
   ____ Friend’s home  ____ times a week  ____ miles from home
   ____ Out to eat  ____ times a week  ____ miles from home
____ Appointments  ____ times a week  ____ miles from home

Are there other places you go in a typical week?

____________  ____ times a week  ____ miles from home
____________  ____ times a week  ____ miles from home
____________  ____ times a week  ____ miles from home

Avoidance

13a. During the past 3 months, have you driven while it has been raining?
   ____ Yes (go to 13b)
   ____ No (go to 14)

13b. Would you say that you drive when it is raining with: (please check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

14a. During the past 3 months, have you driven alone?
   ____ Yes (go to 14b)
   ____ No (go to 15)

14b. Would you say that you drive alone with: (check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

15a. During the past 3 months, have you parallel parked?
   ____ Yes (go to 15b)
   ____ No (go to 15c)

15b. Would you say that you parallel park with: (check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

15c. Why do you not parallel park?
   ____ Not necessary (not many parallel parking spots)
   ____ Visual problems
   ____ Never learned how
   ____ Other (specify) ___________________
16a. During the past 3 months, have you made left-hand turns across oncoming traffic?
   ____ Yes (go to 16b)
   ____ No (go to 17)

16b. Would you say that you make left-hand turns in traffic with: (check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

17a. During the past 3 months, have you driven on interstates or expressways?
   ____ Yes (go to 17b)
   ____ No (go to 18)

17b. Would you say that you drive on interstates or expressways with: (check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

18a. During the past 3 months, have you driven on high-traffic roads?
   ____ Yes (go to 18b)
   ____ No (go to 19)

18b. Would you say that you drive on high-traffic roads with: (check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

19a. During the past 3 months, have you driven in rush hour traffic?
   ____ Yes (go to 19b)
   ____ No (go to 20)

19b. Would you say that you drive in rush hour traffic with: (check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

20a. During the past 3 months, have you driven at night?
   ____ Yes (go to 20b)
20b. Would you say that you drive at night with: (check only one answer)
   ____ No difficulty at all
   ____ A little difficulty
   ____ Moderate difficulty
   ____ Extreme difficulty

Accidents and Citations
21. How many accidents have you been involved in over the past year when you were the
driver? Please list the number of all accidents, whether or not you were at fault.
   ____ accidents

22. How many accidents have you been involved in over the past year when you were the
driver where the police were called to the scene?
   ____ accidents

23. How many times over the past year have you been pulled over by the police, regardless
of whether you received a ticket?
   ____ times

24. How many times in the past year have you received a traffic ticket (other than a parking
ticket) where you were found to be guilty, regardless of whether or not you think you
were at fault?
   ____ times

Driving Space
25. During the past year, have you driven in your immediate neighborhood?
   ____ Yes ____ No

26. During the past year, have you driven to places beyond your neighborhood?
   ____ Yes ____ No

27. During the past year, have you driven to neighboring towns?
   ____ Yes ____ No

28. During the past year, have you driven to more distant towns?
   ____ Yes ____ No

29. During the past year, have you driven to places outside the state where you live?
   ____ Yes ____ No
30. During the past year, have you driven to neighboring states?
   ___ Yes ___ No

Modified with permission from the Driving Habit Questionnaire (DHQ)
Montreal Cognitive Assessment
(MoCA)

Administration and Scoring Instructions

The Montreal Cognitive Assessment (MoCA) was designed as a rapid screening instrument for mild cognitive dysfunction. It assesses different cognitive domains: attention and concentration, executive functions, memory, language, visuoconstructional skills, conceptual thinking, calculations, and orientation. Time to administer the MoCA is approximately 10 minutes. The total possible score is 30 points; a score of 26 or above is considered normal.

1. **Alternating Trail Making:**
   
   **Administration:** The examiner instructs the subject: "Please draw a line, going from a number to a letter in ascending order. Begin here [point to (1)] and draw a line from 1 then to A then to 2 and so on. End here [point to (E)]."

   **Scoring:** Allocate one point if the subject successfully draws the following pattern:
   1 – A – 2 – B – 3 – C – 4 – D – 5 – E, without drawing any lines that cross. Any error that is not immediately self-corrected earns a score of 0.

2. **Visuoconstructional Skills (Cube):**
   
   **Administration:** The examiner gives the following instructions, pointing to the cube: “Copy this drawing as accurately as you can, in the space below”.

   **Scoring:** One point is allocated for a correctly executed drawing.
   - Drawing must be three-dimensional
   - All lines are drawn
   - No line is added
   - Lines are relatively parallel and their length is similar (rectangular prisms are accepted)

   A point is not assigned if any of the above-criteria are not met.

3. **Visuoconstructional Skills (Clock):**
   
   **Administration:** Indicate the right third of the space and give the following instructions: “Draw a clock. Put in all the numbers and set the time to 10 after 11”.

   **Scoring:** One point is allocated for each of the following three criteria:
   - Contour (1 pt.): the clock face must be a circle with only minor distortion acceptable (e.g., slight imperfection on closing the circle);
   - Numbers (1 pt.): all clock numbers must be present with no additional numbers; numbers must be in the correct order and placed in the approximate quadrants on the clock face; Roman numerals are acceptable; numbers can be placed outside the circle contour;
   - Hands (1 pt.): there must be two hands jointly indicating the correct time; the hour hand must be clearly shorter than the minute hand; hands must be centred within the clock face with their junction close to the clock centre.

   A point is not assigned for a given element if any of the above-criteria are not met.
4. **Naming:**

**Administration:** Beginning on the left, point to each figure and say: “Tell me the name of this animal”.

**Scoring:** One point each is given for the following responses: (1) camel or dromedary, (2) lion, (3) rhinoceros or rhino.

5. **Memory:**

**Administration:** The examiner reads a list of 5 words at a rate of one per second, giving the following instructions: “This is a memory test. I am going to read a list of words that you will have to remember now and later on. Listen carefully. When I am through, tell me as many words as you can remember. It doesn’t matter in what order you say them.” Mark a check in the allocated space for each word the subject produces on this first trial. When the subject indicates that (s)he has finished (has recalled all words), or can recall no more words, read the list a second time with the following instructions: “I am going to read the same list for a second time. Try to remember and tell me as many words as you can, including words you said the first time.” Put a check in the allocated space for each word the subject recalls after the second trial.

At the end of the second trial, inform the subject that (s)he will be asked to recall these words again by saying, “I will ask you to recall those words again at the end of the test.”

**Scoring:** No points are given for Trials One and Two.

6. **Attention:**

**Forward Digit Span:** **Administration:** Give the following instruction: “I am going to say some numbers and when I am through, repeat them to me exactly as I said them”. Read the five number sequence at a rate of one digit per second.

**Backward Digit Span:** **Administration:** Give the following instruction: “Now I am going to say some more numbers, but when I am through you must repeat them to me in the backwards order.” Read the three number sequence at a rate of one digit per second.

**Scoring:** Allocate one point for each sequence correctly repeated, (N.B.: the correct response for the backwards trial is 2-4-7).

**Vigilance:** **Administration:** The examiner reads the list of letters at a rate of one per second, after giving the following instruction: “I am going to read a sequence of letters. Every time I say the letter A, tap your hand once. If I say a different letter, do not tap your hand”.

**Scoring:** Give one point if there is zero to one errors (an error is a tap on a wrong letter or a failure to tap on letter A).
Serial 7s: **Administration:** The examiner gives the following instruction: “Now, I will ask you to count by subtracting seven from 100, and then, keep subtracting seven from your answer until I tell you to stop.” Give this instruction twice if necessary.

**Scoring:** This item is scored out of 3 points. Give no (0) points for no correct subtractions, 1 point for one correction subtraction, 2 points for two-to-three correct subtractions, and 3 points if the participant successfully makes four or five correct subtractions. Count each correct subtraction of 7 beginning at 100. Each subtraction is evaluated independently; that is, if the participant responds with an incorrect number but continues to correctly subtract 7 from it, give a point for each correct subtraction. For example, a participant may respond “92 – 85 – 78 – 71 – 64” where the “92” is incorrect, but all subsequent numbers are subtracted correctly. This is one error and the item would be given a score of 3.

7. **Sentence repetition:**

**Administration:** The examiner gives the following instructions: “I am going to read you a sentence. Repeat it after me, exactly as I say it [pause]: *I only know that John is the one to help today.*” Following the response, say: “Now I am going to read you another sentence. Repeat it after me, exactly as I say it [pause]: *The cat always hid under the couch when dogs were in the room.*”

**Scoring:** Allocate 1 point for each sentence correctly repeated. Repetition must be exact. Be alert for errors that are omissions (e.g., omitting "only", "always") and substitutions/additions (e.g., "John is the one who helped today;" substituting "hides" for "hid", altering plurals, etc.).

8. **Verbal fluency:**

**Administration:** The examiner gives the following instruction: “Tell me as many words as you can think of that begin with a certain letter of the alphabet that I will tell you in a moment. You can say any kind of word you want, except for proper nouns (like Bob or Boston), numbers, or words that begin with the same sound but have a different suffix, for example, love, lover, loving. I will tell you to stop after one minute. Are you ready? [Pause] Now, tell me as many words as you can think of that begin with the letter F. [time for 60 sec]. Stop.”

**Scoring:** Allocate one point if the subject generates 11 words or more in 60 sec. Record the subject’s response in the bottom or side margins.

9. **Abstraction:**

**Administration:** The examiner asks the subject to explain what each pair of words has in common, starting with the example: “Tell me how an orange and a banana are alike”. If the subject answers in a concrete manner, then say only one additional time: “Tell me another way in which those items are alike”. If the subject does not give the appropriate response (fruit), say, “Yes, and they are also both fruit.” Do not give any additional instructions or clarification.

After the practice trial, say: “Now, tell me how a train and a bicycle are alike”. Following the response, administer the second trial, saying: “Now tell me how a ruler and a watch are alike”. Do not give any additional instructions or prompts.
Scoring: Only the last two item pairs are scored. Give 1 point to each item pair correctly answered. The following responses are acceptable:

Train-bicycle = means of transportation, means of travelling, you take trips in both;
Ruler-watch = measuring instruments, used to measure.

The following responses are not acceptable: Train-bicycle = they have wheels; Ruler-watch = they have numbers.

10. **Delayed recall:**

**Administration:** The examiner gives the following instruction: “I read some words to you earlier, which I asked you to remember. Tell me as many of those words as you can remember. Make a check mark (✓) for each of the words correctly recalled spontaneously without any cues, in the allocated space.

**Scoring:** Allocate 1 point for each word recalled freely without any cues.

<table>
<thead>
<tr>
<th>Optional:</th>
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<tbody>
<tr>
<td>Following the delayed free recall trial, prompt the subject with the semantic category cue provided below for any word not recalled. Make a check mark (✓) in the allocated space if the subject remembered the word with the help of a category or multiple-choice cue. Prompt all non-recalled words in this manner. If the subject does not recall the word after the category cue, give him/her a multiple choice trial, using the following example instruction, “Which of the following words do you think it was, NOSE, FACE, or HAND?”.</td>
</tr>
<tr>
<td>Use the following category and/or multiple-choice cues for each word, when appropriate:</td>
</tr>
<tr>
<td>FACE: category cue: part of the body multiple choice: nose, face, hand</td>
</tr>
<tr>
<td>VELVET: category cue: type of fabric multiple choice: denim, cotton, velvet</td>
</tr>
<tr>
<td>CHURCH: category cue: type of building multiple choice: church, school, hospital</td>
</tr>
<tr>
<td>DAISY: category cue: type of flower multiple choice: rose, daisy, tulip</td>
</tr>
<tr>
<td>RED: category cue: a colour multiple choice: red, blue, green</td>
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</tbody>
</table>

**Scoring:** No points are allocated for words recalled with a cue. A cue is used for clinical information purposes only and can give the test interpreter additional information about the type of memory disorder. For memory deficits due to retrieval failures, performance can be improved with a cue. For memory deficits due to encoding failures, performance does not improve with a cue.

11. **Orientation:**

**Administration:** The examiner gives the following instructions: “Tell me the date today”. If the subject does not give a complete answer, then prompt accordingly by saying: “Tell me the [year, month, exact date, and day of the week].” Then say: “Now, tell me the name of this place, and which city it is in.”

**Scoring:** Give one point for each item correctly answered. The subject must tell the exact date and the exact place (name of hospital, clinic, office). No points are allocated if subject makes an error of one day for the day and date.

**TOTAL SCORE:** Sum all subscores listed on the right-hand side. Add one point for an individual who has 12 years or fewer of formal education, for a possible maximum of 30 points. A final total score of 26 and above is considered normal.
## Montreal Cognitive Assessment (MOCA)

### Visuospatial / Executive

- **Copy cube**: [ ]
- **Draw clock (Ten past eleven)**: [ ]
- **Points**: /5

### Naming

- **[ ] Lion**
- **[ ] Rhino**
- **[ ] Camel**
- **Points**: /3

### Memory

- **Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.**
  - **1st trial**
  - **2nd trial**

- **Subject has to repeat them in the forward order**: [ ] 2 1 8 5 4
- **Subject has to repeat them in the backward order**: [ ] 7 4 2
- **No points**

### Attention

- **Read list of digits (1 digit/sec.).**
  - [ ] 93
  - [ ] 86
  - [ ] 79
  - [ ] 72
  - [ ] 65
  - **4 or 5 correct subtractions**: 3 pts, 2 or 3 correct: 2 pts, 1 correct: 1 pt, 0 correct: 0 pt
  - **Points**: /3

### Language

- **Repeat: I only know that John is the one to help today.** [ ]
- **The cat always hid under the couch when dogs were in the room.** [ ]
- **Fluency/Name maximum number of words in one minute that begin with the letter F**: [ ] (N ≥ 11 words)
  - **Points**: /1

### Abstraction

- **Similarity between e.g. banana - orange = fruit** [ ]
  - **train - bicycle** [ ]
  - **watch - ruler** [ ]
  - **Points**: /2

### Delayed Recall

- **Has to recall words with no cue**
  - **FACE** [ ]
  - **VELVET** [ ]
  - **CHURCH** [ ]
  - **DAISY** [ ]
  - **RED** [ ]
  - **Points for uncued recall only**: /5

### Optional

- **Category cue**
- **Multiple choice cue**

### Orientation

- **[ ] Date**
- **[ ] Month**
- **[ ] Year**
- **[ ] Day**
- **[ ] Place**
- **[ ] City**

### Total

- **Points**: /30

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[www.mocatest.org](http://www.mocatest.org)

Administered by: ____________________________

Normal ≥ 26 / 30

Add 1 point if ≤ 12 yr edu

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Adaptive Equipment to Compensate for Impairments in Motor Performance

Category I: “Gadgets” that may assist mobility, comfort in the vehicle, or visibility

- The adaptive devices in this category are available via websites, catalogs or in stores carrying automotive devices.
- To be in this category they do not directly interfere/alter the control of a moving vehicle.
- Items in this category do not require a Comprehensive Driving Evaluation and/or a prescription from a driving rehabilitation specialist.

A. Handybar® (transfers, driver or passengers)
1. Much like an arm on an armchair, this tool can be helpful for drivers, passengers and caregivers. It may reduce the work/stress on the person assisting with ingress/egress from a vehicle.
2. Precautions/concerns/limitation:
   a. There are several manufacturers and styles. The “blade” style may be too wide to fit in some vehicle models.
   b. Some advertise the additional utility to break windows and cut the seatbelt.
   c. The device cannot be left in place; therefore it requires a convenient (in reach) and safe location for storage.

B. Ribbon or seatbelt Easy Reach Handle® (reach the seatbelt)
1. An option when reaching for the seatbelt is painful or difficult (particularly if this is a reason the seatbelt is not worn).
2. A piece of ribbon may be sufficient or they can purchase a gadget such as the “easy reach” adaptive device that attaches to the seatbelt.
3. Precautions/concerns/limitations:
   a. Warn that any device must not interfere with the seatbelt in any manner. Closely note the placement and avoid any possible interference with the seatbelts function to freely retraction and feed.

C. Plastic garbage bag or seat slide (transfers)
1. Plastic garbage bag is an inexpensive assist to sliding into place. (Commercially available products such as the seat slide are also available).
2. This can also be a useful as a caregiver resource.
3. Precautions/concerns/limitations:
   a. Once in the seat the bag creates a slippery surface. Recommend that it be removed when vehicle is in motion.

D. Leg lifter (transfers, pivot into the seat)
1. A loop is placed over foot to assist in “lifting leg” into the vehicle.
2. Manually show how to assist pulling leg into vehicle by pulling onto pant leg or lifting thigh.
E. Key holder (decrease pain/trauma with turning key)
   1. Generally inexpensive and available in various styles and designs.
   2. Precautions/concerns/limitations:
      a. Consider placement of ignition and be sure the key holder does not interfere

Category II: Devices readily available but may interfere with vehicle safety devices.
- Consumers need to be well informed of the pros and cons when choosing to use devices in
  this category.
- There are no current “guidelines”. Referral to an occupational therapist or driving
  rehabilitation specialist may be justified for offering guidance in this purchase.

A. Wedge cushion (seat height to raise line of sight, check impact on reach to pedals)
   1. Variables include the quality of foam (firm, stable) and shape. Determining the
      benefit of the shape, wedge or block style cushion, will depend on the person’s
      needs and the contours of the vehicle seat.
   2. Precautions/concerns/limitations: Any cushion may impact the ability to reach the
      pedals. It may contribute to “submarining”: under the lap belt in the event of a
      crash.

B. Mirrors (adjustment, additional side and rearview (panoramic))
   1. Many versions of clip on and stick on mirrors are available to expand the peripheral
      field of view for the driver. For some drivers they work, for others they may distort
      or distract.
   2. Precautions/concerns/limitations: a mirror clipped to the rearview mirror may
      become a projectile in a crash.

C. Pedal Extenders (built up pedals for short statured drivers)
   1. Many versions. Professional installation important for proper placement and
      secure attachment.
   2. Lack of consensus if this equipment should require a driving evaluation and
      prescription.

Category III: Adaptive Equipment requiring evaluation, prescription and professional installation
- Explore a full array of equipment options at The National Mobility Equipment Dealer’s
  Association www.nmeda.com
- The Comprehensive Driving Evaluation should provide an evaluation of the senior driver,
  individualized recommendations and equipment prescriptions. This evaluation should be
  neutral to vendor and equipment brands.
- Adaptive equipment does interfere with the Original Equipment Manufacturer (OEM) and
  must be properly installed, inspected, and the driver trained in its use. (NMEDA
- Many states require testing and place a restriction on the driver’s license

A. Steering Knob (drive with one hand/arm)
   1. Evaluation determines ideal placement of this device on the steering wheel.

Created by Elin Schold Davis,
AOTA Older Driver Initiative Coordinator escholddavis@aota.org
2. Some states require this adaptation for one-handed drivers

**B. Left Foot Accelerator (manage gas with left foot when right foot unable/unreliable)**
1. Requires comprehensive evaluation, professional installation and training.
2. Requires new learning, evaluation of cognition is essential.
3. Controversial. Some programs no longer install, yet many have used very successfully.

**C. Hand Controls (control gas and brake with hands, nonfunctioning or unreliable lower extremities)**
1. Requires comprehensive evaluation, professional installation and training.
2. Requires new learning, evaluation of cognition is essential.
3. Many configurations are available, matching the hand control model with the driver’s strongest abilities and the access allowed by the model of vehicle is essential.

**D. A wide range of specialized devices are available for primary (low effort steering, smaller circumference steering wheel) and secondary controls (blinker, wipers, etc.). Drivers experiencing pain, impaired reach, diminished strength may benefit from modifications that bring control of the vehicle within their physical capabilities.**
1. The Comprehensive Driving Evaluation will provide an evaluation of the senior driver, individualized recommendations and equipment prescriptions. This evaluation should be neutral to vendor and equipment brands.
2. Adaptive equipment does interfere with the Original Equipment Manufacturer (OEM) and must be properly installed, inspected, and the driver trained in its use. (NMEDA)
3. Many states require testing and place a restriction on the driver’s license
4. Equipment and installation is costly. Refer to the driving evaluator with medical background and trained to understand the medical condition and its progression.

**Category IV: Vehicle Modification requiring evaluation, prescription and professional installation**

- The Comprehensive Driving Evaluation is likely required to prescribe the complex components of vehicle modification. This evaluation should be neutral to vendor and equipment brands.
- Modification clearly interferes with the OEM design and should only be completed by certified vehicle modifiers. See www.NMEDA.com.
- Many states require testing and will place a restriction on the driver’s license for driver of a modified vehicle.
- Caregiver needs must be considered when discharging a senior with medical conditions that impact mobility.
- Equipment and installation is costly. Refer to the driving evaluator with medical background and trained to understand the medical condition and its progression.
A. Vehicle adaption may include wider doors, lowered floor for wheelchair access, or a proper securement system if driving from the wheelchair. Modifications to the vehicle to allow driver to transfer and stow of equipment.

B. Vehicle adaptation may consider both the needs of the client and caregiver. When the senior is now a passenger only, the caregivers may benefit from an adapted vehicle that supports successful transfers and transport of their mobility equipment with attention to the physical burden on the caregiver.

C. Transporting mobility equipment such as wheelchairs and scooters may be difficult. Some vehicles lack the space and access. Some scooter designs fold and lift easier than others. Some trailer style carriers may be too heavy for the vehicle, potentially interfering with vehicle function and control.
Resources

1. **Handybar (transfers, driver or passengers)**
   - [http://www.handybar.com/](http://www.handybar.com/) around $40

2. **Ribbon or seatbelt Easy Reach Handle (reach the seatbelt)**
   - [http://www.shop.com/op/~Easy_Reach_Seatbelt-prod-12550917](http://www.shop.com/op/~Easy_Reach_Seatbelt-prod-12550917) around $8.00

3. **Wedge cushion (seat height)**
   - Purchase at Bed, Bath and Beyond for under $20
   - Other foam qualities and styles may be $50 to $100

4. **Mirrors (instructions re: “how to adjust” is adequate)**
   - Use your professional judgment if choosing to have sample mirrors. Some are concerned that interior mirrors could break loose in a crash. Training is essential to benefit from ancillary mirrors.

5. **Garbage bag or seat slide (transfers)**
   - [http://www.abledata.com/abledata.cfm?pageid=19327&top=13902&productid=78954&trail=0](http://www.abledata.com/abledata.cfm?pageid=19327&top=13902&productid=78954&trail=0)
   - Seat Slide approximately $100.00
   - garbage bag or silky scarf (nominal)

6. **Leg lifter (transfers)**
   - [http://www.dynamic-living.com/leg-lifter.htm](http://www.dynamic-living.com/leg-lifter.htm) (under $15.00)

7. **Adjustable (built up) Key holder (decrease pain/trauma with turning key)**
   - Several style choices (prices range $8.00 to $15.00) available at [http://www.sammonspreston.com/Supply/Product.asp?Leaf_Id=6513](http://www.sammonspreston.com/Supply/Product.asp?Leaf_Id=6513)
Leg Lifter

Key Holder
Easy Reach

Handy Bar
Button Mirror

Pedal Extender
Left Foot Accelerator

Steering Knob
Adapting Motor Vehicles for Older Drivers
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A Proven Process for Maintaining Freedom on the Road

New and existing adaptive technologies continue to broaden opportunities for older drivers to drive comfortably and safely — and enjoy the freedom of driving for as long as possible. Some of these adaptive technologies are as simple as swivel seats for more convenient access. Others, such as hand controls, may be necessary for a driver to safely operate a vehicle. All drivers who are facing, or may soon face, age-related driving challenges should become familiar with the technologies available to support any special driving needs.

The information in this brochure is based on the experience of driver rehabilitation specialists and other professionals who work with people who require adaptive devices for their motor vehicles. The steps outlined here represent a proven process — evaluating your needs, making sure the vehicle “fits” you properly, choosing appropriate features, installing and knowing how to use adaptive devices, practicing good vehicle maintenance — that can help you avoid costly mistakes when modifying or purchasing a vehicle to accommodate age-related changes that may affect your driving.

Also included is general information on cost savings, licensing requirements, and organizations to contact for additional assistance. Although the brochure focuses on drivers of modified vehicles, each section also contains important information for people who provide transportation for passengers with special needs.
Investigate Cost-Saving Opportunities and Licensing Requirements

Cost-Saving Opportunities

With such a wide range of adaptive equipment solutions available, associated costs for modifying a vehicle can vary greatly depending on an individual’s needs. Some adaptive equipment, such as a special seat-back cushion, can provide a better view of the road for as little as $50. More complex equipment, such as hand controls, can be purchased for under $1,000. However, a new vehicle modified with adaptive equipment will cost anywhere from $20,000 to $80,000.

Whether you are modifying a vehicle you now own or purchasing a new vehicle with adaptive equipment, it pays to do your homework first. By consulting with a driver rehabilitation specialist before you buy, you can learn what adaptive equipment you need now or may need in the future, avoid paying for equipment you don’t need, and learn about opportunities for public and private financial assistance.

There are programs that may help pay part or all of the cost of vehicle modification. For information, contact your State’s Department of Vocational Rehabilitation or another agency that provides vocational services, and, if appropriate, the U.S. Department of Veterans Affairs. You can find phone numbers for these State and Federal agencies in your local phone book.

Also be aware of the following:

- Some nonprofits that advocate for individuals with disabilities offer programs that may help pay for adaptive devices. Generally, these groups and programs represent local resources. To learn about any available programs in your area, contact your State government office that handles services for persons with disabilities.
- Automotive insurance may cover all or part of the cost of adaptive equipment if your need for such equipment is a result of a motor vehicle crash.
- Workers’ compensation typically covers the cost of adaptive equipment if your need for such equipment is a result of a job-related injury.
Most major vehicle manufacturers offer rebates on adaptive equipment, usually up to $1,000, provided you purchase a vehicle less than one year old. Your local automobile dealer can supply information on these programs and assist you with the application process. Contact information for vehicle manufacturers offering rebates on adaptive equipment is listed in the "Resources" section of this brochure.

National Mobility Equipment Dealers Association (NMEDA) members are also familiar with vehicle manufacturer rebates, can help you apply for these rebates — and can provide pre-purchase advice about the type of vehicle that will accommodate your adaptive equipment needs. NMEDA contact information is listed in the “Resources” section of this brochure.

Some States waive the sales tax for adaptive devices if you have a doctor’s prescription for their use.

The cost of adaptive equipment may be tax deductible. Check with a qualified tax consultant to learn more.

**Licensing Requirements**

All States require a valid learner’s permit or driver’s license to receive an on-the-road driving evaluation. You cannot be denied the opportunity to apply for a permit or license because of age or disability. However, a driver’s license with restrictions may be issued based on your need of adaptive equipment.
Evaluate Your Needs

Driver rehabilitation specialists perform comprehensive evaluations to identify the adaptive equipment most suited to your needs and medical condition. As part of this process, a rehabilitation specialist will take into consideration your future equipment needs based on your medical condition and the repetitive stress an adaptive aid may place on a particular muscle group.

In addition, you can expect a complete evaluation to include vision screening as well as:

- Muscle strength, flexibility, and range of motion;
- Coordination and reaction time;
- Judgment and decision-making abilities; and
- Ability to drive with adaptive equipment.

After you finish the evaluation you should receive a report containing specific recommendations on driving requirements or restrictions. You should also be given a complete list of any recommended vehicle requirements or modifications. The recommendations should suggest obtaining on-the-road training to practice safe operation of the equipment and learn safe driving habits.

Finding a Qualified Driver Rehabilitation Specialist

Check with a rehabilitation center in your area to find a qualified driver rehabilitation specialist to perform your evaluation. You’ll find rehabilitation centers for each State listed on the Web sites for the Association for Driver Rehabilitation Specialists (ADED) and the American Occupational Therapy Association, Inc. (AOTA). These associations maintain lists of qualified driver rehabilitation specialists in areas across the United States and Canada. Contact information for these groups is located in the “Resources” section of this brochure.
Paying for an Evaluation

- Vocational rehabilitation agencies and workers' compensation agencies may assist in the cost of a driver evaluation.
- Your health insurance company may pay for part or all of the evaluation. Find out from your insurance company if you need a doctor's prescription or other documentation to receive such benefits.
- Many driver evaluation programs offer senior drivers a discount on evaluations. Ask if your driver rehabilitation specialist offers a discount to seniors.

Determining the Best Time to Seek a Driving Evaluation

Consult with your doctor to make sure you are physically and psychologically prepared to drive. Being evaluated too soon after an injury, stroke, or other trauma may be misleading because it may show the need for adaptive equipment that you will not need in the future. You want to be functioning at your best when you have a driver evaluation. For the evaluation, you will need to take any equipment you normally use, such as a walker or neck brace. If you use a wheelchair and are planning to modify the wheelchair or obtain a new one, be sure to tell your driver rehabilitation specialist prior to the evaluation.

Evaluating Passengers with Disabilities

Driver rehabilitation specialists may also give advice on compatibility and transportation safety issues for passengers with special needs. They determine the type of seating needed and the person's ability to enter and exit the vehicle. They provide advice on the purchase of modified vehicles and recommend appropriate wheelchair lifts or other equipment that would work in your vehicle.
Athough the purchase or lease of a vehicle is your responsibility, your mobility equipment dealer and driver rehabilitation specialist are qualified to ensure the vehicle you select can be modified to meet your adaptive equipment needs. Take the time to consult with these professionals before you make your purchase decision.

To find a qualified dealer in your area, contact the National Mobility Equipment Dealers Association (NMEDA). To find a qualified driver rehabilitation specialist, contact the Association for Driver Rehabilitation Specialists (ADED). Complete contact information for these two organizations is listed in the “Resources” section of this brochure.

The following questions can help with vehicle selection. They can also help determine if you can modify a vehicle you already own:

- Does the vehicle have the cargo capacity (in pounds) to accommodate the equipment you require?
- Will there be enough space and cargo capacity to accommodate your family or other passengers once the vehicle is modified?
- Is there adequate parking space at home and at work for the vehicle and for loading/unloading a wheelchair?
- Is there adequate parking space to maneuver if you use a walker?
- What additional options are necessary for the safe operation of the vehicle?

If a third party is paying for the vehicle, adaptive devices, or modification costs, find out if there are any limitations or restrictions on what is covered. Always get a written statement on what a funding agency will pay before making your purchase.

Once you select and purchase a vehicle, be aware that you will need to also purchase insurance to cover your vehicle while it’s being modified — even though it will be off the road during this period.

**Standard Features to Look for in a New Passenger Vehicle**

Before purchasing a new vehicle, always sit in it first to make sure you are comfortable. Check to see that you can enter and exit the vehicle with ease. If possible, take it out for a test drive. How well does the car fit your body? To prevent air bag-related injury, you should keep 10 inches between your breast bone and the steering wheel, which contains
the driver’s side air bag. At the same time, you’ll need to be able to easily reach the pedals while maintaining a comfortable line of sight above the adjusted steering wheel. Also, make sure the vehicle provides you with good visibility in all directions — front, rear, and sides. Your dealer can demonstrate the use of adaptive features, such as adjustable foot pedals and driver seats, which can help ensure a good person-vehicle fit.

Check to see if the model you are considering purchasing has good crash test results and is resistant to rollover. Visit www.safercar.gov or call the Vehicle Safety Hotline at 888-327-4236 to obtain government crash test results and rollover ratings for specific makes and models.

When selecting a vehicle, look for and ask about available features designed to improve both the comfort and safety of drivers experiencing physical or visual challenges associated with aging. Some of these features are:

- High or extra-wide doors;
- Adjustable foot pedals;
- Large interior door handles;
- Oversized knobs with clearly visible labels;
- Support handles to assist with entry and exit;
- Large or adjustable-size print for dashboard gauges;
- Seat adjusters that can move the seat in all directions — particularly raising it so the driver’s line of sight is 3” above the adjusted steering wheel; and
- Dashboard-mounted ignition rather than steering column-mounted ignition.
Choose a Qualified Mobility Dealer to Modify Your Vehicle

Even a half inch change in the lowering of a van floor can affect a driver’s ability to use equipment or to have an unobstructed view of the road. So it’s important that you take the time to find a qualified dealer to modify your vehicle. Your driver rehabilitation specialist may be able to provide referrals depending on where you live and your vehicle modification and adaptive equipment needs.

**Note:** Some State agencies specify the dealer you must use if you want reimbursement. For example, some States require that dealers bidding on State vocational rehabilitation jobs be members of the National Mobility Equipment Dealer’s (NMEDA’s) Quality Assurance Program. You’ll find contact information for NMEDA within the “Resources” section of this brochure.

To find qualified mobility equipment dealers, begin with phone inquiries to learn about credentials, experience, and references. Ask questions about how they operate. Do they work with qualified driver rehabilitation specialists? Will they look at your vehicle before you buy it? Do they require a prescription from a physician or driver evaluation specialist? How long will it take before they can start work on your vehicle?

Also ensure that the dealer you choose to modify your vehicle is registered with the National Highway Traffic Safety Administration (NHTSA). In order to adapt a vehicle to meet your needs, registered equipment dealers are permitted to modify existing federally mandated safety equipment. In addition, registered mobility equipment dealers must provide you with a written statement regarding the work that was performed, as well as list any Federal Motor Vehicle Safety Standards affected by their modification work on a label adjacent to the original equipment manufacturer’s label or the modifier’s certification label. These labels are often found inside the driver’s door. Visit [www.nhtsa.dot.gov/cars/rules/adaptive/Modifier/Index.cfm](http://www.nhtsa.dot.gov/cars/rules/adaptive/Modifier/Index.cfm) to find out if a mobility equipment dealer is registered with NHTSA as a vehicle modifier.

Questions to consider in evaluating a mobility equipment dealer’s qualifications are listed below:
- Is the dealer registered with NHTSA?
- Is the dealer a member of NMEDA — and a participant in this organization’s **Quality Assurance Program**?
- What type of training has the staff received?
What type of warranty is provided on work?

Does the dealer provide ongoing service and maintenance?

Are replacement parts stocked and readily available?

If you are satisfied with the answers you receive, check references; then arrange to visit the dealer’s facility. Once you are comfortable with a dealer’s qualifications, you will want to ask more specific questions, such as:

- How much will the modification cost?
- Are third-party payments accepted?
- How long will it take to modify the vehicle?

Can the equipment be transferred to a new vehicle in the future?

Will existing safety features need to be modified to install the adaptive equipment?

While your vehicle is being modified, you will most likely need to be available for fittings. This avoids additional waiting time for adjustments once the equipment is fully installed. Without proper fittings you may have problems with the safe operation of the vehicle and have to go back for adjustments.
Both new and experienced drivers need training on how to safely use newly installed adaptive equipment. Your equipment installer and driver rehabilitation specialist should provide information on the new devices and off-road instruction.

But literature and off-road instruction aren’t enough to equip you to drive safely with your new adaptive equipment. This equipment can be very complex. So it’s extremely important to obtain on-the-road training and practice with a driver rehabilitation specialist who has advanced expertise and knowledge of adaptive technologies. If your driver rehabilitation specialist does not offer such training, ask him or her for a referral, or inquire at your local driver licensing office.

State vocational rehabilitation departments and workers’ compensation plans will pay for driver education and training under certain circumstances. At a minimum, their staffs can help you locate a qualified driver rehabilitation specialist to provide training.

Finally, remember to enlist the help of a family member or friend to drive you to all of your training sessions. (It’s important to have someone else who can drive your vehicle in case of an emergency.)

Ensuring Safe Operation and Warranty Compliance

Regular maintenance is important for keeping your vehicle and specially installed adaptive features safe and reliable. It may also be mandatory for compliance with the terms of your warranty. Some warranties specify a time period during which adaptive equipment must be inspected. These equipment check-up schedules may differ from those for your vehicle. Make sure you or your modifier submit all warranty cards for all equipment. This will not only ensure coverage, but will also enable manufacturers to contact you in case of a recall.
Vehicle Safety Checklist

Your vehicle warranty and owner’s manual will describe regularly required vehicle maintenance. Keep in mind that your adaptive equipment may need special attention or more frequent check-ups than your vehicle alone. However, the following checklist represents basic maintenance that applies to all vehicles:

- Check tire pressure at least once a month and always before a long road trip.
- Change oil as recommended by your owner’s manual, using the grade recommended.
- Check all fluids when you change the oil, including power steering fluid, brake fluid, and engine coolant.
- Routinely check headlights, brake and parking lights, reverse lights, and turn signals.

- Remember to keep your windows and headlights clean. You need to clearly see where you are going. Keeping the headlights clean will help other cars see you too.
- Check for damage from road hazards by having your vehicle put on a service lift at least once a year.

Proper maintenance can keep your vehicle running smoothly, leaving you free to concentrate on the road and enjoy the freedom of driving.
Resources

Association for Driver Rehabilitation Specialists (ADED)
711 S. Vienna Street
Ruston, LA 71270
800-290-2344
www.aded.net

American Occupational Therapy Association (AOTA)
4720 Montgomery Lane
P.O. Box 31220
Bethesda, MD 20824-1220
301-652-2682
TDD: 800-377-8555
www.aota.org/olderdriver

National Mobility Equipment Dealers Association (NMEDA)
3327 West Bearss Avenue
Tampa, FL 33618
800-833-0427
www.nmeda.org

National Highway Traffic Safety Administration (NHTSA)
1200 New Jersey Avenue SE.
Washington, DC 20590
888-327-4236
TDD: 800-424-9153
www.nhtsa.gov
www.safercar.gov

Department of Veteran Affairs
800-827-1000
www.va.gov

State Departments of Vocational Rehabilitation
Listed in telephone book.

The following manufacturers offer rebates or reimbursements on new-vehicle modification.

Audi
800-822-2834
www.audiusa.com

DaimlerChrysler Corporation
800-255-9877
(TDD Users: 800-922-3826)
www.daimlerchrysler.com

Ford Motor Company
800-952-2248
(TDD Users: 800-TDD-0312)
www.fordmobilitymotoring.com

General Motors Corporation
800-323-9935
(TDD Users: 800-TDD-9935)
www.gm.com

Saturn
800-553-6000, Prompt 3
(TDD Users: 800-833-6000)
www.saturn.com

Toyota
800-331-4331
www.toyota.com/mobility

Volkswagen
800-822-8987
www.vw.com

Selected photos courtesy of Bruno Independent Living Aids.

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Sample Driving Cessation Plan

Planning for future driving cessation requires research and planning similar to future needs for finances and housing. Ideally, creating a driving cessation plan starts early, years before driving needs to stop. Having individual choice and control over transportation options means knowing what options are available and how to use them.

One concept many older adults find helpful is “transition”. This involves gaining experience and confidence in the use of several forms of transportation options available in the community. This planning may also involve exploring requirements for eligibility, availability, routes, and accessibility.

When driving needs to stop for medically-related changes, transportation options may need to include support to allow an individual to move from one destination to another safely. The growing field of Mobility Management may be an option available in your community. Mobility Managers assist individuals and their families with creating transportation plans with appropriate supports for safety and comfort. An example of support may be a service offering door to door service or the provision of an escort who comes to the older adult’s door, to and from the vehicle and stays with them at their destination until returning safely back into their home.

Sample Driving Cessation Plan for _______________________:

1) You are experiencing medically related changes that may require you to stop driving at some point in the future. Your physician or medical professional will assist you in monitoring these changes and will do everything possible to extend driving as long as safely possible.

2) We recommend that you make a list of the typical places you go. This list will guide you in your exploration of options other than driving that can support ongoing participation in the activities you choose.

3) Frequent locations:
   a. Grocery
   b. Drugstore
   c. Bank
   d. Post office
   e. Senior Center
   f. Exercise/physical activity facility
g. Outdoor park
h. Library
i. Medical office(s)
j. Dental office(s)
k. Personal care (hairdresser, barber shop, nail care, etc)
l. General shopping (mall, discount store, etc)
m. Entertainment venue (concerts, performances, movie theater, etc)
n. Club activities (card-playing, garden, bingo, community service, etc)
o. Volunteer service locations (food pantry, homeless shelter, etc)

4) Explore your personal options. Who might provide a ride, and for which of the destinations from your list?
   a. Family
   b. Neighbors
   c. Friends
   d. Others participating in the same activity

5) Become experienced with the transportation options available so you can decide which you prefer and for what destinations.
   a. Public transportation--local bus and train routes
   b. The medical/para transit system
   c. Taxi cabs
   d. Volunteer driver programs
   e. Other transportation providers
   f. For assistance contact your Area Agency on Aging, ask about Mobility Management, contact a social worker or senior center.

Resources:


In order to perform this test, please follow the instructions:
Snellen Test

1. Print the test page in A4 standard format. Place yourself 2.8 meters (or 9 feet) away from the chart. If the test page is in another format, or if you wish to perform the test facing the screen, you will have to calculate the distance at which you must stand facing it, using the following formula: measure the height of the letter E (first line, 20/200) in millimeters. Then, divide the value of this measurement by 88. Finally, multiply it by 6. The result shows the distance at which you must be placed, in meters.
   E.g. (42/88) x 6 = 2.8 m

2. Test your visual acuity with correction (contact lenses or glasses).

3. Test one eye at a time. Start with the right eye, covering the left one without pressing on it. Then, examine the left eye by doing the opposite. If you are using correction glasses, you can cover the eye with a sheet of paper.

4. Read the letters from the largest to the smallest.

5. To make the examination easier and faster, another person can help you by showing the letters you must read among the lines of letters.

6. If you can read the letters of the 8th line, your sight is optimal (visual acuity 20/20).

7. If your visual acuity is less than 20/20 or if you have doubts about your sight, visit your ophthalmologist.

NOTE: take the results as a recommendation. The results do not indicate a diagnosis whatsoever. Performing the test does not mean you should skip regular visits to your eye doctor, because you could easily miss signs that only a trained eye care practitioner would find.
Maze Test Instructions

The Maze Test was developed as a pencil and paper test of attention, visuoconstructional ability, and executive functions of planning and foresight. The participants compete a simple demonstration maze first in order to establish the rule set, then complete the Maze Task. Performance is measured in time (in seconds), using a stop watch, and the total number of errors. Errors are determined by the number of times the participant enters a dead-end or fails to stay in the lines. Time to administer is 1–4 minutes. The Maze Test is in Appendix C; it should be printed on an 8 × 11” paper with the Maze Test at least 5.5” square and the practice 4.5”.

The Maze Test is placed in front of the participant, and the examiner states, “I’m going to time you as you find the route from the start to the exit of the maze. Put your pen here at the start (point to the start). Here is the exit of the maze (point to the exit). Draw a line representing the route from the start to the exit of the maze. Don’t run into any dead ends (point to a dead end) or cross any solid lines (point to a solid line). Go!” The instructions can be repeated, and the administrator should correct any rule breaks. There is a limit of 3 minutes for the Maze Test. If the maze has not been completed in this time, discontinue.
## Spectrum of Driver Services: Right Services for the Right People at the Right Time

A description consumers and health care providers can use to distinguish the type of services needed for an older adult.

<table>
<thead>
<tr>
<th>Program Type</th>
<th>COMMUNITY-BASED EDUCATION</th>
<th>MEDICALLY-BASED ASSESSMENT, EDUCATION AND REFERRAL</th>
<th>SPECIALIZED EVALUATION AND TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Education Programs</td>
<td>Driving School</td>
<td>Driver Screen</td>
<td>Clinical IADL Evaluation</td>
</tr>
<tr>
<td>Typical Providers and Credentials</td>
<td>Program specific credentials</td>
<td>Licensed Driving Instructor (LDI)</td>
<td>Health care professional (e.g., physician, social worker, neuropsychologist).</td>
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<td>Program specific knowledge</td>
<td>Instructs novice or relocated drivers, excluding medical or aging conditions that might interfere with driving, for purposes of teaching / training / refreshing / updating driving skills.</td>
<td>Knowledge of relevant medical conditions, assessment, referral, and / or intervention processes.</td>
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<td>Trained in course content and delivery.</td>
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<td>Typical Services Provided</td>
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<td>1) Classroom or computer based refresher for licensed drivers: review of rules of the road, driving techniques, driving strategies, state laws, etc.</td>
<td>1) Enhance driving performance.</td>
<td>1) Evaluate and interpret risks associated with changes in vision, cognition, and sensory-motor functions due to acute or chronic conditions.</td>
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<td>2) Acquire driver permit or license.</td>
<td>2) Investigate driving risk associated with changes in vision, cognition, and sensory-motor function.</td>
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<td>3) Counsel with family members for student driver skill development.</td>
<td>3) Determine actions for the at-risk driver: [ \text{Refer to IADL evaluation, driver rehabilitation program, and / or other services.} ]</td>
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<td>4) Recommend continued training and / or undergoing licensing test.</td>
<td>[ \text{Discuss driving cessation; provide access to counseling and education for alternative transportation options.} ]</td>
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<td>5) Remedial Programs (e.g., license reinstatement course for teens / adults, license point reduction courses).</td>
<td>[ \text{Follow reporting / referral structure for licensing recommendations.} ]</td>
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<td>6) Recommend ongoing driving or follow-up.</td>
<td>[ \text{Evaluate and interpret risks associated with changes in vision, cognition, and sensory-motor functions due to acute or chronic conditions.} ]</td>
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#DRS – Health professional degree with specialty training in driver evaluation and rehabilitation.  
*CDRS – Certified Driver Rehabilitation Specialist-Credentialled by ADED (Association for Driver Rehabilitation Specialists).  
*SCDCM – Specialty Certified in Driving and Community Mobility by AOTA (American Occupational Therapy Association).  
*CDRS – Certified Driver Rehabilitation Specialist-Credentialed by ADED (Association for Driver Rehabilitation Specialists).  
*Quality Approved Provider by NMEDA (National Mobility Equipment Dealers Association).

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**Driver Rehabilitation Programs: Defining Program Models, Services, and Expertise.**  
Occupational Therapy In Health Care, 28(2):177–187, 2014  
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<table>
<thead>
<tr>
<th>Program Type</th>
<th>DRIVER REHABILITATION PROGRAMS</th>
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<td></td>
<td>Determine fitness to drive and / or provide rehabilitative services.</td>
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</table>

### Levels of Program and Typical Provider Credentials

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<tr>
<th>BASIC</th>
<th>LOW TECH</th>
<th>HIGH TECH</th>
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<tr>
<td>Provider is a Driver Rehabilitation Specialist (DRS)* with professional background in occupational therapy, other allied health field, driver education or a professional team of CDRS or SCDCM with LDI**.</td>
<td>Driver Rehabilitation Specialist¹, Certified Driver Rehabilitation Specialist**, Occupational Therapist with Specialty Certification in Driving and Community Mobility¹, or in combination with LDI. Certification in Driver Rehabilitation is recommended as the provider for comprehensive driving evaluation and training.</td>
<td>Driver Rehabilitation Specialist¹, Certified Driver Rehabilitation Specialist**, Occupational Therapist with Specialty Certification in Driving and Community Mobility¹. Certification in Driver Rehabilitation is recommended as the provider for comprehensive driving evaluation and training with advanced skills and expertise to complete complex client and vehicle evaluation and training.</td>
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</table>

### Program Service

<table>
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<tr>
<th>BASIC</th>
<th>LOW TECH</th>
<th>HIGH TECH</th>
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</table>
| Offers driver evaluation, training and education. May include use of adaptive driving aids that do not affect operation of primary or secondary controls (e.g., seat cushions or additional mirrors). May include transportation planning (transition and options), cessation planning, and recommendations for clients as passengers. | Offers comprehensive driving evaluation, training and education, with or without adaptive driving aids that affect the operation of primary or secondary controls, vehicle ingress / egress, and mobility device storage / securement. May include use of adaptive driving aids such as seat cushions or additional mirrors. At the Low Tech level, adaptive equipment for primary control is typically mechanical. Secondary controls may include wireless or remote access. May include transportation planning (transition and options), cessation planning, and recommendations for clients who plan to ride as passengers. | Offers a wide variety of adaptive equipment and vehicle options for comprehensive driving evaluation, training and education, including all services available in Low Tech and Basic programs. At this level, providers have the ability to alter positioning of primary and secondary controls based on client’s need or ability level. High Tech adaptive equipment for primary and secondary controls includes devices that meet the following conditions:
1) capable of controlling vehicle functions or driving controls, and
2) consists of a programmable computerized system that interfaces / integrates with an electronic system in the vehicle. |

### Access to Driver’s Position

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<tr>
<td>Requires independent transfer into OEM* driver’s seat in vehicle.</td>
<td>Addresses transfers, seating and position into OEM* driver’s seat. May make recommendations for assistive devices to access driver’s seat, improved positioning, wheelchair securement systems, and / or mechanical wheelchair loading devices.</td>
<td>Access to the vehicle typically requires ramp or lift and may require adaptation to OEM driver’s seat. Access to driver position may be dependent on use of a transfer seat base, or clients may drive from their wheelchair. Provider evaluates and recommends vehicle structural modifications to accommodate products such as ramps, lifts, wheelchair and scooter hoists, transfer seat bases, wheelchairs suitable to utilize as a driver seat, and / or wheelchair securement systems.</td>
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</table>

### Typical Vehicle Modification: Primary Controls: Gas, Brake, Steering

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<tr>
<td>Uses OEM* controls.</td>
<td>Primary driving control examples: A) mechanical gas / brake hand control; B) left foot accelerator pedal; C) pedal extensions; D) park brake lever or electronic park brake; E) steering device (spinner knob, tri-pin, C-cuff).</td>
<td>Primary driving control examples (in addition to Low Tech options): A) powered gas / brake systems; B) power park brake integrated with a powered gas / brake system; C) variable effort steering systems; D) reduced diameter steering wheel, horizontal steering, steering wheel extension, joystick controls; E) reduced effort brake systems.</td>
</tr>
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</table>

### Typical Vehicle Modification: Secondary Controls

<table>
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<th>HIGH TECH</th>
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<tr>
<td>Uses OEM* controls.</td>
<td>Secondary driving control examples: A) remote horn button; B) turn signal modification (remote, crossover lever); C) remote wiper controls; D) gear selector modification; E) key / ignition adaptions.</td>
<td>Electronic systems to access secondary and accessory controls. Secondary driving control examples (in addition to Low Tech options): A) remote panels, touch pads or switch arrays that interface with OEM* electronics; B) wiring extension for OEM* electronics; C) powered transmission shifter.</td>
</tr>
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*LDI-licensed driving instructor.

**OEM – Original Equipment installed by Manufacturer.

Driver Rehabilitation Programs: Defining Program Models, Services, and Expertise. Occupational Therapy In Health Care, 28(2):177–187, 2014
Trail Making Test, Part B

Client Name: ______________________ Date: _______________

Start

1 2 3 4 5 6 7 8 9 10 11 12 13

A B C D E F G H I J K L

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