



EVIDENCE-BASED CONSENSUS STATEMENTS FOR DRIVING AND COMMUNITY MOBILITY

Introduction and Purpose

Occupational therapy practitioners have the ethical obligation to use evidence-based evaluation and screening tools as well as employ evidence-based intervention strategies and programs. The reality is that in the medical and associated health professions, guidance based on research evidence is not always available. This paucity of evidence is particularly problematic when addressing driving and community mobility. The difficulty of measuring this complex instrumental task of daily living requires longitudinal examination, which can be challenging and extremely expensive. Consequently, it may be years before many of the decisions required in everyday practice will have sufficient research evidence. Therefore, it is common for *evidence-based practice* or *best practices* to integrate three components: (1) best research evidence, (2) clinical expertise, and (3) patient values and preferences (Sackett et al., 1996)

Using this model, an expert panel of transportation experts was convened to discuss and develop recommendations. More than 60 consensus statements were generated that occupational therapy practitioners may consider when addressing the driving and community mobility needs of our aging population. The expert panel consisted of occupational therapists (e.g., generalists, driving rehabilitation specialists, researchers), physicians, and researchers from related professions. With the objective to develop pathways ensuring a continuum of services for clients in diverse settings, the statements were generated in six areas: (1) screening and assessment tools, (2) specific client groups typical of services, (3) ethical obligations, (4) driving simulation, (5) definitions of terms and models of programs, and (6) occupational therapy education.

Screening and Assessment

The consensus statements were designed for occupational therapy practitioners, generalists and specialists. Ethical occupational therapy practice requires practitioners to complete screening, assessment, and interventions based on best practices. In determining fitness to drive, there is no single screening or assessment tool (Dickerson et al., 2014). The practitioner must use clinical reasoning in conjunction with available tools and professional observation of performance. For the practitioner these consensus statements should provide guidance in terms of how to use and interpret assessment tools and when to appropriately refer to the specialist.

- A decision about continued, restricted, or cessation of driving should never be made based on the results of one tool in isolation, as there is not enough evidence on any one tool to make a decision.
- Measurement tools that are developed specifically for a diagnostic group should be interpreted carefully when used with other diagnostic groups, unless there is sufficient evidence supporting the use of the tool with this other group.
- Measurement tools that are developed based on specific outcomes (e.g., number of crashes rather than overall driving performance) should be interpreted carefully when used to assess other outcomes.



- Measurement tools must be administered according to defined protocols in order to use the associated norms and/or evidence.
- If the client is determined to be unfit to drive, the occupational therapist should provide intervention, planning or an appropriate referral to address transportation and community mobility options.
- Some screening tools appear to hold more promise than others. Therapists should use evidence-based tools in making decisions.
- The ethical application of research knowledge depends on the critical appraisal of the research, its replication, and adequate synthesis.
- Occupational therapists need to apply a framework to identify the criteria required to select the tools best suited to their needs and practices.
- In the hands of a general practice occupational therapist, screening/assessment tools serve as criteria for referral and action. In the hands of the driver rehabilitation specialist, the same tools can contribute to a decision for fitness to drive.
- Occupational therapy generalists should consider the multi-factorial nature of someone's condition and potential for improvement.
- If the client is determined fit to drive, the occupational therapist needs to address future community mobility issues, including enhancing safe driving as well as transitioning to non-driver status over time.
- Processes should be followed for occupational therapy generalists to start the driving discussions with sufficient clinically related evidence.

Client Groups

Recent research evidence (Dickerson et al., 2014) and best practice suggest specific diagnostic groups require unique and individualized choices of assessment tools and intervention strategies. The following consensus statements will assist practitioners in addressing driving concerns for clients with four common conditions.

Dementia

- An individual with moderate to severe dementia should not drive.
- Those with very mild or mild dementia may be appropriately referred for further testing when risk factors for unsafe driving are present.
- If the client has a neurodegenerative dementia, mobility counseling (to include alternative methods of transportation) should start immediately anticipating that driving cessation will likely occur in the future.
- For clients with dementia, their self-report regarding driving capability may be inaccurate; therefore observation of occupational performance (e.g., instrumental activities of daily living (IADL) performance or in vehicle) is recommended.
- Co-piloting, in which a passenger is assisting the driver with tactical maneuvers (e.g., prompts for scanning, obeying rules of the road) or operational aspects of driving (e.g., prompts for braking, signaling turns, steering) lacks sufficient evidence to recommend it as a strategy to improve fitness to drive. This type of co-piloting is an indication that the client should stop active driving, as verbal instructions are insufficient in a driving situation in



which a rapid response is required to prevent a crash. Navigational assistance (e.g., verbal prompts about upcoming turns, assistance with directions) may be helpful to all drivers and is not an indication of being unfit to drive.

- Regardless of the client's condition, assessment and recommendations for optimal and safe community mobility should be provided.
- Regardless of the driving assessment outcome, when an individual is diagnosed with dementia, the generalist occupational therapy practitioner should start planning exploration of alternative transportation options early with client and family encouraging early use of their options to increase the client's familiarity and skill.
- Occupational therapy practitioners need to know the legal and ethical obligations related to driving and community mobility.

Parkinson's Disease

- Drivers with Parkinson's disease who have **mild motor disability** as measured by low scores on the Unified Parkinson's Disease Rating Scale Part 3, and no or few risk factors (anti-Parkinson drugs, over 75 years of age), may be fit to drive. Individuals who fit this profile and those who are newly diagnosed with Parkinson's disease are recommended to (1) plan a baseline comprehensive driving evaluation by a medically trained driving rehabilitation specialist and, because of the progressive nature of the disease, (2) consider annual comprehensive driving evaluations, (3) start planning for driving cessation, (4) seek consultation to develop a plan for use of alternative transportation options, and (5) start conversations with their family about retirement from driving.
- For those with **severe motor impairment** and disease severity (high Unified Parkinson's Disease Rating Scale Part 3 scores) and multiple risk factors (e.g., decreased information processing speed, the highest risk score on the Useful Field of View (UFOV), scoring 180 seconds or more on the Trails B, impaired contrast sensitivity, and scoring more than 7 seconds on the Rapid Pace Walk), the recommendations include (1) ceasing driving, (2) reporting to the licensing agency as required/allowed by the jurisdiction, and (3) addressing the issues of transportation for the individual and caregiver through consultation or supported services.
- Research is in progress to provide better guidelines for the "middle" group (i.e., those individuals with **mild to moderate motor disability** and few to several risk factors). This group's recommendations include (1) Strongly recommending undergoing a comprehensive driving evaluation by a medically trained driving rehabilitation specialist in order to provide opportunities for rehabilitation (e.g., behind-the-wheel training, compensatory strategies, adaptive devices, driving restrictions, and/or self-regulation), (2) provide learning strategies to address transitioning to non-driving (e.g., start conversations about driving retirement, caregiver involvement in driving retirement, consultation, and/or referral for counseling), and (3) develop a mobility plan for driving cessation.



Chronic Obstructive Pulmonary Disease (COPD)

- When an individual has COPD, a referral for a driving evaluation is indicated if any of the following conditions are present: (1) cognitive decline is evident with either psychometric testing or while performing other ADLs (e.g., impaired attention, fatigue, hyper-somnolence), (2) concern is raised about driving safety through direct observation, family concern, or driving incidents, (3) the individual has difficulty maintaining oxygen saturation of less than 90% at rest, (4) when the individual experiences dyspnea at rest or while behind the wheel, and (5) when the individual's motor vehicle needs modification for loading a powered mobility device (wheelchair or scooter) or oxygen containers need to be secured in the vehicle.
- When an individual has COPD, the driving rehabilitation specialist should monitor oxygen saturation while driving to measure the effects of driving tasks on oxygen levels in the blood. This information can be used to verify the need to drive with oxygen to improve cognition as well as heart and other organ functioning. Pulse oximetry is also an effective tool to demonstrate the effects of energy conservation (vehicle features, arm position, etc.) and breathing techniques have while driving.
- When an individual has COPD, the driving rehabilitation specialist can provide guidance on overall driving skills and safety, including driving limits and compensatory techniques, as well as assistance with loading devices for power mobility devices, and oxygen storage.
- Community mobility should be addressed with every occupational therapy client as part of the initial evaluation and most importantly as part of the discharge planning.

Physical Disabilities

- An individual with a non-functional lower limb, lower extremity prosthesis, or an orthotic on a lower limb used for operation of vehicle should be referred for a driving evaluation.
- An individual with a spinal cord injury at any level should be referred early in the rehabilitation process for consultation with a driver rehabilitation specialist. Although the time frame may vary with each individual, it is important to discuss how a particular client's mobility device (e.g., wheelchair) and functional skill set will interface with transportation options before purchasing or modifying a vehicle.
- A client with a progressive condition that affects primarily sensation and/or motor function with the potential to impact driving (e.g., multiple sclerosis, post-polio syndrome) should be referred to a driver rehabilitation specialist to determine a baseline need for adaptive equipment for his or her motor vehicle. The driver rehabilitation specialist can assist with planning for future needs and re-evaluation based on the progression of the condition.
- A client with a non-progressive condition that affects primarily sensation and/or motor function (e.g., cerebral palsy, spina bifida) should be referred to a driver rehabilitation specialist to determine adaptive equipment needed as well as his or her potential to drive in the future. Because wheelchair, vehicle, and funding decisions made early in the process impact the potential for driving independence, involving the specialist early in the process ensures comprehensive planning for community mobility for the client and family.



Ethical Obligations

Driving and community mobility presents unique ethical challenges to occupational therapy practitioners. In terms of ethics, the expert panel agreed that (1) no evidence is needed to support ethics, (2) ethical statements applied to everyone, (3) the principles underlie what all occupational therapy practitioners do, and (4) ethical standards are supported by professional standards and official documents.

- Driving is a high-volume, high-risk activity and the changing demographics will result in increasing demand and opportunity for occupational therapy evaluation and recommendations. Occupational therapy practitioners are obligated to follow the ethical principles as applicable to practice.
- Occupational therapy evaluation identifies deficits in performance skills (client factors) that affect ability to do daily activities (occupations). Driving is a daily occupation for a significant number of individuals across the entire life span.
- The Occupational Profile (focused interview) should be part of the evaluation process and include/address driving, if identified by client as a desired outcome.
- Current, appropriate evaluation and assessment tools targeted to obtain meaningful data must be used and administered correctly.
- Occupational therapists and occupational therapy assistants have an obligation to work within their level of competence: Generalist occupational therapists are qualified to obtain data, assess skills related to driving, should take steps to manage risks relevant to driving, and should be familiar with appropriate referral sources for more specialized evaluation (Principle II, AOTA Code of Ethics).
- Educational curricula prepare occupational therapists to assess impairment and safety issues with performance of daily occupations (e.g., driving and community mobility) from a musculoskeletal, sensory perceptual, cognitive, and psychosocial perspective.
- Data from occupational therapy evaluation and intervention identify safety issues (requiring the therapist to address/document/make recommendations) related to ADLs and IADLs (e.g., bath transfers, meal prep): A client's performance abilities/disabilities may impact ability to drive safely, if at all. Therefore, there is a professional and ethical obligation to identify and warn when safety deficits or risks are identified, including driving.
- Professional, clinical, and ethical reasoning are taught in occupational therapy educational programs and utilized in the clinic to evaluate data and make judgments about realistic, appropriate goals and strategies (or alternative options) to achieve them. This includes driving and community mobility.
- Principles in the *Occupational Therapy Code of Ethics and Ethics Standards (2010)* support the overarching ethical obligation to provide services to benefit clients and **avoid harm**. Driving is an important occupation but also has potential for harm to clients as well as general public and must be considered by the practitioners.
- Impaired cognition has been shown in the literature to increase difficulty and risk for driving (Albert et al., 2011; Carr & Ott, 2011). Impaired cognition also has safety implications for ADLs and IADLs. The challenge is gauging the potential risk that may result from the level



of impairment and requires data, professional training, and professional judgment. This is also true for vision and physical impairments.

- All principles of the Code and Ethics Standards have relevance for addressing and warning about potential driving impairment.
- Case law exists and sets a precedent for the professional obligation to warn clients based on the foreseeable likelihood of danger or harm due to an impaired client.
- Confidentiality is presumed in client–therapist relationships, but there are legal and ethical considerations that supersede this principle and should lead to communication, documentation of recommendations, and possible reporting.
- Referrals for driver rehabilitation services or recommendations should not be influenced by ability to pay.
- Occupational therapists have an ethical responsibility to know the laws in their state that relate to their reporting obligations and options with impaired drivers.
- If the therapist reports the patient’s name to the Department of Motor Vehicles (DMV), it is the therapist’s ethical responsibility to make every effort to inform the patient that he or she is doing so.

Driving Simulation

An emerging technology for both assessment and intervention, driving simulation is a complex tool to be used by practitioners. These statements should be considered or implemented if and when using an interactive driving simulator.

- Due to driving simulator adaptation, unfamiliarity with and anxiety about technology, and a lack of standardization and validation of outcome metrics, driving simulators should not be the sole determinant of fitness to drive for older adults.
- Occupational therapists using driving simulation need to seek and obtain the appropriate education and training to use this tool effectively, appropriately, and with the knowledge to minimize simulation sickness.
- Carefully designed and tested driving simulation activities may offer controlled and repeatable driving conditions for intervention that are unavailable or limited in open-roadway conditions, allowing clients to practice the abilities and skills that will be required for driving during the rehabilitation process (with the understanding that the evidence to support this claim is still emerging).
- Simulators may be valuable as part of a more comprehensive assessment.
- Driving simulators can be used as a tool to determine impaired visual, cognitive, and motor abilities underlying the task of driving when used by an occupational therapist knowledgeable and skilled in its use.



Definition of Terms and Models of Programs

Driver rehabilitation is a multidisciplinary field within a complex environment. Layered on the complexity of the issues is a language barrier and a diversity of programs without the necessary terminology for stakeholders to understand the differences. One of the direct outcomes as a result of this meeting was the *Spectrum of Older Driver Services*. These consensus statements identify issues for resolution.

- Language/terminology variance of definition is an issue, and we want to strive for consistency so that the community and other professionals understand this as a priority for future work.
- There is a need to differentiate programs based on their levels of service and compliance with Association of Driver Rehabilitation Specialists (ADED) Best Practices. *This has been partially achieved with the Spectrum of Older Drivers Services.*
- If program models are clearly defined, then there is a need for improved and understandable descriptors/definitions for the public and other stakeholders.
- There is a need to identify a level of education, training, or experience to use Driving Rehabilitation Specialist (DRS) as a credential.
- There is a need for clarity in the definition of DRS and who can use this title as compared with those who use the Certified Driving Rehabilitation Specialist (CDRS) title.
- There is a need to explore the training and expertise required of a provider offering a driver rehabilitation program.

Occupational Therapy Education

For practitioners interested in enhancing their practice by addressing driving more specifically, these two consensus statements need to be considered.

- Driving rehabilitation is a multi-tiered complex practice area that requires advanced knowledge, skills and experience.
- Scientific evidence should be prominent in the education and professional development of driving rehabilitation specialists. Individuals with higher levels of scholarship and expertise should generate evidence that is useful to practitioners for integration into practice.

References

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