

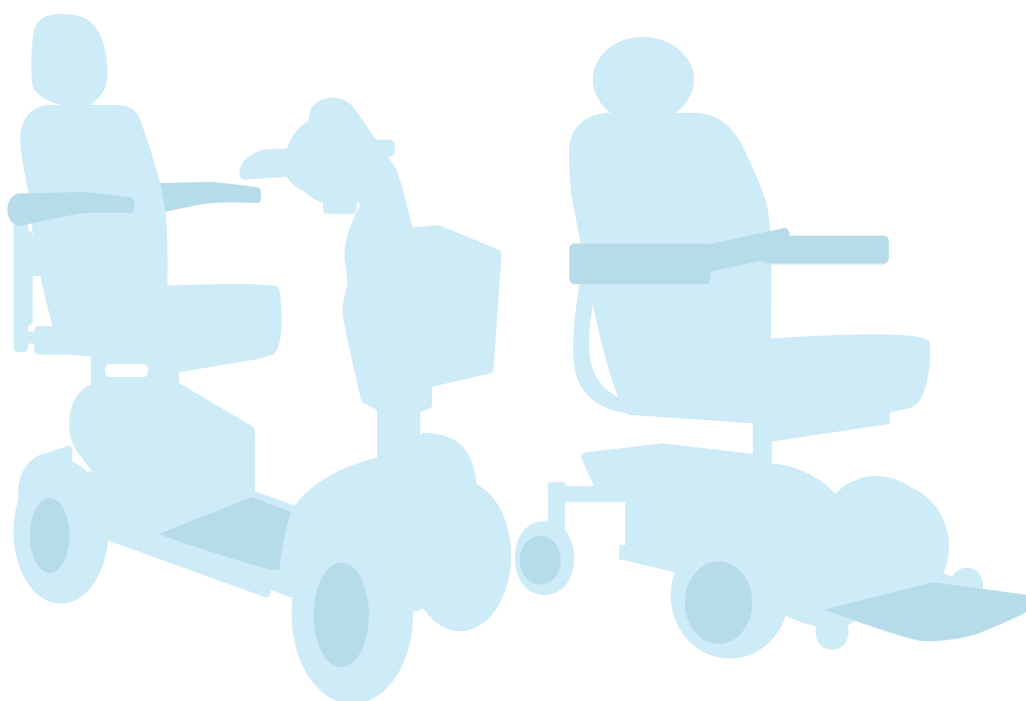
# **POWERED MOBILITY DEVICE ASSESSMENT TRAINING TOOL (PoMoDATT)**

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## **ADMINISTRATION MANUAL**

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K. Townsend & C.A. Unsworth, 2016



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Kathryn is a senior clinician occupational therapist at Austin Health, Melbourne. She currently works in a community-based service providing occupational therapy services to veterans and war widows. She has also worked in inpatient rehabilitation, home-based services; and is a trained occupational therapy driver assessor. Her interest in powered mobility device assessment and training developed 10 years ago, when safety concerns were raised about a client's ability to use his scooter. Kathryn developed the original version of the assessment tool, which was later developed into the PoMoDATT. The PoMoDATT inter-rater reliability study was completed as part of the course requirements for her Masters in Advanced Occupational Therapy. She has conducted workshops and conference presentations and published an article about powered mobility device use. Kathryn is passionate about the way that PMD use can positively impact on users' quality of life and community participation.

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Carolyn Unsworth is Professor of Occupational Therapist at Central Queensland University. Carolyn's research focuses on enabling people with age-related health declines or disabilities to access the community through driving a car or using powered wheelchairs or mobility scooters. She conducts research on the assessment of fitness-to-drive, determining the most effective rehabilitation interventions for people wishing to resume driving after accident or injury, improving access for people using powered mobility devices on public transport and ensuring people have the skills to powered mobility devices safely. In addition to her work on development of the PoMoDATT, Carolyn has also developed a clinic-based assessment of fitness-to-drive (OT-DORA Battery) and a patient outcome measure (AusTOMs-OT [www.austoms.com](http://www.austoms.com)), which are all used internationally. Professor Unsworth has published over 130 journal articles and book chapters, and two books.

## ACKNOWLEDGEMENTS

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## ABBREVIATIONS

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|          |  |
|----------|--|
| CTT      | Classical Test Theory                            |
| MoCA     | Montreal Cognitive Assessment                    |
| PCDA     | Power-Mobility Community Driving Assessment      |
| PIDA     | Power-Mobility Indoor Driving Assessment         |
| PMD      | Powered Mobility Device                          |
| PoMoDATT | Powered Mobility Device Assessment Training Tool |

## DISCLAIMER

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The PoMoDATT is designed to guide occupational therapists in the assessment and training of clients who are considering powered mobility device (PMD) use. Occupational therapists should use their clinical judgement when using the tool to determine whether additional assessment is required for individual clients and also to determine if a client is safe to use a PMD.

Assessment results are based on the client's functional performance and driving skills assessed at the time. No assurance is implied that the client will continue to be a safe PMD user in the future.

## CHAPTER 1

### INTRODUCTION AND BACKGROUND

#### **WHAT IS THE PoMoDATT?**

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The Powered Mobility Device Assessment Training Tool, or PoMoDATT, is a standardised assessment and training tool. This tool can be used by occupational therapists to determine a person's competence to drive a powered mobility device (PMD), such as a scooter or powered wheelchair, and also to provide guided training so users can improve their driving ability. The PoMoDATT was developed over several years to meet occupational therapists' need for a comprehensive PMD assessment and a proactive approach to facilitating competent and safe PMD use in the community. The PoMoDATT consists of an initial interview, clinical assessment and driving assessment. Full details of how to administer and score the PoMoDATT are provided in Chapter 3. This chapter provides an overview of PMD use in Australia and the need for a new PMD assessment and training tool.

The PoMoDATT has undergone informal testing for face and content validity. Five occupational therapists who are experts in PMD assessment, informally peer reviewed the PoMoDATT and confirmed the relevance and clarity of the items and scoring to support face validity (Portney & Watkins, 2009). To establish content validity, the same occupational therapist examined the proposed content to ensure all necessary domains were adequately addressed with no undue influence from factors outside these domains (Portney & Watkins, 2009). These occupational therapists supported its application as a clinically useful tool. Furthermore, an inter-rater reliability study was conducted with four experienced occupational therapists and 24 PMD users. The research established that the ICCs (2,1) for each PoMoDATT item ranged from 0.641 to 0.938 suggesting moderate to excellent agreement between the occupational therapist raters. This study is currently being prepared for publication (Townsend & Unsworth, in preparation).

#### **THE USE OF POWERED MOBILITY DEVICES IN AUSTRALIA**

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The popularity and use of PMD is growing as increasing numbers of Australians, living with chronic, disabling conditions strive to maintain active and independent lifestyles. Over four million Australians are living with a disability. Estimates suggest that 15% of these people use a mobility aid, including walking sticks, four-wheeled frames and powered wheelchairs or

scooters (Australian Bureau of Statistics, 2016). PMD use has considerable potential to positively influence the user's mobility and quality of life. PMD are often an option for individuals who cannot walk the long distance required to access their community. For drivers, PMD can provide an alternative mode of transport for them when they have ceased driving (Cassell & Clapperton, 2006; May, Garrett & Ballantyne, 2010). Despite these benefits, concern has been voiced about the potential risks and safety implications associated with PMD use (Hall, Partnoy, Tenenbaum & Dawson, 2005; May et al., 2010). Occupational therapists have a significant role to play in supporting participation in community occupations. PMD use is a valid occupational therapy practice concern, given the interdependence between community mobility. An increased demand has been seen in daily clinical practice as occupational therapists are sought to provide assessment and training of PMD driving skill. Thorough assessment to identify driver skill and current and/or ongoing training needs provides the greatest opportunity to minimise risk and promote safe PMD use.

#### **REGULATIONS GOVERNING PMD USE**

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There are very few regulations governing the use of PMD in Australia. A licence to operate or drive a device is not required (Berndt, 2002). However only individuals who have difficulty walking or are unable to walk are permitted to use PMD (Johnson, Rose & Oxley, 2013; Nitz, 2008). According to Australian road rules, PMD users are considered pedestrians, and as such, users must adhere to the relevant road rules (Berndt, 2002; May et al., 2010; Townsend & Watson, 2013). Devices should be driven on the footpath with travel on the road only permitted if a suitable footpath is unavailable (Cassell & Clapperton, 2006; Johnson et al., 2013). PMD users may be required to drive along a road when scheduled maintenance work disrupts the usual footpath access. Furthermore, in some regional and rural settings footpaths are not present, so road use is the only option for users. Regular travel on or use of the road is otherwise not permitted (Johnson et al., 2013; Oxley & Whelan, 2008). The maximum allowable driving speed for devices used in Australia is 10 kilometres per hour and the maximum unladen mass is set at 110 kilograms (Cassell & Clapperton, 2006; Johnson et al., 2013; Nitz, 2008; Vicroads, 2013).

Differences exist between the Australian states and territories with regard to PMD registration and insurance. In Victoria, devices cannot be registered because they are not considered motor vehicles. Queensland is unique in that, all PMD must be registered (May et al., 2010). Compulsory third party insurance is included with the free registration (Johnson et al., 2013; Townsend & Watson, 2013). The registration process requires a device safety inspection and a medical report confirming that the individual using the PMD has significantly impaired

mobility (Johnson et al., 2013; Townsend & Watson, 2013). PMD users in New South Wales and South Australia are covered by third party insurance “when [devices are] used on public roadways/footpaths” (Cassell & Clapperton, 2006, p.7). In contrast, for Victorian PMD users, arranging public liability insurance is the individual’s responsibility (Cassell & Clapperton, 2006). It is anticipated that registration, licences and skills assessment may be required for all Australian PMD users in the future.

### **POSITIVE OUTCOMES OF PMD USE**

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The positive health outcomes of PMD use are well documented. These include enhanced quality of life and social inclusion, greater self-worth and empowerment (Auger et al., 2008; Australian Competition & Consumer Commission, NRMA Motoring & Services, CHOICE, EnableNSW & Flinders University, 2012; Cassell & Clapperton, 2006; Edwards & McCluskey, 2010; Evans, 2000; Fomiatti et al., 2013; Letts et al., 2007; May et al., 2010). The greater sense of control, “autonomy and self-sufficiency” experienced by PMD users stems from the ability to independently access the community at the time of his or her choosing (Fomiatti et al., 2013, p.305). For users, PMDs provide the ability to maintain important life roles, while enabling new opportunities. As a result, “a new sense of purpose” is often realised (Fomiatti et al., 2013, p.305).

### **PROBLEMS ASSOCIATED WITH PMD USE**

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Although many of the benefits of PMD use have been documented, there are several problems also associated with PMD use. For example, difficult environmental access can limit PMD use, restricting activity participation. This may include steps at building entrances or narrow doorways that make the built environment and PMD use incompatible (Berndt, 2002; Cassell & Clapperton, 2006; Dolling, 2002; Edwards & McCluskey, 2010; Fomiatti et al., 2013; May et al., 2010; Walker et al., 2010). Furthermore, all motorists, cyclists and PMD users are at risk of accidents and injury. For PMD users, there is a risk of the device tipping over, or colliding with objects or vehicles. A report commissioned by the Australian Competition and Consumer Commission (Gibson, Ozanne-Smith, Clapperton, Kitching, & Cassell, 2011), “*Targeted Study of Injury Data Involving Motorised Mobility Scooters*” identified that PMD-related incidents resulted in 442 hospitalisations (between July 2006 and June 2008). The actual figure is likely to be significantly higher, and closer to 700 hospitalisations, with the discrepancy attributed to shortcomings in hospital data gathering. PMD incidences are often classified as falls or pedestrian accidents with lack of reference to device involvement or misclassification resulting in these incidents not being captured (Gibson et al., 2011). In addition, these figures only reflect incidences involving hospital presentations, where data is collected and do not include

incidents when alternative medical treatment may be sought, for example, some individuals may seek treatment from a general practitioner rather than attending an emergency department. Finally, Gibson et al. (2011) also reviewed the National Coronial Information System and found that there were 62 fatalities related to PMD use in Australia, between July 2000 and August 2010.

### **CURRENT PMD ASSESSMENTS**

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In 2008, Nitz described a competency test developed to identify the skills required for successful scooter use. The psychometric properties of the tool used were not reported, however, the test included 13 items covering basic driving skills, traffic tasks and driving requiring multi-tasking. In her study, 66% of participants ( $n=50$ ) failed at least one item. Failures were seen in basic driving skills (reversing, weaving and zig-zag) and in all “traffic” and multi-tasking” driving. With a smaller of participants ( $n=10$ ), skill mastery was achieved for many tasks, because participants were able to repeat the test three times. These findings suggest that skill performance can be assessed and then improved with practice and training.

Two standardised Canadian assessments have been developed to measure PMD driving performance; the Power-Mobility Indoor Driving Assessment (PIDA), and the Power-Mobility Community Driving Assessment (PCDA) (Dawson, Chan & Kaiserman, 1994; Dawson, Kaiserman-Goldenstein, Chan, & Gleason, 2006; Letts, Dawson & Kaiserman-Goldenstein, 1998; Letts, Dawson, Masters, & Robbins, 2003). The PIDA and PCDA are structured so that driving skills assessment occurs in one session. However, neither assessment tool can “be used with certainty...to decide who is safe to drive” a device (Dawson et al., 1994, p.276). The PIDA (Dawson et al., 1994; Dawson et al., 2006) was developed to assess the indoor PMD driving skills of users that live in residential care facilities. The same authors later developed the PCDA (Letts et al., 1998; Letts et al., 2003) in recognition that different skills are required and unique environments are encountered when driving a PMD outdoors or in the community (Letts et al., 2007).

Both assessments use the same rating scale with items scored on a four-point scale, ranging from *completely independent* to *unable to complete task independently* (Dawson et al., 1994; Dawson et al., 2006; Letts et al., 1998; Letts et al., 2003; Letts et al., 2007).

Baseline cognitive and physical abilities are not assessed in the PIDA or PCDA, despite the influence these are likely to have on an individual’s PMD use. This is an issue because if problem PMD driving behaviours are observed, the occupational therapists needs to identify



underlying cause/s and this is difficult without an understanding of any underlying impairments. Despite the authors recommending brief skills practice prior to assessment, the PIDA and PCDA are structured so that assessment will occur immediately after the skills practice opportunity. This is unrealistic given the new learning and complex skills required to master PMD user. Additionally, since many PMD drivers use his or her device both indoors and outdoors, skills assessment requires completion of both the PIDA and the PCDA. Conducting two separate assessments is time consuming, and demands significant commitment from both client and occupational therapist. Studies have confirmed the validity and reliability of the PIDA and the PCDA, albeit using small sample sizes (Dawson et al., 1994; Letts et al., 2007).

### **THE NEED FOR A NEW PMD ASSESSMENT AND TRAINING TOOL**

In Australia, while assessment and training prior to PMD use are not mandatory, there is an increasing demand for occupational therapy involvement in this area (Letts et al., 1998; Maywald & Stanley, 2015). Some individuals seek advice and/or assessment from an occupational therapist prior to purchasing a device. Others are required to have an assessment because they want to apply for government funding for a device (Johnson et al., 2013). However, there is a lack of valid, reliable tools for occupational therapists to use (Berndt, 2002; Dawson et al., 1994; Letts et al., 1998; Letts et al., 2007), and the PIDA and PCDA are rarely used in practice given the time required for administration. Some therapists therefore use unstandardised methods of assessment such as checklists (Maywald & Stanley, 2015; Mortenson et al., 2013). For example, the “Scooter/Electric Wheelchair Assessment Form” (Department of Veterans’ Affairs, 2014), includes a skill rating scale of *yes*, *no*, and *sometimes*. Operational definitions and skill descriptions are lacking so the clinical reasoning required to decide the rating achieved is subjective. As a result, the process of determining whether an individual is an appropriate candidate for device use is difficult. The PoMoDATT was therefore developed.

### **DEVELOPMENT OF THE POMODATT**

The PoMoDATT was developed over a 10-year period, with different versions produced and tested over this time. This final version has been developed using Classical Test Theory (CTT) (DeVellis, 2006). The PoMoDATT was developed to fulfil the need for a comprehensive PMD driving assessment, which incorporated indoor, outdoor and community driving. Created for use by occupational therapists, the tool was designed so that thorough PMD education is completed before skills assessment and training. Monitoring driving skill over time is possible because a baseline of physical and cognitive skills, which could influence driving

performance, is established initially. Prior to the driving assessment, the user is educated about relevant road craft and PMD use principles. The basic skills required for PMD use are taught too, thus ensuring that the user's first experience driving a device is not also a skills assessment. Whereas PIDA and PCDA assess a PMD user's driving ability prior to training, the PoMoDATT is structured so that users' driving skills are assessed and scored after training. This is an important feature, which acknowledges that most individuals have had no PMD experience prior to skills assessment. Additionally, new skills are being learnt and competence is dependent on training (Hall et al., 2005).

In summary, PoMoDATT provides a "snap shot" of an individual's driving performance at the time of assessment, and identifies where training can be undertaken. The assessment outcome is a profile of the client's physical, cognitive and psychosocial skills related to PMD use, which enables the occupational therapist to identify the client's capacities and abilities, as well as impairments and functional limitations and how training might address problems. This knowledge also guides clinical decision making and reasoning regarding the appropriateness of PMD use for individual users. PoMoDATT results can be documented over time to ensure that the client remains competent in PMD use.

## CHAPTER 2

### HOW DO I USE THE POWERED MOBILITY DEVICE ASSESSMENT TRAINING TOOL (PoMoDATT)?

The Powered Mobility Device Assessment Training Tool (PoMoDATT) is a comprehensive powered mobility device assessment and training tool. The tool was developed for use by occupational therapists. Occupational therapists have a significant role to encourage community participation because mobility and occupational performance are intrinsically linked. For many people, PMD use is a key facilitator of community mobility (Edwards & McCluskey, 2010).

The PoMoDATT administration process includes two components:

1. PMD clinical assessment
  - Initial interview
  - Part A - PMD use: cognitive skills
  - Part B - PMD use: physical/psychosocial skills
  - PMD use: driving lesson
2. PMD driving assessment
  - Part C - PMD use: driving assessment
 Conducted in the:
  1. Centre environment
  2. Home environment
  3. Optional (centre or home)

The tool is structured so that the client's physical, cognitive and psychosocial skills related to PMD use are assessed. A basic knowledge of PMD use, including relevant road craft and use principles, is provided before the client's skills driving the PMD are assessed. The PoMoDATT consists of 26 driving skills, tasks and behaviours.

The PoMoDATT is designed to assess PMD driving skill over time, so completing it over multiple sessions is recommended. The format of the tool allows the occupational therapist to record three different performance scores (driving skills assessments) because training is required to consolidate skills. Usually the same skills are assessed in each session, however it may be appropriate to focus on particular areas rather than covering all the skills and tasks in every assessment.

The assessment outcome is a profile of the client's physical, cognitive and psychosocial skills related to PMD use. This will enable the occupational therapist to identify the client's capacities and abilities, as well as impairments and functional limitations and how training might address problems. This knowledge guides clinical decision making and reasoning regarding the appropriateness of PMD use for individual users. Assessment findings can also be tracked over time to ensure that the client remains skilled in PMD use.

PMD use is a complex task, which requires good judgement, perception and quick responses in a rapidly changing environment. Impairment in physical, psychosocial and cognitive skills can affect the client's ability to use a device safely and competently.

**PMD USE: TRAINING**

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To ensure skills consolidation, further training may be required for some clients, using the client's own device. This acknowledges that there is limited opportunity for assessment/training to occur in a home-based setting. It is also recommended when there is a significant waiting time before PMD funding is provided. Training sessions should focus on different routes, which the client intends to use his or her PMD. The client and therapist should collaborate to identify appropriate routes. For example, travelling from home to the local shops. The PoMoDATT driving assessment forms can be used to record the performance scores in this situation.

## CHAPTER 3

### ADMINISTRATION PROCESS

As discussed, the PoMoDATT administration process includes,

- PMD clinical assessment
  - Initial interview
  - Part A - PMD use: cognitive skills
  - Part B - PMD use: physical/psychosocial skills
  - PMD use: driving lesson
- PMD driving assessment
  - Part C - PMD use: driving assessment

Assessment of PMD use skills/behaviours and tasks with assessment occurring in the

  - Centre environment
  - Home environment
  - Optional (centre or home, depending on client needs)

### COMPONENTS REQUIRED FOR EACH ASSESSMENT

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For each assessment, the following is required:

- PoMoDATT Administration forms
- PoMoDATT Administration manual
- Montreal Cognitive Assessment (MoCA)
- Snellen chart
- A stop watch
- A tape measure
- A Powered Mobility Device (scooter or powered wheelchair)
- An appropriately sized room for indoor practical skills assessment
- An outdoor area where driving skills and tasks assessment can occur

### GENERAL GUIDELINES

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It is recommended that the PoMoDATT driving skills assessment be completed over multiple sessions, with skills scored after training. This is because PMD driving is a new skill for most people, and some introduction is needed before an assessment can be made. An example of the Administration format is shown in Figure 1. For most clients, two or three skills assessment and training sessions are recommended. Each skills assessment occurs in a different session.

Up to three driving performance scores can be recorded when using the PoMoDATT Administration forms. Performance Score 1 is a “Centre Environment” driving assessment. Performance Score 2 is a “Home Environment” driving assessment. Performance Score 3 is an “Optional” assessment which can be centre or home-based dependent on the client’s individual need.

Clinical reasoning should be used to determine whether the client would benefit from an additional “Centre Environment” driving assessment before progressing to a “Home Environment” assessment.

FIGURE 1. EXAMPLE OF THE PoMoDATT ADMINISTRATION FORMAT

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Session 1

- Complete Part A, Part B and driving lesson
- The client is taught the principles of PMD use before assessment - including mounting/dismounting device, forwards/backwards driving, “figure of eight” driving, and kerb negotiation skills. The client is then ready for skills assessment.



Session 2 (on another day)

- Complete Part C – driving assessment in a centre environment (indoor/outdoor driving skills)
- Assessment and then driving skills are scored after training (Performance Score 1)



Session 3 (on another day)

- Complete Part C – driving assessment in the home environment
- Assessment and then driving skills are scored after training (Performance Score 2)



Optional Session 4 (on another day – only if needed)

- Complete Part C – driving assessment: centre or home environment (indoor/outdoor driving skills)
  - Assessment and then driving skills are scored after training (Performance Score 3)
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## **PMD CLINICAL ASSESSMENT**

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### **INITIAL INTERVIEW**

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An initial interview is used to collect general information about the client prior to completing the PoMoDATT. This information includes name, contact details, family or other social supports and medical history. The interview length will vary depending on individual need. Information provided in the referral received should be clarified. Collaboration with family members is an important component of the initial interview.

It is recommended that medical clearance for PMD use be sought from the client's medical practitioner. Clarification should be sought about whether the client is a suitable candidate for PMD use and to confirm that the client does not have an underlying medical condition that would preclude safe PMD use, such as unstable epilepsy. This advice should be based on the client's medical history and any anticipated changes in physical or cognitive abilities, which could impact PMD use.

The occupational therapist should record the information according to his or her usual clinical practice requirements.

### **PART A – PMD USE: COGNITIVE SKILLS**

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The cognitive skills assessment should be conducted in a quiet environment. It is designed to assess the client's cognitive abilities in preparation for the formal driving skills assessment.

This assessment will enable greater understanding of the client's thinking skills and his or her understanding of the guiding principles of PMD use and will assist to identify potential cognitive issues that may impact on safe PMD use.

The results from the cognitive screen may reveal the need for further assessment. The occupational therapist should use his or her clinical reasoning to determine which other standardised cognitive assessments may be appropriate to use to develop a deeper understanding of the client's cognitive skills.

Assessing the client's cognitive skills may also reveal the need for the occupational therapist to introduce strategies to ensure safe PMD use. For example, providing written information to aid understanding of the concepts taught.

The cognitive skills assessment comprises two parts; completion of both parts is advised.

1. Montreal Cognitive Assessment (MoCA) (Nasreddine, 2016)
2. Problem solving scenarios related to PMD use

Record the client's level of schooling prior to completing the cognitive skills assessment, as this will impact on the findings.

The underlying question for the occupational therapist throughout the cognitive screen should be, "Is the client's cognitive functioning appropriate/adequate for PMD use?"

### **MONTREAL COGNITIVE ASSESSMENT (MoCA)**

The MoCA is a brief 30-point standardised screening test used to assess a broad range of cognitive domains: executive function, memory, language and visuospatial processing. The results from the MoCA are used to further understand the client's cognitive abilities.

The MoCA is not included in the PoMoDATT. It is available from [www.mocatest.org](http://www.mocatest.org)

#### *Equipment*

- PoMoDATT Administration booklet, Part A
- Copy of the MoCA

#### *Procedure*

1. Conduct assessment according to the published guidelines
2. Record the MoCA score on page 2 of the Administration Booklet. Any potential areas of concern should also be documented in the "Areas for consideration" (page 2).
3. In addition, the MoCA score and any "Issues arising from MoCA" are summarised on the front page of the Administration booklet.

#### *Scoring*

The total possible score is 30. Calculate the client's total MoCA score according to the published guidelines.

### **PROBLEM SOLVING SCENARIOS RELATED TO PMD USE**

The aim of the problem solving scenarios is to encourage the client to broadly consider the issues related to PMD use.

It is not expected that the client will know all the answers for the problem solving scenarios.

If the client is unable to answer the specific questions, the occupational therapist should provide education regarding the answers so that these can be learnt and applied when using the PMD. At the conclusion of the assessment process, the client should be able to correctly answer the problem solving questions.

Questions relate to

- Basic road craft
- Emergency situations
- PMD storage and care
- Client-specific use

It is recommended that the questions relating to "PMD storage and care" and "Client-specific use" be reviewed during a home-environment PMD assessment to ensure this information has been understood.

Clinical judgement should be used to determine whether further practical assessment is required during the home-environment assessment. For example, to assess a client's ability to safety plug and unplug the PMD charger from the power point.



### *Equipment*

- PoMoDATT Administration booklet, Part A

### *Procedure*

1. Ask the client to sit at the table
2. Ask the client, "Have you driven a PMD before?" Record the answer and type of device in the Administration booklet; also note the nature of his or her driving experience. For example, borrowing a friend's device, hiring a device at a shopping centre, trialling a device at a showroom
3. Explain to the client that the problem solving scenarios explore his or her knowledge of basic road craft, emergency situations and PMD storage and care. Advise the client, "I need to know what you know. I want to ensure that you have all the knowledge you need to help you safely use your PMD"
4. Ask the client to answer the questions accurately. Record the client's response to the questions verbatim in the space provided. Use minimal prompting when asking the questions.
5. If prompting questions are needed to elicit further information, the occupational therapist should document these and the responses given.

The occupational therapist should provide feedback to the client immediately after completing the problem solving scenarios. If the client does not know the answer or incorrectly answers a question, the occupational therapist should tell him or her the correct answer/s and discuss them. There is a learning element to this component of the PoMoDATT. This is not the assessment component since it is not scored.

### **GENERAL TIPS FOR THE PROBLEM SOLVING SCENARIOS**

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Further questions may be needed to help elicit extra information. For example,

Occupational therapist: "What would you do if your PMD 'broke down' when you were out?"

Client: "Call roadside assistance"

Occupational therapist: "How would you call roadside assistance?"

Client: "I don't know"

These additional questions will help to gauge the client's understanding of broader issues. For example,

Will he or she plan ahead for unexpected situations by carrying a mobile phone?

Does he or she feel confident to ask a passerby for assistance if needed, if he or she does not carry a mobile phone?

Furthermore, the client's responses may reveal the need for further specific skills training later. For example, education and training from the occupational therapist about how to ask a passerby for assistance or how to use a public telephone.

Example answers for the Problem Solving Scenarios are included in Figure 2. While comprehensive, it is not an exhaustive list. Clinical judgement should be used to decide the appropriateness of any answers provided which are not listed. Since this part is not scored, it is appropriate to have general answers, as the therapist teaches the correct answers if they are not known.

FIGURE 2 - PMD USE: COGNITIVE SCREEN - EXAMPLE ANSWERS FOR THE BASIC ROAD CRAFT AND EMERGENCY SITUATION QUESTIONS

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### Basic road craft

1. Are PMD users considered motorists or pedestrians?

- *Pedestrians*

2. At what speed should a PMD be driven?

- *Walking pace*

*Occupational therapist note: A PMD is designed to replace the client's "legs" therefore they should not be driven faster than walking pace.*

3. Where should a PMD be used/driven?

- *On the footpath*

*Occupational therapist note: Devices should only be used on the road if the footpath is inaccessible. In this case, the user should return to the footpath as soon as it is safe.*

4. What position on the footpath should a PMD maintain?

- *When travelling along a standard width footpath, the PMD should maintain a position in the middle of the path. The device should be stopped when someone is approaching from the opposite direction (to allow them to pass)*

5. If you have to travel on the road, should you be facing the traffic, or should it be behind you?

- *You should be facing on-coming traffic, but the PMD should remain close to the kerb*
- *Travel on the road for the shortest amount of time possible. Travel on the road should be a last resort*
- *Do not travel into oncoming traffic around a "blind" bend*

6. When approaching a road, what are three things you will need to consider before crossing?

- *The type or direction of the kerb*
- *The position the PMD needs to be in to cross or negotiate the kerb*
- *Check for traffic*
- *Consider your destination point (that is, to where are you crossing?)*
- *Make sure the crossing point has good visibility (that is, to other vehicles and pedestrians)*
- *Avoid crossing at points where there are parked cars blocking/impeding your view of the road*
- *Avoid crossing at/over bends in the road or on the crest of a hill*

7. In what position should the PMD be, prior to crossing the kerb?

- *Wheels "straight on", "square on", at a 90° angle (according to slope/angle of the kerb)*

8. Can you identify three potential problems or obstacles you may face on a footpath?

- *Overhanging branches/shrubs, rubbish bins blocking the footpath*
- *Cars parked over the footpath*
- *Children or dogs running out of driveways or laneways*
- *Other pedestrians or PMD users*
- *Broken or raised concrete*
- *Workmen/obstacles (for example, council workers)*

9. How can you make yourself visible to other pedestrians and drivers?

- *Wear bright clothing*
- *Wear reflective safety vest*
- *Use a flag on the back of the PMD*
- *Turn the headlights on*
- *Reflectors / reflective tape on scooter*
- *Use horn/voice when approaching pedestrians from behind*
- *Use light fluorescent material on the PMD*

## Emergency situations

1. What would you do if your PMD did not start, and you had to go out? For example, to a medical appointment.

- *Check charger is on*
- *Check that charger lead has been removed*
- *Make sure that the battery is not disengaged (check the manual override lever on rear of device)*
- *Call the medical centre, to advise that you will be late for your appointment*
- *Call taxi to arrange alternative transport*
- *Call PMD supplier to request a service*

2. What would you do if your PMD “broke down” when you were out?

- *Check charger*
- *Seek assistance from passer by or retailer*
- *Use recharge facility at a nearby shop or café if available*
- *Use mobile phone to call roadside assistance (organise a taxi home to take you home)*
- *Call PMD supplier once home*

3. When would you call the roadside assistance, (for example, the local Royal Automobile Club or motoring association)?

- *If the PMD will not start*
- *In the event of PMD breakdown*
- *If the PMD had a flat tyre*

*Occupational therapist note: Tyre repair may occur immediately if the user has a spare tube.*

4. What would you do if the PMD had a flat tyre?

- a. At home: *Call roadside assistance or PMD supplier*  
*Get family assistance*
- b. At the shops: *Stop driving immediately*  
*Call roadside assistance*

5. What do the RACV / roadside assistance need to change a tyre?

- *A Spare tube*

*Occupational therapist note: a current membership is required by all who use the service*

6. What special precautions must you take if driving in overcast weather?

- *Try to avoid using the PMD if rain is predicted*
- *Carry a poncho (or other Rain protection for self and scooter) at all times*
- *Wear bright colours/reflective clothing*
- *Use the device headlight*

Sample answers for the “PMD storage & care” and “Client-specific use” questions have not been provided because the answers given will be specific to the individual client and his or her home environment.

## PART A - COGNITIVE SKILLS SUMMARY

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Cognitive skills are summarised by documenting the MoCA score, “Issues arising from MoCA” and “Issues arising from Problem Solving Scenarios” on the front page of the Administration booklet.

## **PART B - PMD USE: PHYSICAL/PSYCHOSOCIAL SKILLS**

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The physical and psychosocial skills assessment is administered before the client's driving skills are assessed. The aim of this screen is to highlight any physical or psychosocial issues that may impact on safe PMD use.

A quiet, safe environment is required when administering the physical/psychosocial screen. It is recommended that all components of the assessment be completed. No sections of the form should remain blank. It may be appropriate to complete the physical/psychosocial screen over two sessions. Clinical judgement should be used to decide how many sessions are required.

Clinical judgement should also be used to determine whether further assessments might be required. If clinically indicated, strength, range of motion and tone assessments should be administered. These have not been included with the PoMoDATT, and can be sourced from most occupational therapy physical dysfunction texts.

The underlying question for the occupational therapist throughout the pre-driving physical/psychosocial screen should be, "Is the client's physical or psychosocial functioning appropriate/adequate for PMD use?"

### **MEDICAL CONDITIONS**

List all the client's medical conditions and record any functional implications these could have on PMD use. This information can be based on the occupational therapist's knowledge (for example, in the referral information) and on the client's self-report.

### **MEDICATION**

Information about any medications that the client is taking is recorded, including any non-prescription medication. Any side effects from medications should also be documented.

Some medication regimes recommend that driving or heavy machinery use should be avoided. In this circumstance, medical advice should be sought to determine whether PMD driving is appropriate.

### **UPPER LIMB FUNCTION**

It is important to consider upper limb strength, range of motion, coordination, sensation and pain. For many clients, a summary comment provides sufficient functional information (for example, "functional strength and range of motion but age-related changes are evident").

Strength, range of motion, tone, coordination, sensation and pain assessments should be completed if clinically indicated.

For example, a client who has sustained a stroke (resulting in hemiplegia) will require a detailed upper limb assessment to ensure that his or her arm/hand function is sufficient to enable effective device steering and control using one hand (or both hands if possible).

A thorough understanding of a client's upper limb function is important because this knowledge will enable the occupational therapist to determine whether adaptations may be required on the PMD (for example, altering the accelerator lever to enable it to be controlled by the left hand instead of the right hand).

### **LOWER LIMB FUNCTION**

It is important to consider lower limb strength, range of motion, tone, coordination, sensation, pain, balance and falls risk. The client's ability to mount or dismount the device will be considered in the "transfers" section.

Strength, range of motion, tone, coordination, sensation and pain assessments should be completed if clinically indicated.

Lower limb function will impact on a client's ability to position him or herself comfortably on the device. For example, for scooter users, reduced knee range of motion will impact the client's ability to position his or her legs/feet on the PMD platform. Reduced lower limb range of motion may result in the need for the client to stretch his or her legs over the wheel hub.

### **REACTION TIMES**

#### *Equipment*

- PMD
- Stop watch or wrist watch (with a second hand)

#### *Set up*

- A client's reaction time is tested indoors and outdoors.
- The indoor assessment requires an unobstructed hallway. Outside a clear, straight and safe footpath is needed. There should be no obstacles beside the footpath too, in case the device is steered mistakenly from the footpath.
- The same procedure is used in each situation.

#### *Procedure*

1. Ask the client to sit on the PMD.
2. Instruct the client, "When I say go, I want you to drive along the hallway/footpath at a fast walking pace".
3. Start timing (in seconds) as soon as the client starts driving the device.
4. The occupational therapist will call 'stop' unexpectedly. Stop timing when the client stops the device.
5. Repeat the test outdoors
6. Record the time in the Administration booklet.

#### *Additional information*

- Clinical judgement is required to determine whether the response time is appropriate. It is recommended that consideration be given to the environment in which the client will be using the device when deciding whether the response time is sufficient. For example, a client using a device in a busy shopping centre will need to be able to quickly respond to other people unexpectedly stepping in front of him or her when leaving a shop.

## **TRANSFERS, WALKING AID**

There are number of different techniques to use when mounting or dismounting a PMD. The transfer used to mount or dismount the PMD will depend on the client's functional ability and the type of device (for example, scooter or electric wheelchair). The client may choose to use a different technique to mount the device, compared with the technique used to dismount it. The chosen technique/s used must be executed safely.

Transfer techniques used when mounting or dismounting a scooter can include, lifting the armrest to step on or off the device or swivelling the seat to the side before sitting down.

The following technique is used to assess transfers:

### *Equipment*

PMD device

### *Set up*

- Position the PMD in the room with good circulation space around it.
- Occupational therapist remains close to the client at all times. Support should be given if required to maintain the client's safety.
- Client sits on a chair or stands three metres away from the PMD

### *Procedure*

1. Demonstrate the transfer techniques to the client.
2. Ask the client to sit on the device using his or her preferred transfer technique.
3. When the client is sitting comfortably on the seat, instruct the client, "I want you to get ready to use your PMD. Instruct the client to adjust his or her sitting position as required. "Are you sitting comfortably and in a manner which would enable you to drive?"
4. Ask the client to dismount the device using his or her preferred transfer technique.
5. Document the transfer technique used and observations made about the transfer in the Administration booklet.
6. This assessment should be repeated when the client has been sitting on the device for a longer period of time (20-30 minutes). Clinical reasoning should be used to determine the appropriate length of time, as it will be dependent on the client's intended patterns of PMD use. The second assessment will occur as part of the driving skills assessment.

### *Additional information*

- Often a PMD user will sit on his or her device for a long time. It is recommended that you highlight to the client that his or her ability transfer on or off the device may be affected by prolonged sitting.
- It is recommended that this assessment be repeated on the home-environment assessment where transfers in the real situation can be observed.
- There is opportunity for the occupational therapist to educate the client about the correct and/or safe transfer technique to use when mounting or dismounting the device too. The occupational therapist should educate the client about "how to do it" if he or she is incorrectly performing the task.

The following information about the client's walking aid, should be recorded in the Administration booklet,

1. Indoor mobility aid used
2. Outdoor mobility aid used
3. Intended aid to be carried, when the client is "out" on the PMD.

It is recommended that advice from a physiotherapist be sought if concerns exist about the client's balance and mobility.

### **PRESSURE CARE NEEDS**

It can be difficult to address pressure care needs for PMD users. Some devices, particularly scooters, are not designed to accommodate pressure care products (for example, cushions), so it can be difficult to address specific risks. Where there is an identified risk, it is important to select the correct PMD for the individual. In some situations, it may be determined that PMD use is not appropriate.

#### *Procedure*

Document the following in the Administration booklet,

1. The amount of time the client will spend sitting in the device
2. Does the amount of time spent sitting contribute to a pressure care risk?
3. Strategies which could be used to minimise risks
4. Further assessment using a pressure care risk scale.

Clinical judgement should be used to determine whether further assessment is required.

## **TRUNK & NECK FUNCTION**

Adequate trunk and neck range of movement will enable the client to have good awareness of his or her immediate environment, particularly hazards which could impact on the safety of PMD use.

Insufficient trunk and neck function will impact on the client's

- Awareness of hazards behind him or her
- Awareness of hazards at wheel level
- Ability to lean forward when scanning driveways

### *Equipment*

Chair or PMD

### *Set up*

Not applicable

### *Procedure*

1. Ask the client to sit in the chair (or PMD) with his or her feet supported on the floor (or device footrest). Ask the client to sit upright without leaning on the back of the chair (or PMD seat).
2. Instruct the client, "Please rest your hands on your thighs"
3. Instruct the client, "Turn your head to look over your left shoulder. Please try to keep your body still, only move your head".
4. Ask the client, "Do you feel any pain or stiffness anywhere in your body when you move your neck?"
5. Repeat the instructions to the right.
6. If neck stiffness or reduced range of movement is noted, repeat this test, but allow the client to move his or her trunk too. Observe whether the blind spot checks are appropriate for the intended use.
7. Record the observations, including whether compensatory strategies are used, in the Administration booklet.

### *Additional Information*

- Clinical reasoning should be used to determine whether the neck range of movement demonstrated is sufficient for PMD use. The environment where the client will be using the device needs to be considered when making this decision.
- Trunk and neck function can be reassessed in the driving skills assessment.
- Neck range of movement needs to be adequate for reversing and when parking the PMD, and sufficient to allow the client to turn his or her head to check driveways for traffic.

## **POSTURE/DEFORMITY**

The client needs to have adequate posture to maintain a seated position on the PMD in different environments. Consideration should be given to whether his or her posture will be further challenged by the environmental demands of the intended PMD use.

Record the assessment in the Administration booklet.



## **BALANCE**

The aspects of balance which are formally assessed refer to the client's ability to

- Maintain sitting balance

Sitting balance is assessed during the driving skills assessment. It needs to be observed when the PMD is moving because dynamic sitting balance is different to the task of sitting on the device when it is stationary.

- Load and/or unload walking aid from the device and demonstrate safe transfer

If the client intends to carry a walking frame or walking stick on the PMD, this task should be assessed, using a walking frame or walking stick holder attached to the rear of the device.

Assess the client's ability to perform the task inside before repeating it outdoors (after a period of prolonged sitting).

### *Equipment*

PMD device with walking frame or walking stick holder attached

### *Set up*

- Position the PMD in the room with good circulation space around it.
- Client sits on a chair three metres away from the PMD
- Occupational therapist remains close to the client at all times. Support should be given if required to maintain the client's safety.

### *Procedure*

1. Demonstrate to the client how to load the walking aid onto the PMD, and then demonstrate how to unload it.
2. Ask the client to approach the device with his or her walking aid.
3. Instruct the client, "I want you to walk to the back of the PMD and then load your walking aid onto the rear of the device. When it is secure, I want you to sit on the PMD".
4. Ask the client to dismount the device, then instruct the client, "I want you to unload your walking aid from the PMD and then return to your chair"
5. Document observations made in the Administration booklet.
6. This assessment should be repeated when the client has been sitting on the device for a longer period of time (20-30 minutes). Clinical reasoning should be used to determine the appropriate length of time, as it will be dependent on the client's intended patterns of PMD use. The second assessment will occur as part of the driving skills assessment.

### *Additional information*

- Often a PMD user will sit on his or her device for a long time. It is recommended that it be highlighted to the client that prolonged sitting may affect his or her ability transfer from the PMD and to unload the walking aid.
- It is recommended that this assessment be repeated on the home-environment assessment where the 'real' situation can be observed.
- It may be appropriate to recommend that the client remain sitting on the PMD at all times due to difficulties experienced when loading or unloading the walking aid. This decision should be made in conjunction with a physiotherapist.

## **ENDURANCE**

Observe the client's level of endurance when participating in the cognitive, physical and psychosocial assessments. The occupational therapist should assess whether the client has adequate endurance to use a PMD.

In addition, observe the client's physical and psychological endurance during the driving skills assessment. Intended PMD usage patterns need to be considered when determining whether the client has adequate endurance for PMD use.

For example, how long will the client need to sit on the PMD to enable him or her to travel from home to the local shops?

Record the assessment in the Administration booklet.

## **COMMUNICATION**

The aspects of communication assessed are,

1. Hearing
2. Articulates own needs
3. Instruction comprehension

*Equipment*

None

*Set up*

Not applicable

*Procedure*

1. The client's ability to interact with the occupational therapist during the assessment is taken into account when assessing hearing and communication.
2. The following should be documented in the Administration booklet,
  - Whether hearing aids are worn, and whether the client intends to wear them when using the PMD.
  - The client's self-report of his or her ability to distinguish sounds in a noisy environment.
  - Whether the client needs to use strategies to compensate for his or her reduced hearing.
3. Hearing and communication should be assessed again during the driving skills assessment. For example, is the client able to hear instructions given, when he or she is in an area of high and noisy vehicle traffic?

## **VISION**

To assess the client's vision, the therapist should record any relevant medical information, the type of glasses worn and the date of his or her last eye examination.

Visual acuity is assessed prior to the PMD driving skills assessment. The ability to read street signs and to see oncoming cars at a distance is assessed during the driving skills assessment.

The following process is used to assess visual acuity:

### *Equipment*

Snellen chart (6 metre)

Tape measure (to measure distances)

Client's own distance glasses

### *Set up*

Position the Snellen chart so that the client can stand (or sit) 6 metres from it.

### *Procedure*

1. Ask the client to stand 6 metres from the chart.
2. Beginning at the 6/12 line, ask the client to read aloud the letters from left to right. Visual acuity is assessed with both eyes.

### *Scoring*

Visual acuity is determined by the smallest line, which the client can accurately read with one error permitted. Record the score in the Administration booklet.

### *Additional information*

In Australia, unlike for motorists, there is currently no minimum visual acuity requirement for PMD users. However, it is recommended that 6/12 visual acuity should be achieved (binocular, with or without corrective lenses). If this standard is not met, further advice from an ophthalmologist or optometrist should be sought, prior to continuing the PMD assessment.

### **COGNITIVE FUNCTION:**

The aspects of cognitive function considered before driving skills are assessed include,

- Instruction comprehension
- New learning
- Unilateral neglect/inattention
- Visual-spatial abilities

### **INSTRUCTION COMPREHENSION**

#### **NEW LEARNING**

Clinical judgement should be used to decide whether further assessment is needed before driving skills are assessed. Further assessment may include, functional tasks.

Furthermore, cognitive skills will be assessed frequently during the driving skills assessment.

General considerations when assessing the client's cognition;

- Is the client able to understand instructions?
- Is the client able to learn and retain new information?
- Is the client willing to "take on" new information?

Document observations in the Administration booklet.

### **UNILATERAL NEGLECT OR INATTENTION**

Clinical judgement should be used to decide whether further assessment is required before driving skills assessment occurs. This may include,

- Pen and paper tasks
- The Bells Test to assess unilateral neglect (Gauthier, Dehaut & Joannette, 1989)

During the driving skills assessment, neglect or inattention may be demonstrated by incorrect pathway positioning (for example, drifting to one side), lack of awareness of obstacles or hazards on one side, or inability to maintain driveway checks on one side.

Document observations in the Administration booklet.

### **VISUAL- SPATIAL ABILITIES**

Visual-spatial abilities will impact on the client's ability to maintain a straight path when driving the PMD. These skills will enable correct judgement when 'driving' the device along narrow paths and through narrow doorways.

Document observations in the Administration booklet.

## **MEMORY**

### *Procedure*

1. Consider the memory questions of the MoCA. Reduced memory can impact on PMD use, particularly the ability to recall and apply safe use strategies
2. Ask the client, “What do you think of your memory? Do you think it could impact on your ability to use a PMD?”
3. Ask the client, “Have you ever become lost when you have been somewhere familiar (either when walking or using your usual means of transport)?
4. Ask the client to outline the principles of safe PMD use.
5. Is the client able to recall a selected route in a familiar environment? Does the client recognise street signs or landmarks to guide the route home?

Clinical judgement is required to determine whether further memory assessment is needed. Any other cognitive screening tools administered should be documented with the client’s score.

Document answers and observations in the Administration booklet. Any strategies which will be used to aid learning and memory should also be documented (for example, providing information in written format).

## **PLANNING**

### *Procedure*

Consider the following questions,

1. Does the client consider the weather conditions or time of day before deciding to go out?
2. Is the clothing worn appropriate? Are contingencies made for unexpected weather, for example, rain?
3. When preparing to “go out”, does the client remember to take the keys (house and PMD) and mobile phone?
4. Is the client able to plan different routes home from the same destination?

Document answers and observations in the Administration booklet.

## **PROBLEM SOLVING**

### *Procedure*

Consider the following questions,

1. How does the client react when unexpected situations occur? Is the client able to identify a solution? For example, rubbish bins blocking the path, roadworks, PMD “breakdown”.
2. Does the client become flustered when something unexpected occurs, perhaps preventing him or her from finding a solution?
3. Is the client able to anticipate potential hazards, which could impact on PMD use?

Document the answers and observations in the Administration booklet.

## **CONCENTRATION**

Each PMD assessment session usually lasts one hour. The concentration demands of the client's intended usage patterns need to be considered when deciding whether the client's concentration skills are appropriate. For example, if the client consistently requests "short" assessment sessions, the occupational therapist may not be able to assess the concentration demands required for a trip to the supermarket.

### *Procedure*

1. Discuss the client's intended patterns of PMD use and identify the concentration demands of each task. For example, how long is it likely to take to drive from home to the supermarket?
2. Does the client become distracted by factors unrelated to driving? For example, talking to friends, picking flowers.
3. Does distraction result in unsafe driving? For example, incorrect footpath positioning.
4. Does the client become fatigued when using the PMD?

Record answers and observations in the Administration booklet.

## **INSIGHT**

Insight allows the client to understand the choices and decisions made when using the PMD. Reduced insight into how the choices he or she makes can make it difficult to teach the client the correct operation of the device.

### *Procedure*

Consider the following questions,

1. Is the client aware that driving behaviour choice may impact his or her safety? Explain.
2. Describe how driving behaviour choice could directly impact other pedestrians or motorists? Explain.
3. Can the client describe how these influences may be demonstrated when using a PMD? (For example, "If I drive too fast along the footpath, I may collide with a person or object that I don't see in my path").
4. Does the client recognise errors he or she made? What was his or her response?
5. Is the client willing to actively participate in the PMD assessment and training process?

Document the answers and observations in the Administration booklet.

## **EXECUTIVE FUNCTIONS AND BEHAVIOUR**

Confidence, impulsiveness and behavioural issues can impact on the safety of PMD use. “Bad habits” can become routine driving practice when the client is too confident about his or her skills.

Reduced or lack of confidence when learning how to use a PMD may result in an over-reliance on the therapist, which in turn impedes skill development.

### *Procedure*

Consider the following questions,

1. Ask the client to describe his or her confidence. Does the client identify himself or herself as a confident person or someone who is lacking in confidence?
2. Can the client imagine him or herself as a PMD user?
3. What strategies have been helpful to increase the client’s confidence in the past?
4. What available social supports may be able to assist the client’s PMD use (for example, family members, paid carers)?
5. How does the client manage his or her emotions and behaviour when frustrated, or when faced with a problem?

Document the answers and observations in the Administration booklet.

Clinical reasoning should be used to decide whether further screening assessments are required.

Document any other assessments used (including score achieved) in the Administration booklet.

## **MOOD**

The client’s heightened or lowered mood can impact on the safety of PMD use. It can result in the client experiencing difficulty when deciding on how to respond in an unexpected situation. Feelings of reduced self worth can mean the client does not trust in his or her abilities. It may be beneficial to introduce strategies to assist the client to manage his or her mood when using the PMD (for example, relaxation training).

### *Procedure*

Consider the following questions,

1. Review medical information provided. Have any conditions been identified which could result in lowered or heightened mood?
2. Review medication information. Are any mood related medications in the regime?
3. Ask the client “How would you describe your mood?”
4. Can the client identify situations where he or she has experienced low or heightened mood?

Clinical reasoning should be used to determine whether further assessments are required.

Document the answers and observations in the Administration booklet.

### **SUBSTANCE USE**

This includes drug and alcohol use. Alcohol and drug use can affect alertness and awareness and reaction times.

Record details about the client's substance use in the Administration booklet.

### **PART B – PMD USE: PHYSICAL/PSYCHOSOCIAL SKILLS SUMMARY**

The Physical/Psychosocial skills assessment is summarised by documenting “Issues identified which may impact on device use” on the front page of the Administration booklet.

### **PMD USE: DRIVING LESSON**

The aim of the driving lesson is to teach the client “the basics” of PMD use, so that subsequent sessions can focus on driving skills assessment.

Topics addressed in the PMD driving lesson include,

- Orientation to PMD set-up and functions
- Use of the controls (accelerator/reversing)
- Identifying a walking pace speed
- Correct positioning prior to kerb crossing

Carryover of skills and knowledge is assessed when these areas are reviewed in formal skills assessment in subsequent sessions.

### **PART C – PMD USE: DRIVING ASSESSMENT**

As discussed, the PoMoDATT is designed to assess PMD driving skill over time. The format of the tool enables the occupational therapist to record three different performance scores. The skills assessed are the same in each session.

An overall driving performance score should be calculated after the third driving skills assessment/training. This will reflect the skills observed in the final session.

The practical Powered Mobility Device Use Driving Assessment includes:

1. PMD Use Skills and Behaviours
2. PMD Use Tasks

The assessment has been graded so that basic driving skills and behaviours are developed before focusing on driving tasks. Driving skills and behaviours form the basis of the more complex and difficult driving tasks.

Depending on client need, it may be appropriate to focus on particular areas rather than covering all the skills and tasks in every assessment session. Clinical reasoning should be used to determine if this is necessary.



It is recommended that sturdy, closed-toe shoes be worn by the occupational therapist during the driving skills assessment sessions.

Prior to commencing the Driving Skills Assessment, several overall considerations need to be addressed (See Figure 3).

The occupational therapist should consider the features of the device chosen/recommended for the client when answering these questions. A negative answer to any of the questions should prompt further consideration about the most appropriate device for the client. Adaptation may be required for successful use for some clients (for example, different accelerator levers, speed limited).

### FIGURE 3. OVERALL CONSIDERATIONS

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Is the client able to sit with stability and reach the controls? Yes ☐ No ☐

Is the client able to manipulate the controls? Yes ☐ No ☐

Is the client positioned optimally in the PMD? Yes ☐ No ☐

Is the client's sitting tolerance adequate for assessment & intended uses?

Yes ☐ No ☐

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The PoMoDATT consists of 26 driving skills, tasks or behaviours. Items one to 16 are PMD use skills and behaviours and items 17-26 are PMD use tasks. These have been graded so that skills and behaviours are assessed first because these form the basis of the more complex driving tasks.

It is recommended that the assessment begin in a quiet, indoor environment before skills are assessed in a quiet, outdoor environment. Finally, the most complex intersection negotiation tasks are attempted in a busy, outdoor environment.

Scoring and tailored examples are provided for each section. These are not exhaustive but provide guidance for therapists.

## **POWERED MOBILITY DEVICE USE SKILLS & BEHAVIOURS**

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### **1. MOUNT DEVICE**

#### *Set up*

- Position the PMD in the room with good circulation space around it.
- The occupational therapist remains close to the client at all times. Support should be given if required to maintain the client's safety.
- Client sits on a chair or stands three metres away from the PMD
- If required, demonstrate, to the client, the different techniques used to mount/dismount the device

#### *Procedure (Mounting)*

1. Ask the client to sit on the device using his or her preferred transfer technique.
2. When the client is sitting comfortably on the seat, instruct the client, "I want you to get ready to use your PMD, are you sitting comfortably and in a manner which would enable you to drive?" Instruct the client to adjust his or her sitting position as required.
3. The device key should not be inserted until the client is sitting. The device should not be turned on until the client is sitting.

#### *Considerations*

- Does the client use a walking aid? Does he or she need to be able to load it onto the rear of the device? If the PMD used for assessment does not have an appropriate walking aid carrier, assessing this component may be difficult. However, it should be incorporated into training sessions.
- Is the technique used to mount the device appropriate given the client's physical abilities?

#### *Example scores*

---

|   |   |
|---|---|
| 4 | Independent & Competent   |
| 3 | Hesitancy observed as the client approaches the PMD; arms stretched out to reach for the device to hold it          |
| 2 | Client requests that the occupational therapist walk beside him or her while walking to the PMD                     |
| 1 | Occupational therapist provides hands-on support to ensure the client's safety while he or she sits on the PMD seat |

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**DRIVE:**

It is recommended that the skill of driving be assessed indoors and outdoors. Negotiating rough ground is relevant outdoors only.

**2. IN A STRAIGHT LINE***Procedure*

1. Ask the client to drive the PMD along a hallway or corridor using a walking pace
2. Repeat the assessment, on a clear, unobstructed footpath outdoors

*Scoring considerations*

Driving performance score is based on whether

- A straight line is maintained
- A straight line is maintained when turning the head to check driveways or look over his or her shoulder

*Example scores*

|   |   |
|---|---|
| 4 | Independent and competent   |
| 3 | Hesitancy present when driving along path, PMD deviates from straight path when client turns to look around the environment |
| 2 | Verbal cues provided to assist the client to maintain a straight course   |
| 1 | Occupational therapist guides the device controls or tiller to achieve a straight line of travel                            |

**3. IN A FIGURE OF 8***Procedure*

1. Set up, the “figure of 8” in an area with good circulation space (using witches hats or similar larger objects)
2. Ask the client to drive the “figure of 8” using a slow pace.
3. Repeat the assessment, using a walking pace and fast walking pace

*Example scores*

|   |  |
|---|--|
| 4 | Independent and competent  |
| 3 | Hesitancy present on approach to witches hats, driving pace slows or becomes “stop-start”; PMD is driven over a witches’ hat |
| 2 | Verbal cues provided to assist the client to negotiate “figure of 8”   |
| 1 | Occupational therapist guides the device controls or tiller to achieve skill   |

#### 4. **IN REVERSE**

##### *Procedure*

1. Ask the client to reverse the PMD along a hallway or corridor using a walking pace
2. Repeat the assessment, outdoors on a clear, unobstructed footpath

##### *Scoring considerations*

Driving performance score is based on whether

- A straight line is maintained
- A straight line is maintained when turning the head look over his or her shoulder
- The client able to steer the device appropriately while reversing

##### *Example scores*

|   |  |
|---|--|
| 4 | Independent and competent  |
| 3 | Hesitancy present; driving pace slows or becomes “stop-start”, but a straight path is maintained |
| 2 | Verbal cues provided to assist the client to steer the device correctly to achieve straight path |
| 1 | Occupational therapist guides the device controls or tiller to achieve skill                     |

#### 5. **NEGOTIATE ROUGH GROUND**

##### *Procedure*

1. Ask the client to drive the PMD on an unobstructed, rough or uneven path or surface (for example, gravel, bricks, grass).
2. Ask the client to use a walking pace speed.

Alternatively, driving across an unobstructed grass area may be selected.

##### *Scoring considerations*

Driving performance score is based on whether

- A straight line is maintained
- The driving speed chosen is appropriate for the conditions

##### *Additional considerations*

Therapists should use clinical judgement to determine the most appropriate surface for this assessment. Safety needs to be maintained at all times.

##### *Example scores*

|   |  |
|---|--|
| 4 | Independent and competent, scans environment, aware of pot holes, client may slow driving speed appropriately  |
| 3 | Hesitancy present or driving pace slows significantly or becomes “stop-start” or client voices concern about travelling over the uneven surface. Straight path is maintained |
| 2 | Verbal cues provided by therapist to assist the client to negotiate surface  |
| 1 | Occupational therapist guides the device controls or tiller to achieve skill   |

### **SPEED CONTROL:**

PMDs should be driven at a walking pace speed, however there are times when a slower speed may be more appropriate. Successful mastery of speed control requires the client to use a driving speed, which is appropriate to the environment. The skill is assessed, using the same procedure, in four different environments.

For indoor environments, people, café chairs and tables and shop displays contribute to whether an area is quiet or busy. For outdoor environments, traffic (vehicle and pedestrian) volume and the type of intersections nearby will determine whether the area is quiet or busy. Some examples include,

#### **Indoor quiet environment:**

- A hospital PMD assessment clinic
- Within a home

#### **Indoor, busy environment:**

- Main foyer of a hospital or building
- Indoor shopping complex

#### **Outdoor quiet environment:**

- A retirement village with one entrance/exit so through traffic is limited
- An area within hospital grounds away from main entrance with limited through traffic

#### **Outdoor, busy environment:**

- A footpath in a street, which is a main thoroughfare between with other major roads. Traffic may include cars, pedestrians and buses.
- A pedestrian crossing in a shopping centre car park

There may be scenarios when there is more or less traffic (vehicle and pedestrian) than would usually be anticipated in an environment. However whether an environment is quiet or busy needs to be judged on usual environment. For example, an indoor shopping complex is still busy even if there are only a couple of shoppers present.

### **6. INDOOR, QUIET**

### **7. INDOOR, BUSY**

### **8. OUTDOOR, QUIET**

### **9. OUTDOOR, BUSY**

#### ***Procedure (indoor driving)***

1. Instruct the client to drive, along a corridor, maintaining a walking pace.
2. Instruct the client to drive along a corridor then turn a corner. A walking pace should be maintained at all times

*Procedure (outdoor driving)*

1. Instruct the client to drive along a straight, unobstructed footpath, while maintaining a walking pace and checking driveway for reversing vehicles, and monitoring for pedestrians as required
2. Instruct the client to drive along a footpath, which changes direction. A walking pace should be maintained at all times

*Scoring considerations*

- Is a walking pace maintained at all times? For example, when turning corners or when the footpath changes direction
- Can the client control the device speed by changing the pressure applied to the accelerator or reversing lever?
- Is the chosen driving speed modified according to environmental demands (For example, indoor, outdoor, quiet, busy environment)

*Example scores*

|   |   |
|---|---|
| 4 | Independent and competent, maintains a walking pace speed at all times; able to modify speed appropriately and promptly in response to changing environmental demands   |
| 3 | Hesitancy present, driving pace slows unnecessarily when the footpath changes direction; delay in modifying speed in response to changing environment; client is completing the task competently but seeks reassurance “Am I doing this correctly?” |
| 2 | Verbal cues provided to assist identification of walking pace and the need to change speed according to conditions  |
| 1 | Occupational therapist controls device due to client’s inability to manage speed appropriately for changing environmental demands   |

## 10. **BRAKE USE**

It is recommended that brake use be assessed indoors and outdoors.

### *Procedure*

1. Instruct the client to drive along a corridor or footpath, maintaining a walking pace
2. After a short period, the therapist calls “stop”
3. A complete stop should be achieved, when the client releases the accelerator lever

### *Additional considerations*

- It is recommended that stopping on an inclined surface should also be practiced. The client needs to be aware that the PMD will roll slightly before the brake engages. In this situation, it is important that the accelerator lever is completely released.
- The client should be taught to completely release the accelerator lever to stop the PMD. This will disengage the motor. In a situation of panic, the automatic response is often to squeeze the lever. This will cause the device to quickly accelerate forward.

### *Example scores*

|   |  |
|---|--|
| 4 | Independent and competent. Stops device appropriately in response to environmental demands, anticipates changing conditions ahead  |
| 3 | Knocks wall or other object lightly when stopping PMD, hesitant to stop  |
| 2 | Verbal cues provided to prompt client to stop due to his or her delayed response   |
| 1 | Occupational therapist input required stopping the PMD, due to the client's late response to the need to stop, or confusion about the device controls (for example, squeezes lever rather than releasing it) |

## **KERB NEGOTIATION:**

**Definition:** For assessment purposes, a kerb is defined as the edge of a pavement or footpath. Traffic can approach from only two directions when negotiating a kerb and traffic is not usually turning left or right in these situations. Examples of kerb negotiation include,

1. A pedestrian or school crossing
2. Crossing the road driveway-to-driveway in a side street  
(not a main road).

Kerb negotiation should be assessed in a quiet environment and a busy environment with the same procedure used for each area. Traffic (vehicle and pedestrian) volume and the type of intersections nearby will determine whether the area is quiet or busy. Some examples include,

### **Quiet environment:**

- A suburban residential street with a 50-kilometre speed limit. Traffic in the street may include vehicles driven by the residents or their visitors and pedestrians.
- A retirement village with one entrance/exit so through traffic is limited

Busy environment:

- A street that acts as a main thoroughfare between other roads. Traffic may include pedestrians, cars and buses. There may be intersecting roads that bring additional traffic into the street.
- A pedestrian crossing in a local strip shopping centre

Scenarios may arise where there is more or less traffic (vehicle and pedestrian) than anticipated in an environment. For example, when crossing the road at a pedestrian crossing (in a strip shopping centre), there is no oncoming vehicular traffic due to the traffic light cycles at neighbouring intersections. This environment is still considered a busy environment despite the lack of traffic.

In most assessments, this skill will be observed multiple times. All the scores should be recorded. Refer to the details provided in Chapter 4 “PoMoDATT Scoring” with regard to scoring items multiple times.

**11. QUIET ENVIRONMENT****12. BUSY ENVIRONMENT***Procedure*

1. Ask the client to choose an appropriate kerb
2. Instruct the client to cross the road when safe to do so
3. Ask the client to stop on the opposite footpath, in a safe place

*Scoring considerations*

- The device should be positioned “straight on” or “90 degrees to kerb” in preparation for crossing. The exact position is dependent on the design of the kerb
- The device should be stopped at the edge of the kerb, before checking for traffic
- The wheels should remain in contact with the ground
- The tiller should not be turned until the rear wheels are on the road or have mounted the kerb

*Example scores*

|   |  |
|---|--|
| 4 | Independent, competent. PMD is consistently positioned correctly when entering and exiting kerbs   |
| 3 | Hesitancy present on approach to kerb  |
| 2 | PMD stopped on the road (rather than the edge of the kerb) before checking for oncoming traffic; PMD is positioned incorrectly on kerb (for example, less than 90 degrees to the kerb); tiller is turned prematurely so that the rear wheels mount/dismount the kerb at an incorrect angle |
| 1 | Occupational therapist guides the device controls or tiller to achieve skill, one or more wheels are not in contact with the ground  |



### **13. TIMELY RESPONSE TO ENVIRONMENTAL CHANGES/DEMANDS**

The PMD should be driven in a manner, which allows a timely response to changes in the immediate environment. This skill requires the client to scan the environment for potential hazards or obstacles, which could impact on PMD use (for example, a vehicle blocking the footpath, vehicle entering/exiting a driveway).

Driving speed should be appropriate, allowing a quick response to unexpected situations.

#### *Example scores*

|   |   |
|---|---|
| 4 | Independent, competent. Immediate and quick responses made to changing environmental demands  |
| 3 | Client notices a car blocking the path however his response to this is hesitant resulting in him failing to take decisive action to redirect his path of travel                         |
| 2 | Client notices an overhanging branch on the path. She seeks occupational therapist reassurance that it is appropriate to cross the road and travel along the opposite footpath          |
| 1 | Occupational therapist intervention is required to prevent collision with a car (reversing from a driveway). Client was travelling too fast along path, and was unable to scan driveway |

### **14. MAINTAINS CONCENTRATION**

The client should remain focused at all times. The ability to maintain concentration should be assessed in a variety of environments (indoor, outdoor). Clinical reasoning is required to determine the concentration demands required of the client.

#### *Scoring considerations*

- Does the client maintain concentration while chatting to the therapist?
- Do factors unrelated to the task cause distraction (for example, stopping to look at flowers, chatting to friends/neighbours)

#### *Example scores*

|   |  |
|---|--|
| 4 | Independent and competent, Client maintains concentration and attention while chatting to occupational therapist, without distraction  |
| 3 | Client continues to drive the PMD while chatting to neighbours. Distraction causes him not to notice that the device is veering from the path. He was able to self-correct, but the response was delayed |
| 2 | Verbal prompt from occupational therapist required, asking client to reposition the PMD on the path. It was driven from the footpath because the client was distracted while looking at flowers          |
| 1 | Occupational therapist intervention is required to prevent a collision with a car entering a driveway. The client was distracted by chatting, and did not see the turning car                            |

**15. TURN DEVICE OFF****16. DISMOUNT DEVICE**

The PMD should always be turned off and the key removed before the client dismounts the device. Powered wheelchairs have no key. It is important that the powered wheelchair user correctly positions his or her hands so to avoid accidentally turning the device on while dismounting. Hands should be on the armrest, not on the control panel/joystick.

*Scoring considerations*

- Does the client use a walking aid? Does he or she need to be able to unload it from the rear of the device? If the PMD used for assessment does not have an appropriate walking aid carrier, assessing this component may be difficult. However, walking aid loading and unloading should be incorporated into training sessions
- Is the technique used to dismount the device appropriate given the client's physical abilities?
- The client may require additional assistance to dismount given the impact that prolonged sitting could have on his or her balance and/or mobility

*Example scores*

|   |   |
|---|---|
| 4 | Independent and competent. Client consistently removes key before dismounting; client uses an appropriate technique to dismount   |
| 3 | Client turns device off, but does not remove the key prior to dismounting   |
| 2 | Therapist prompt required "what do you need to do before getting off the PMD?"; client swivels the seat prior to dismounting, but does not "lock" it in place before standing. Therapist prompts him to check the seat is locked.         |
| 1 | Client attempts to dismount the PMD while the device is turned on. Occupational therapist intervention is required to maintain safety; client attempts to side-step off the device. Therapist input required as he starts to lose balance |

## **POWERED MOBILITY DEVICE USE TASKS**

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### **17. POSITIONING**

The PMD should be positioned appropriately on the footpath at all times. The width of the path may dictate the position that can be maintained.

#### *Scoring considerations*

- If a position on the left or right of the path is maintained, is the client aware of the position of the device wheels (for example, is there a risk of the device tipping because it is no longer on the path?)
- How does the client respond if a pedestrian approaches from the opposite direction?

#### *Example scores*

---

|   |   |
|---|---|
| 4 | Independent and competent. Correct position is maintained at all times  |
| 3 | Hesitancy causes the PMD to deviate from the correct position momentarily before the client independently corrects the position   |
| 2 | Client maintains a position on the left of the footpath and a wheel moved off the path onto the grass. Occupational therapist prompts him to correct the position                                 |
| 1 | Client repositions the PMD to allow a pedestrian to pass. She miscalculates the position and the device nearly tips over. Occupational therapist intervention is required to prevent the accident |

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## **NEGOTIATING:**

### **18. A SHARED ROAD/FOOTPATH, DRIVEWAY CROSSINGS, BIKE PATH**

When using a shared road, the PMD should be positioned so that it is facing oncoming traffic (for example, in a retirement village). On a bike path, the PMD should maintain a position on the left as is required by pedestrians. The PMD user needs to maintain constant awareness of other pedestrians and cyclists.

Driveways should be checked for reversing cars. At times, this will require the client to slow down or stop on approach so that the environment can be scanned. Some driveways have better visibility than others.

#### *Scoring considerations*

- The client should be aware of traffic or pedestrians at all times
- Driving speed should be appropriate for the conditions

*Example scores*

|   |   |
|---|---|
| 4 | Independent and competent; maintains awareness of vehicles and pedestrians who share the road/footpath  |
| 3 | Hesitancy evident when using the PMD in high traffic areas  |
| 2 | Driveway scanning is inconsistent. Occupational therapist provides verbal reminders to aid consistency  |
| 1 | PMD is not positioned appropriately so that others can share the path. The client requires occupational therapist hands-on assistance to correct position so that others can use the path |

**NEGOTIATING:**

While negotiating narrow pathways and narrow doorways are tasks, which are scored separately, the principles for assessment are the same. Successful demonstration of these tasks requires the client to correctly judge the position of the PMD in space. The PMD needs to be positioned appropriately at all times.

**19. NARROW PATHWAYS****Definition:**

For assessment purposes, a narrow path is considered to be,

- Less than one metre wide or
- A path where there is a minimum of 100mm but no greater than 150mm clearance either side of the PMD used (for the assessment)

For example, for this task,

1. A powered wheelchair (width 690mm) could use a path measuring 890-990mm wide
2. A scooter (width 780mm) could use a path measuring 980-1080mm wide

The therapist should measure the width of the PMD used to ensure an appropriately narrow pathway is incorporated into the assessment.

Mastery of this task is important because misjudging the turning space required to maintain the footpath position, when the path changes direction, can result in the rear wheels leaving the footpath. This can increase the risk of the device tipping over.

***Scoring considerations***

- The position of the PMD as it travels along the pathway
- Is a central position maintained? Is the device too close to one side of the path?
- Does the client scan the space, so that device remains on the pathway?
- Does the client slow down as she is travelling past a car that is parked over the footpath (causing the path to be narrower than usual)?

## 20. NARROW DOORWAYS

### Definition:

For assessment purposes, a narrow doorway is considered to measure between 800-850mm wide. This will accommodate most average sized devices.

The therapist should measure the width of the PMD used for assessment to ensure that the door width is appropriate. If a large PMD is used for assessment, it may be necessary to use a slightly wider doorway. The largest scooters available may not be able to negotiate through a 800mm width doorway. If a different size doorway is used, width details should be recorded.

It is recommended that the therapist trial negotiating the narrow doorway with the PMD him or herself before asking the client to attempt the task. Some clients find this task daunting. The client must accurately judge the space required to negotiate narrow spaces. If the PMD is turned too quickly when negotiating a narrow doorway or if the doorway is approached from an angled position, the rear wheels may hit the doorframe.

### *Scoring considerations*

- The position of the PMD as it moves through the doorway. Is the device positioned centrally as it travels through the doorway? Is the device too close to one side of the doorway when travelling through it?
- Does the client scan the space so that his or her elbows or knees are not knocked?
- Does the client slow the driving speed as she is travelling through the doorway (to allow her to scan the available space)?

### Example scores for negotiating narrow pathways & narrow doorways

|   |  |
|---|--|
| 4 | Independent and competent; PMD is appropriately positioned to move through narrow spaces with equal space either side of the device  |
| 3 | Hesitancy evident when turning the PMD as the footpath changes direction, driving speed slows unnecessarily, very slow speed used when travelling through doorway  |
| 2 | Misjudging the turning space required when negotiating a narrow doorway results in the rear wheel hitting the wall, misjudging the footpath space available results in a rear wheel leaving the footpath (positioned on the grass)                                   |
| 1 | Client has difficulty judging the PMD position on a narrow path so she requires hands-on assistance from the occupational therapist; therapist assistance required to negotiate the limited footpath space available in front of a car (car is parked over the path) |

## 21. A LIFT

Spatial awareness is important when negotiating a lift. There is often inadequate circulation space in a lift to allow larger PMD (for example, scooters) to be turned around inside. In this situation, the client will need to determine whether it is more appropriate to drive in forwards or to reverse into the lift.

### *Scoring considerations*

- Are other people entering or exiting the lift?
- Is the technique chosen to enter/exit the lift appropriate?
- Is the device positioned so that the lift button can be reached?

*Example scores*

|   |   |
|---|---|
| 4 | Independent and competent, appropriate position maintained, client aware of other people in the lift  |
| 3 | Driving speed slows unnecessarily due to hesitation when exiting the lift   |
| 2 | Misjudging the space required to turn when entering the lift results in the side of the PMD knocking the lift door opening                      |
| 1 | Client is unable to position the PMD so that the lift buttons can be reached. Occupational therapist assistance is required to activate buttons |

**CROSSING THE ROAD:****22. CHOICE OF CROSSING POINT**

The principles applied in the skill of kerb negotiation (items 11 & 12) should be considered when assessing this task too.

*Procedure*

1. Instruct the client, “I want you to cross the road. I want you to choose an appropriate place to cross and cross the road when it is safe”
2. After crossing, ask the client to drive along the footpath until asked to “stop”

For some clients, repeating the procedure may be warranted so that this task is scored multiple times. In this case, refer to the details provided in Chapter 4 “PoMoDATT Scoring” with regard to scoring items multiple times.

*Scoring considerations*

- An appropriate crossing point involves using two kerbs which are directly opposite each other
- How is the visibility at the crossing point? Are cars blocking the client’s view of the road?
- Monitor the position of PMD before crossing (including appropriate angle and position of the device before scanning for traffic)
- Are there vehicles entering/exiting either driveway?
- Is eye contact made with the motorist before crossing in front of a vehicle?

*Example scores*

|   |  |
|---|--|
| 4 | Independent and competent, demonstrates consistent traffic awareness   |
| 3 | Hesitancy present when crossing, including slowing down (on the road) on approach to the opposite kerb; crosses the road in front of a parked car, but maintains a good awareness of traffic on the road; PMD is positioned at less than 90 degrees on a flat gutter     |
| 2 | Chooses a crossing point between two parked cars, visibility to traffic is occluded. The occupational therapist is required to prompt to maintain visual awareness of the road; PMD is positioned incorrectly on a raised gutter, so that one wheel lifts off the ground |
| 1 | Client crosses the road in front of an oncoming car, rather than waiting until the road was clear of traffic. Occupational therapist intervention is required to maintain safety   |

## **INTERSECTION NEGOTIATION:**

To safely cross an intersection, the client needs to incorporate the skills used when crossing kerbs in a more complicated and/or high traffic environment. Refer to the descriptions of the kerb negotiation tasks (items 11 & 12) when considering the demands of this task.

### **Definition:**

For assessment purposes, an intersection is considered a point where two or more roads intersect.

## **23. WITH NO TRAFFIC LIGHTS**

An intersection with no traffic lights may include a,

- T-intersection
- Four-point-cross intersection
- Roundabout

The PMD user will need to be aware of traffic (vehicle and pedestrian) approaching from multiple directions. In many situations, this may involve cars turning left or right.

When crossing the road at an intersection (with no traffic lights), the PMD user should cross the road at a place where traffic approaches from a limited number of directions. For example,

- At a four point cross intersection traffic may be turning left or right or continuing straight across the intersection
- At a T-intersection, traffic may be turning left or right out of the street, or turning left or right into the same street

If necessary, the client should travel further along a road to find an appropriate intersection. The closest intersection may not be the most appropriate or safest option.

### *Procedure*

- Ask the client to choose an intersection without traffic lights
- Instruct the client, "Please cross the road, when it is safe"

The intersection/s (with no traffic lights) selected for assessment purposes will depend on the client's needs and his or her local environment. For example, assessment of driving skills when negotiating a roundabout is only relevant if the client is likely to encounter this type of intersection in his or her local environment.

### *Scoring considerations*

- Client is aware of and monitoring traffic approaching from all directions
- The device should be positioned "straight on" or 90 degrees to the kerb in preparation for crossing. The exact position is dependent on the design of the kerb
- The device should be stopped at the edge of the kerb, before checking for traffic
- The wheels should remain in contact with the ground at all times
- The tiller should not be turned until the rear wheels are on the road or have mounted the kerb

*Example scores*

|   |   |
|---|---|
| 4 | Independent, competent. PMD is consistently positioned correctly when entering and exiting kerbs; client has good awareness of traffic when crossing the road   |
| 3 | Hesitancy present on approach to kerb; client is slow to start crossing; some difficulty positioning the PMD prior to crossing  |
| 2 | PMD stopped on the road (rather than the edge of the kerb) before checking for oncoming traffic; PMD is positioned incorrectly on kerb (for example, less than 90 degrees to the kerb); tiller is turned prematurely so that the rear wheels mount/dismount the kerb at an incorrect angle; supervision required for safe road crossing; client chooses a driving speed which is too fast to safely cross the road so therapist prompts client to lower speed; client is unsure where to position the PMD when negotiating a roundabout |
| 1 | Occupational therapist guides the device controls or tiller to achieve skill, one or more wheels are not in contact with the ground and therapist input is required; client crosses the road without checking for turning traffic and therapist input is required to maintain safety  |

In most assessments, this task will be observed multiple times. All the scores should be recorded. Refer to the details provided Chapter 4 “PoMoDATTT Scoring” with regard to scoring items multiple times.

## **24. ACCESSES THE PEDESTRIAN CROSSING BUTTON**

### **25. WITH TRAFFIC LIGHTS**

Negotiating an intersection with traffic lights and accessing the pedestrian crossing button are assessed at the same time.

#### *Procedure*

1. Ask the client to cross the road at traffic lights
2. Instruct the client, “I want you activate the crossing button before you cross”
3. Ask the client to stop on the opposite footpath, in a safe place

#### *Scoring considerations in addition to those outlined in the task of “crossing the road”*

- Is the PMD positioned appropriately so that the crossing button can be activated?
- At traffic lights, does the client wait for the appropriate signal before crossing (for example, the green light)?
- Does the client commence crossing the road at the beginning of the light cycle?
- Is traffic awareness maintained while crossing the road?
- How many lanes of traffic are there?
- Is the driving speed appropriate?



*Example scores*

|   |   |
|---|---|
| 4 | Independent, competent. PMD is positioned correctly when entering and exiting kerbs; client is able to position the PMD so that the pedestrian crossing button can be reached to activate it; client has good awareness of traffic when crossing the road   |
| 3 | Hesitancy present on approach to intersection results in a delayed response to the traffic light, client is slow to start crossing; some difficulty evident when positioning the PMD so that the button can be reached  |
| 2 | PMD stopped on the road (rather than the edge of the kerb) before client checks for oncoming traffic; PMD is positioned incorrectly on kerb (for example, less than 90 degrees to the kerb); tiller is turned prematurely so that the rear wheels mount/dismount the kerb at an incorrect angle; supervision required for safe road crossing; client chooses a driving speed which is too fast to safely cross the road so therapist prompts to reduce speed; client starts crossing the road after the pedestrian light has changed to red |
| 1 | Client crosses the road without checking for turning traffic so occupational therapist input is required to maintain safety; client is unable to activate pedestrian crossing button without assistance   |

**26. ABLE TO “PARK AND SHUT OFF” DEVICE**

This task focuses on the ability to choose appropriate parking areas (for example, at a shopping centre). “Shut off” the device refers to removing the key and connecting the charger.

Clinical judgement should be used to determine the parking required for the client. Some clients may remain seated on the PMD at all times, therefore parking at the shopping centre will not be needed. For some clients, it may be appropriate to have family or carer assistance to connect the device charger.

*Example scores*

|   |  |
|---|--|
| 4 | Independent and competent; able to park the PMD appropriately so that it is not blocking access for other people (for example, people entering or exiting shops)   |
| 3 | Hesitation results in a slowly executed park; multiple attempts are required to achieve an accurate position, but the client is able to achieve this without assistance; client bends slowly but slowly to reach the cord to connect the charger |
| 2 | Supervision required when connecting the charger; occupational therapist input is required to assist with PMD positioning when parking   |
| 1 | Due to the client’s reduced balance, assistance from a family member to connect the charger, client cannot safely complete task independently; PMD is parked on an angle and is blocking the entrance to shops for other people                  |

## CHAPTER 4

### PoMoDATT SCORING

Each skill and task is scored using the Performance Scores Rating Scale (Figure 4). The rating scale is an ordinal scale and the maximum score for each item is four.

It is recommended that driving skills and tasks be assessed on three separate occasions. If the skill or task is not relevant in the environment, a score of 4 is given. If the skill or task is not scored due to safety concerns, a score of 0 is given.

An overall driving performance score should be calculated after the third driving skills assessment. This score reflects the skills observed in the final assessment.

FIGURE 4. PERFORMANCE SCORES RATING SCALE

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#### **Performance Scores Rating Scale**

- |          |  |
|----------|--|
| <b>4</b> | <b>Independent &amp; Competent</b> Able to perform task in one attempt smoothly  |
| <b>3</b> | <b>Developing Competence</b>   |
|          | <ul style="list-style-type: none"> <li>a. Hesitancy or overconfidence present when executing task</li> <li>b. Knocks wall or other objects lightly (without causing harm)</li> </ul>   |
| <b>2</b> | <b>Verbal Prompting</b> Skill or task is executed erratically or impulsively. Several attempts required to achieve skill or task   |
|          | <ul style="list-style-type: none"> <li>a. Supervision/monitoring required for safe road crossing</li> <li>b. Uses an inappropriate speed for conditions, does not adjust speed as necessary</li> <li>c. Bumps objects in a manner that could cause harm</li> <li>d. Incorrect positioning of device on gutters</li> <li>e. Inconsistent driveway scanning</li> </ul> |
| <b>1</b> | <b>Physical Hands-On Assistance (or use of “scooter stopper” required)</b>   |
| <b>0</b> | <b>Not scored – Due to safety concerns</b>   |
| <b>4</b> | <b>Not scored – Not relevant in the environment</b>  |
- 

#### **SCORING ITEMS MULTIPLE TIMES DURING AN ASSESSMENT**

Many driving skills and tasks are scored once during each performance assessment, however there may be circumstances when the occupational therapist decides to observe a skill/task on more than one occasion. If this occurs, all the scores should be recorded. As a result of the practice opportunities, improvement in skill performance may be seen during the session. This will be reflected in different scores.

To determine the overall score for this item for the assessment, consideration must be given to all the scores achieved. A score of 1 or 2 indicates that training may be needed. Three possible scoring scenarios are discussed with examples provided in the examples below.

1. If “physical hands-on assistance” is required at any stage in the assessment for the skill or task being observed, the lowest score (1) will be achieved for the item. Hands-on assistance indicates that there are safety concerns (Examples are provided in Assessment example 1, Performance score 1 and Assessment example 2, Performance score 1).
2. If the scores achieved in one session vary, the most frequently recorded score is the overall score achieved (Example in Assessment example 2, Performance score 2).
3. If ratings are recorded equally, the lowest score achieved is considered the overall achievement for the session (Example in Assessment example 3, Performance score 1).

Scoring examples provided illustrate how to identify the overall score achieved for each performance with the score achieved indicated in bold.

#### Assessment Example 1

|   | Performance<br>Score (1)<br>Date: 2/11/15 |   |   |   | Performance<br>Score (2)<br>Date: 18/11/15 |          |   |   | Performance<br>Score (3)<br>Date: 1/12/15 |  |  |
|---|---|---|---|---|--|----------|---|---|---|--|--|
| Speed control: indoor,<br>quiet environment | <b>1</b>                                  | 2 | 1 | 2 | 2  | <b>3</b> | 3 | 4 | <b>3</b>                                  |  |  |

Scoring explanation:

1. Hands-on assistance required twice during the assessment, score of 1 overall
2. Multiple scores achieved, overall score 3, as this was achieved twice
3. Overall score 3, item only scored once for this assessment

#### Assessment Example 2

|                             | Performance<br>Score (1)<br>Date: 2/11/15 |   |   |   | Performance<br>Score (2)<br>Date: 18/11/15 |          |   |   | Performance<br>Score (3)<br>Date: 1/12/15 |   |   |
|-----------------------------|---|---|---|---|--|----------|---|---|---|---|---|
| Choice of crossing<br>point | <b>1</b>                                  | 2 | 2 | 2 | 2  | <b>3</b> | 3 | 4 | <b>1</b>                                  | 3 | 3 |

Scoring explanation:

1. Hands-on assistance required once because of safety concerns, therefore score of 1 achieved overall despite the improvement in performance
2. Multiple scores achieved, overall score 3 – as this was achieved twice
3. Overall score of 1, because of safety concerns, however client performance improved

### Assessment Example 3

|   | Performance<br>Score (1)<br>Date: 2/11/15 |   |          |   | Performance<br>Score (2)<br>Date: 18/11/15 |          |   |   | Performance<br>Score (3)<br>Date: 1/12/15 |          |   |   |
|---|---|---|----------|---|--|----------|---|---|---|----------|---|---|
| Intersection negotiation: no traffic lights | 4   | 4 | <b>3</b> | 3 | 2  | <b>3</b> | 3 | 4 | 2   | <b>3</b> | 3 | 3 |

#### Scoring explanation:

1. Hesitancy evident on two occasions. Scores achieved were equal in number therefore the lowest score 3 is considered the overall achievement
2. Multiple scores achieved, overall score 3 – as this was achieved twice
3. A score of 2 was given when the therapist provided a verbal prompt asking the client to travel slower. The client accepted this feedback indicating insight and every other time the item was scored higher. Overall rating of 3.

### **THE PoMoDATT DRIVING ASSESSMENT SUMMARY**

The driving assessment summary is recorded on the final page of the PoMoDATT. The outcome is an overall driving performance score ranging from zero to 104, and reflects the score achieved by the client in the final assessment/training session.

A stand-alone score does not in itself provide information on safe, independent PMD: use. Rather, the occupational therapist will interpret this score using clinical reasoning. At this stage, further research is required to determine guidelines for score ranges that suggest a client

- Is safe to proceed with independent PMD use
- May have difficulty safely driving a PMD
- May need training, before being able to safely use a PMD

Recommendations should be recorded in the driving assessment summary. These may include,

- Provision of a PMD (scooter or powered wheelchair)
- Funding application
- Supervised use only

Areas requiring further training and an intervention plan should also be documented.

Finally, the PMD assessment outcome should be recorded on the front page of the PoMoDATT Administration forms. Possible outcomes include:

- |   |   |
|---|---|
| <input type="checkbox"/> Able to use a PMD  | <input type="checkbox"/> Not appropriate at this time – further training required |
| <input type="checkbox"/> Supervised PMD use | <input type="checkbox"/> Not appropriate to a use PMD                             |

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