

Transportation Safety Tips for Professionals Involved in Driver Training and Prescription of Vehicles for People who Drive While Seated in Their Wheelchair

Attention: Certified driver rehabilitation specialists, vocational rehabilitation counselor, veterans healthcare administration

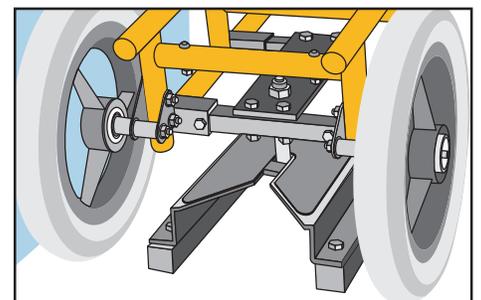
For more information on best practice for providing transportation safety for drivers seated in wheelchairs, refer to the *Drive Safe* brochure as well as other educational materials that can be obtained online at wc-transportation-safety.umtri.umich.edu.

- 1) Encourage clients to transfer from their wheelchair to the vehicle seat and to use available occupant-protection systems provided by the vehicle manufacturer when they have the ability to do so safely.
- 2) If the client can transfer to the vehicle seat, recommend that their wheelchair or scooter be secured in the vehicle using a four-point, strap-type tiedown system or a docking-type securement system before operating the vehicle.
- 3) If the client intends to remain seated in their wheelchair when driving, it is best to recommend the use of a wheelchair that has been designed and tested for use as a seat in a motor vehicle, often referred to as a WC19 wheelchair or transit wheelchair.

These wheelchairs have been crash tested when secured with a four-point, strap-type tiedown system or a docking-type securement system while loaded with an appropriate-size crash-test dummy, and are labeled either with this symbol or with the words “Complies with WC19.”



- 4) Recommend that the van modifier or dealer install a docking securement system such as an EZ-Lock, Dock'N'Lock, Q'Straint QLK, B&D Independence Hightower, or Permolock that has been designed and tested for use with the client's specific wheelchair model. It is important to recommend that the van modifier or dealer check with the securement device and wheelchair manufacturer to make sure that the particular wheelchair model has been successfully crash tested for use with the specific docking securement system.



- For securement systems that connect a single point, such as a vertically hanging bolt under the wheelchair, to the docking-securement device, recommend the use of a front stabilizing bracket to prevent wheelchair rotation to the left and right during travel, and to reduce forward and backward pitching of the wheelchair in frontal crashes.
- 5) WC19 wheelchairs also provide the option of using a crash-tested wheelchair-anchored lap belt to which the lower end of a shoulder belt can be attached near the driver's hip to

form a complete seatbelt. If the client would like to use a wheelchair-anchored lap belt and one is not provided with their wheelchair, refer to the wheelchair user's manual for information on the specific lap belt to purchase and where it can be purchased. Crash-tested wheelchair-anchored lap belts will be labeled to with the symbol above or with the words "Complies with WC19".

If the client would instead like to use the lap and shoulder seatbelts that provided by the vehicle manufacturer, recommend that the original vehicle buckle receptacle be mounted to a hard stalk or cable installed on the inboard side (right side) of the vehicle to complete the seatbelt system and so that the buckle can be easily reached.

- 6) When necessary, encourage the client to use a fold-away or retractable joystick controller on their power wheelchair to avoid interference with accelerator and brake adaptive hand controls near the steering wheel.



- 7) Encourage the client to use their wheelchair headrest if they have one and recommend that it be positioned so that it extends higher than their ears and is less than 2 inches from the back of their head to help reduce the risk of neck injuries during rear-end crashes.

- 8) Recommend that the client replace closed-front armrests with armrests that are open at the front (e.g. attached only to the wheelchair back-support posts) when this is possible. Doing this will allow a lap belt to be more easily buckled under, or to slide under the armrests and into contact with the lower pelvis and upper thighs so that it fits snugly and properly around the driver's hips.



- 9) Inform the client that postural supports attached to the wheelchair, such as chest and lap belts and lateral trunk supports, are helpful for maintaining a more upright-seated posture and should be used as long as they don't interfere with proper positioning of the vehicle seatbelts. These postural supports can improve the positioning and effectiveness of vehicle seatbelts, they can help the client maintain their balance when entering and exiting vehicles, and they will enhance the driver's postural stability when operating the vehicle. However, strongly warn and advise the client that postural belts should never be relied on for crash protection and that a crashworthy lap and shoulder belt restraint must always be used during travel.