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Power Mobility Advanced Applications

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Power wheelchairs are primarily designed to provide a means of independent mobility to the client. Complex rehabilitation power wheelchairs, using expanded electronics, also include features that can increase independence beyond mobility. These features include control of power seating or interfaced external Assistive Technology devices (e.g., a speech-generating device [SGD]) through the driving method. Infrared (IR) transmission from the power wheelchair to control devices in the environment (e.g., audiovisual equipment) and mouse emulation for access to a computer or SGDs are also available. In addition, power wheelchairs can be used with emerging technologies, such as tablets and smartphones.

Many clients who require a power wheelchair will also require other assistive technologies due to physical, cognitive, or sensory limitations. For example, a client requiring power mobility is more likely to require power seating for weight shifts than a client using manual mobility. A client using alternative driving methods is more likely to require control of that power seating through the access method, rather than a through standard toggle or button control.

These advanced applications can be difficult to fund. Funding sources may be unfamiliar with specific components that are required to access these features. Documentation must justify the necessity of each component as well as detail the functional difference these features will make in the client's level of independence. For example,

if a client needs to access his or her SGD through the power wheelchair driving method, an interfacing component and cable will typically be required. Documentation justifying the necessary components may state: "The interfacing component and cable are required for the power wheelchair driving method to be used to access the current SGD." Documentation detailing the functional need may state: "The client's optimal driving method is using a head array. The optimal switch location for the SGD is the left side of the head. For the client to use the optimal access method for both mobility and communication while in the power wheelchair, these two devices must share the same switch."

Just as funding can be challenging, it may be difficult to find clinicians and suppliers who are familiar with these advanced applications. If the team members are not aware of features that may be helpful to a client, these options will not be considered in product recommendations. If team members are aware of these features but do not know how to set up the features, the client may still not benefit from this technology. Seating and mobility professionals need to be competent in these areas to meet client needs.

Before exploring advanced power wheelchair applications, it is of course critical to ensure the client is positioned well, is using the most appropriate driving method (as addressed in Chapter 11) and that the power wheelchair has been configured to optimize driving (as addressed in Chapter 12).