

Considerations for power mobility making the most of your choices.

January 1, 2003 - Technology today enables children of virtually any ability to explore their independence through **power mobility**. Compact, maneuverable power chairs, modular seating interfaces and digitally programmable drive controls all combine to provide infinitely adjustable **power mobility** "systems" that can be adapted regardless of a child's size, age, environment or level of function. These advanced technologies are combining to allow children to explore their environments at younger and younger ages. While many manufacturers are designing their power chairs to interface with today's current technology there are still many considerations that must be explored before choosing a **power mobility** system.

The ability of any system to evolve with a child is dependent upon the power chair that serves as the base. The appropriate power base serves as a foundation from which the entire system is built. A properly prescribed **power mobility** system must meet the immediate needs of a child while being able to adjust and change to address any needs as far as five years in the future. Today's power base designs allow a qualified provider to change the character and capabilities of the base, by adding and deleting components such as postural seating, power positioning systems and specialty drive controls. However, not all power bases are created equal. In order to determine what base may be best for each individual, an in depth initial assessment of their abilities and environment must be conducted.

A thorough power mobility assessment will address the many environments a child may encounter as they begin to explore their world. Careful attention must be paid to mobility in the home, school, outdoors and any other environments they may encounter. Considerations must be made for narrow doorways, tight space maneuverability, ability to negotiate thresholds and ramps and the ability of the power base to handle varied outdoor terrain. To address these considerations there are power bases available in many different sizes, with different drive wheel configurations, varying levels of suspension and differing aesthetic designs.

When investigating power mobility, there are a few questions that must be asked when determining the appropriate base:

- * Can the base accept power-positioning systems?
- * Can the base accept any necessary specialty drive controls?
- * Can the specialty controls support any environmental control or augmentative communication systems?
- * Can the base support a ventilator and appropriate battery?

- * How will I transport this base? Can it be used on a school bus?
- * Will it negotiate home and school environments?
- * Does it have the necessary suspension and power to be used outdoors?
- * Can I adapt specialty seating? Will it grow with my child?
- * Will the system allow my child to maintain transfer status?
- * Is the seat height too low? Too high? Can it be changed?

The size of a power base, while having a direct impact on the size of the environment it is used in, also determines many other factors within the power mobility system. Smaller bases are inherently more maneuverable, present with lower seat to floor heights and are also much less obtrusive when working with small children and their first mobility system. Larger bases will allow more growth, enable a child to explore more by virtue of their increased available speed and suspension and also provide a stable base for power positioning systems.

Drive wheel position is also a very important consideration. Power bases can basically be split into three categories. Rear wheel drive (RWD), mid-wheel drive (MWD) and front-wheel drive (FWD). All three bases come in varying sizes and shapes to meet the needs of users of varying abilities. A RWD base positions the drive wheels to the rear of the chair and places the user in front of the drive wheels. A MWD base positions the drive wheels in the middle of the base and beneath the user. A FWD base positions the drive wheels in the front of the base and places the user behind the drive wheels. All three base types offer different handling and performance characteristics that may be effected by the experience of the user, drive control being used and environment(s) that the user may encounter.

The comfort and performance of any power mobility system can be greatly effected by suspension. Suspension is a relatively new component to power mobility systems and can vary depending on the type of power base that is prescribed. Power base performance can be greatly enhanced by suspension that will work to keep drive wheels in contact with the ground while also working to increase the climbing ability and stability of the system. Suspension is also integral to the comfort of the user in the system. A base that has a suspension system that dissipates shock from the ground up and works to maintain the chair in a level position can greatly increase the sitting tolerance and stability of the child. Suspension can vary greatly between power bases and should be an important consideration in any power mobility choice.

As mentioned earlier, most major manufacturers design their power bases to integrate with the new and exciting technologies available today in specialty drive controls and power positioning. Insuring that the power base selected as the foundation will accept these technologies is tantamount to any of the aforementioned performance characteristics. Now is a time of tremendous choice and opportunity for users of all ages. Understanding the many choices available will help to insure that, no matter what their age or ability, they are able to explore new independence through power mobility.

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