

Power-Mobility Community Driving Assessment (PCDA)

Administration Instructions

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Power-Mobility Community Driving Assessment (PCDA) Administration Instructions

The following are the administration instructions for completing the PCDA. These instructions should be read prior to initiating the assessment with the client. Examples are provided for each section but we recommend working through the instructions with the score sheet prior to assessing a client.

SECTION A-Mobility and Driver Experience Checklist

The Mobility and Driver Experience Checklist section of the Power-mobility Community Driving Assessment guides the therapist through obtaining background information on the client, his/her driving experience, and the power-mobility device that is being used for the assessment. This should be completed *prior to* conducting the performance assessment with the driver.

A1. ASSESSMENT

In this section, indicate the date of the assessment, the time of day, and weather conditions (e.g. rain, fog, slush, dry, cold, etc.). The Power-mobility Community Driving Assessment should ideally be completed in one session but if necessary can be completed over a maximum of three sessions. If this is necessary, the different dates and weather conditions for each session should be noted here as well as the session # being included in the comments for each section.

Date & Time	<u>Nov. 2, 2002, 9 a.m.</u>
Weather Conditions	<u>Cool, cloudy day, ground is wet</u>

A2. POWER-MOBILITY DRIVING EXPERIENCE

Any previous driving experience, whether a motorized vehicle or other power-mobility devices, can potentially have an impact on current driving performance. For this reason, it is important to gain an understanding of the amount and type of driving experience that the client has had prior to the assessment. If applicable, indicate in the first two lines how many years the client has been driving an automobile and a power mobility device. Under “devices used” please indicate the type of power-mobility device(s) the client has previously used or is currently using, and the length of experience with each. Please also indicate any environments the client has used their power-mobility device (e.g. home, apartment, institution, community, outdoors).

Year Driving an automobile or other vehicle(s) (specify)	<u>Car for 15 years</u>
Years Driving a Power-mobility device	<u>2 months</u>
Power-mobility training received (dates & duration)	<u>None</u>
Devices Used	<u>Rear-wheel Drive Power Chair</u>
Environments	<u>Hospital</u>

A3. MOBILITY DEVICE INFORMATION

The Mobility Device Information allows the therapist to track the type of device used for the assessment, as well as assist in identifying factors that may impact driving performance and will guide future mobility device prescription. Indicate the type of device, make & model, and whether the device is a trial from a vendor or facility, or if the client owns it. If applicable, indicate the length of time that the client has been using this device prior to the initial assessment. As much information as possible should also be recorded as to the seating system in use (custom-made/modular, use of laterals, foam/air/gel cushion, etc.), type of controls (direct/indirect joystick, sip and puff, scanning system, chin control, Magitek, etc.), and special adaptations (joystick extensions, goal posts, tilt/recline, converts to stander, etc.).

Power Wheelchair Scooter Make & Model Invacare 3G Arrow RWD
 Trial Own Length of Time 2 months

Seating System Custom back, Roho cushion, R lateral
 Type of Controls Direct Access Joystick, R control
 Special Adaptations Power Tilt
 Comments True Track

A4. USE OF WHEELCHAIR SAFETY ACCESSORIES

Check all that are applicable. If the accessory is currently being used, mark this with an '✓' in the Use box.

Criteria: Driver states that he/she needs the accessory or therapist feels that the driver needs the accessory.

	Use	Need		Use	Need		Use	Need
Flag	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Reflectors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Anti-Tippers	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lights	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Seat Belt	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Rearview Mirror	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Horn	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____	<input type="checkbox"/>	<input type="checkbox"/>	Other <u>Chest Strap</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A5. MOBILITY DEVICE FACTORS THAT MAY AFFECT DRIVING

Before starting the Performance Assessment it is necessary to examine the power-mobility device to identify factors that may be unsafe or may impact driving performance. If any features are out of alignment, the driver will constantly have to fight the natural pull of the chair, decreasing the driving performance. Take a moment to look at these items on the chair and check the appropriate box if the factor appears to be acceptable for safe, efficient driving. Explain any concerns, additional observations, or information provided by the client in the comments section.

Chair alignment: Check for any damage to the frame or wheels as this can put the chair out of alignment. Looking directly from the rear and the front to note any abnormalities can usually identify this.

Parallel wheels: Each set of wheels should be parallel to each other. This should be examined from the front and the back of the power-mobility device.

Straight forks: Check to see that the caster forks are not bent or damaged. This can cause wear to the tires or change the natural pull of the chair.

Tire tread pattern: Check to see that there is not uneven wear on any of the tires. If this does exist, it is important to examine the mobility device to determine the cause of this.

Appropriate tire inflation: Tires should be inflated to the manufacturer's indicated pressure, as measured by a tire gauge. Signs of an under inflated tire are bulging sidewalls while over inflated tires will be extremely hard and rigid.

Tire diameter & width: Tire diameter and width should suit the terrain on which the client drives.

Chair Alignment

Tire Tread Pattern

Parallel Wheels

Appropriate Tire Inflation

Straight Forks

Tire Diameter & Width

Comments: *The trial chair has very small wheels which may cause difficulty on uneven terrain while in the community*

A6. MOBILITY DEVICE GENERAL USE

Before going out into the community with the driver, his/her general driving skills and use of his/her chair should be examined. The driver should be asked to perform each of the tasks listed. Place an 'X' in the corresponding box that indicates the driver's ability to complete the task. If the driver would not be required to perform this task, ask him/her to explain how this is done and place a 'E' in the corresponding box. If the question is not applicable, leave that question blank.

Criteria: Driver is able to explain (E) or perform (✓) the tasks during the assessment.

Sitting tolerance: Indicate the average sitting tolerance of the client as indicated by client self-report, chart review, or therapist experience with the client.

Can Client:	Yes	No
Turn On/Off chair?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Use speed control switch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Utilize braking system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Disengage braking system?	<input type="checkbox" value="E"/>	<input type="checkbox"/>
Use special features of device?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Request assistance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Independently transfer in/on?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If no to any of the above, please explain: *uses 2-person max. assist transfer*

Sitting Tolerance: 4 hours

SECTION B-Pre-Performance Interview

The pre-performance interview begins to assess the client's knowledge and ability to drive a power-mobility device within the community. This section should be conducted with the client *prior to* the performance assessment.

B1. LIFESTYLE ANALYSIS

This section is designed to allow the therapist and client to work together in order to structure the performance assessment. The therapist should encourage the client to consider the potential uses of the selected power mobility device. This should be done by asking the client to talk through a typical week in order to identify all of the environments accessed. The day-to-day tasks the client undertakes in the areas of work, leisure, and self-care should be included in this analysis. The identified environments should be listed in the left hand column with any potential environmental obstacles identified by the client or the therapist included in the right hand column. The therapist and client ideally need to select two environments the driver uses or will use most often and one environment that is unfamiliar to him/her as these sites will be used later in the performance assessment. Possible environments might include a bank, grocery store, mall, church, workplace, friend's apartment, library, or a restaurant. The following are examples of things to consider, although the client will likely have additional activities to add.

WORK

- paid work
- volunteer work
- school

LEISURE

- social outings
- clubs/sports
- visiting family/friends

SELF-CARE

- shopping
- health appointments
- banking

Identified Environments

Possible Environmental Obstacles

1. Scotia Bank @ Main & Queen

curbs cuts; intersections with no lights; loss of sidewalk at construction site; doors; space to maneuver mobility device at ATM; teller line

2. McMaster University, HSC

uneven sidewalks; elevator access; doors; bathroom accessibility; maneuvering in classroom

B2. NEED FOR ACCOMPAINMENT

Identify with an '✓' in the corresponding box if the client needs or anticipates needing assistance with mobility in the community. This section should be used to further explore their need for assistance and guide the problem solving process.

When you leave your home, do you need someone to assist you in mobility?

Yes No

If yes, please specify under what circumstances, type, and who would normally assist you. Needs help to turn chair on/off, access doors, usually accompanied by spouse

B3. DRIVER FACTORS THAT MAY AFFECT DRIVING

The questions contained in this section should be completed based on observations, client charts, previous assessments, and therapist previous knowledge of the client where applicable. If you feel unable to answer a question at this time, leave it blank and keep this factor in mind while completing the performance assessment.

- | | | | | |
|--|-----|-------------------------------------|----|-------------------------------------|
| Is the driver able to sit with stability and use the controls? | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |
| Is the driver's sitting tolerance adequate for assessment & intended uses? | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |
| Is the driver positioned optimally? | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| Does the driver have adequate sensation & perception to handle the device? | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |

B4. RULES OF THE ROAD

In Ontario, Canada there are no highway acts that regulate the use of power mobility devices and instead, the Ministry of Transport views them (and their drivers) as pedestrians. Clinicians and clients should become familiar with the rules in his/her own province/state.

Read each question to the client and record *the response* in the space provided. Use your own knowledge and discretion in evaluating the client's knowledge and understanding. If the client does not show a good understanding of the rules, time should be taken prior to the performance assessment to discuss the rules with the client.

Criteria: Driver is aware of rules in his/her area.

1. When driving your device, should you try to remain on the sidewalk or road?
Client was unsure; this was discussed and now shows good understanding of reasons
2. Where/How should you cross the street? at crosswalks or lights, follow signals, at stop sign wait for cars to stop

3. If you have to be on the road, should you be in the lane facing traffic or should it be coming from behind you? unsure, thought facing traffic-discussed

Comments: was unsure of rules but could understand rules and reasoning behind them once discussed-to be reviewed next session

B5. EMERGENCY SITUATIONS

This section helps the therapist to determine the client's ability to problem solve with unplanned and emergency situations. Again, read each question to the client and record *the response* in the space provided. Use your own knowledge and discretion in evaluating their answers. Some time for discussion should also be allotted if the client seems to have difficulty determining what the best course of action would be.

Criteria: Driver is able to explain what he/she would do in the emergency situations.
This is particularly important if the driver is using the device alone or in remote areas.

1. What would you do if your chair wouldn't start and you had to go out? Check battery, call for service, use manual
2. What would you do if you were out and your chair wouldn't start? Ask someone to call for service
3. What would you do if you were out and you had a flat tire? Call spouse and service
4. What special precautions must you take while driving at night? lights on, slower, reflectors, be aware

Other Questions?

Comments:

SECTION C-Performance Assessment Scoring and Items

The performance assessment section of the Power-mobility Community Driving Assessment should ideally be completed over one session but if necessary can be completed over a maximum of three sessions. If this is necessary, the different dates and weather conditions for each session should be noted on the assessment cover sheet as well as the session # being included in the comments of each section. The driver may want to practice driving in various conditions (snow, slush, rain, fog, etc.) to ensure that he or she is able to drive a navigable path, make a transition from one surface to another, and control for skids. The assessment is a good time to trial new conditions in order to identify areas of concern or need for training.

SCORING THE PERFORMANCE ASSESSMENT

Each item on the PCDA should have **one of the 3 boxes** completed (Not Applicable, Not Assessed, or Performance Score).

- If the item is **Not Applicable** place an '✓' in the corresponding box.

	Not Applicable	Not Assessed	Performance Score	Comments
Driving in parking lot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>No parking lots in envt's tested</u>

- In situations where it is not possible to assess some items that are applicable indicate this in the second box, **Not Assessed**. A comment indicating why it is not being assessed should be included as well.

	Not Applicable	Not Assessed	Performance Score	Comments
Driving in crowds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Ax completed early AM, no crowds</u>

- If the item is applicable and assessed, place the numeric performance score based on the following scale in the **Performance Score** (see below) box. Any supporting information from the therapist or client regarding performance on particular items should be included in the comments sections.

	Not Applicable	Not Assessed	Performance Score	Comments
Intersection with lights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox" value="2"/>	<i>Hesitant/unsure if enough time to cross</i>

Performance Score

Each applicable item is scored using the following scale (NB: if any device or adaptations are routinely used, score the performance with client using them):

- 3** Optimal performance: able to complete task in one attempt smoothly and safely.
- 2** Completes task hesitantly, erratically or impulsively, requires several tries, does not adjust speed as necessary and/or bumps wall, objects, etc. lightly (without causing harm).
- 1** Bumps objects and people even once in a way that causes or could cause harm to driver, other persons, or to objects.
- 0** Unable to complete task even with maximal assistance.

Scoring And Interpretation

$$\text{Total Score} = \frac{\text{Sum of scores for each applicable item}}{3 \times (\text{Number of applicable items})} \times 100 = \underline{\hspace{2cm}}$$

Please note: The total score does not represent a percentage of normal. Rather it provides a reference number that may facilitate comparing performance over time. Scoring can be used to assist the therapist and driver to identify areas where training may be needed, and/or where environmental or device modification may be warranted.

C1 to C5: PERFORMANCE ASSESSMENT ITEMS

For each section of the performance assessment, the therapist is to observe the client perform the task and score the performance based on the criteria provided. As much supporting documentation as possible should be included in the comments sections.

C1. GENERAL DRIVING SKILLS: Items C1.1 – 1.10

This section examines the driver's ability to perform general driving skills within the community environment. These items are applicable to all drivers.

Criteria: Driver, as necessary, is able to: choose a navigable path; obey traffic lights and signs; adjust speed; share space with people and objects; respond to vehicle and pedestrian traffic; check left/right; and use horn, rear-view mirror, lights and/or reflectors.

C2. WHEELCHAIR ACCESSIBLE TRANSIT: Items 2.1 – 2.5

This section examines the client's ability to get on and off of a transit vehicle and position their self suitably in parking position in the vehicle. Indicate with an '✓' in the appropriate box if the method of transit used is public (e.g. municipal transit) or private (e.g. personal van). In the case where the client may use both, assess the method of transit used most often but indicate that both are used in the comments section. Specify if a lift or ramp is used to access the vehicle and score in the appropriate section and indicate whether the lift or ramp is located at the side or the back of the vehicle.

LIFT

2.1 Getting On

Criteria: Driver positions self accurately on lift; ensures device is turned off while on lift; drives into vehicle at appropriate time.

2.2 Getting Off

Criteria: Driver positions self accurately on lift; ensures device is turned off while on lift; checks traffic before leaving lift; adjusts departure to traffic.

RAMP

2.3 Getting On

Criteria: Driver centers self on ramp; adjusts speed; enters vehicle safely.

2.4 Getting Off

Criteria: Driver leaves vehicle safely; centers self on ramp; adjusts speed; checks traffic before leaving ramp.

2.5 Achieving Parking Position

Criteria: Driver drives from threshold to parking spot and positions self accurately to allow for correct tie down. This should be assessed for lift and/or ramp access.

C3. DRIVING WITH CONTROLS IN DIFFERENT POSITIONS

In some cases, the client may need to move the controls for the power-mobility device to a different position in order to access a particular environment. For example, a joystick that is normally positioned at the side of the chair may need to swing in closer to the driver's lap in order to facilitate navigating through a narrow doorway. If the driver needs to be able to use their controls in different positions, this should be tested during the assessment. Comment on the position of the controls and the related environmental conditions in which the driving performance was assessed, as well as providing a performance score.

Criteria: Driver is able to maneuver device while controls are in a different position.

C4. DRIVING ON VARIED SURFACES

This section is used to examine the driver's ability to control the power-mobility device on different surfaces. Surfaces that the client may likely encounter should be identified and assessed. Possible surfaces that may be useful to consider might be: gravel, dirt paths, ice, low-pile carpeting or floor mats, and snow. For obvious reasons, some of these surfaces will not be able to be assessed. Some discussion with the client about challenges that these surfaces may cause may be beneficial in determining his/her ability to identify and resolve how they will deal with potential difficulties. Try to assess the most common surfaces that are encountered by the driver.

Criteria: Driver is able to: adjust speed as necessary; drive a navigable path; make a transition from one surface to another.

C5. ACCESSING PUBLIC PLACES

During the lifestyle analysis section of the pre-performance interview (Section B), time was spent with the client identifying environments they frequently access. The following are the therapist instructions and criteria for this section of the environmental assessment. A complete example is provided at the end. For each section, the more specific the description, the easier it will be to understand the implications for current skills and areas requiring training.

Environment: For each environment being assessed identify the name and location for future reference.

Approach: The approach to any building may include a number of challenges including curb cuts and/or ramps. Curb cuts should be described in terms of the height of the lip, the angle, and the best direction for the driver to navigate the curb. Ramps should be described in terms of their slope, the presence or absence of handrails, and types of curves or turns that are included. The evaluation examines the precision and safety for how the driver navigates the approach.

Criteria: For curb cuts, the driver is able to adjust to traffic at the curb, adjust speed and make transition from flat to angle to flat. For ramps, the driver is able to make the transition from flat to angle, center self and remain centered on ramp, adjust speed, navigate curves/corners as necessary, and make the transition from angle to flat.

Entrance: The type of entrance being negotiated should be described with as much detail as possible. This should include the number and type of doors, door width, whether automatic access is available and type (push button, sensor), direction of door swing, type and location of door handle, and presence of sills. If the accessible door is in a special location this should also be specified.

Criteria: The driver is able to open the door, pass smoothly through the doorway, traverse sills if applicable, adjust speed, and navigate curves/corners as necessary.

Maneuvering: There are three spaces provided which are to be completed as appropriate for each environment. The special types of maneuvering required in various community settings should be specified. These should be apparent during the assessment.

Criteria: Driver is able to drive through area with appropriate speed, identify and avoid obstacles, adjust self to reach items (e.g. buttons on elevator, pens at teller desk), and show awareness of other people in the environment.

C5. EXAMPLE

ENVIRONMENT 1 (specify) Scotia Bank at Main & Queen

	Not Applicable	Not Assessed	Performance Score
• Approach (describe) <u>curb cut with 1/2" lip, minimal slope, direct entry</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="3"/>
• Entrance (describe) <u>single 38" automatic swing-in door, push button</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="3"/>
• Maneuvering – <u>teller line</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="3"/>
• Maneuvering – <u>teller counter</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="3"/>
• Maneuvering - <u>ATM</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="3"/>

Comments: - difficulty in teller line, hit barriers twice as turning