Adaptive Equipment to Compensate for Impairments in Motor Performance

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Key Holder
Easy Reach

Handy Bar
Button Mirror

Pedal Extender
Left Foot Accelerator

Steering Knob