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Issue: December 2006

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Weighty Decisions for Lightweight Wheelchairs

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After HME providers work with physicians and therapists to determine the proper MAE, it is time for the team to develop the best fit and ensure proper documentation.

The new Medicare coverage policy states that to qualify for a powered mobility device (PMD), a beneficiary must not be able to propel a properly fitted manual wheelchair. This presents an interesting dilemma. While CMS has significantly updated coverage language and coding for PMDs, manual wheelchair coverage policies remain vague and perhaps outdated based on current technologies, research, and accepted standards of clinical practice. There is potential that a PMD will be recommended for a client when perhaps an appropriately fitted manual wheelchair could allow them to perform their mobility-related activities of daily living (MRADLs).

But what exactly is a properly fitted manual wheelchair? First of all, you need to decide if your client is a manual wheelchair candidate. The policy does not require that a clinician must actually set up and try a properly fitted manual wheelchair when it is pretty obvious the client would not be able to independently operate a manual wheelchair. Examples are individuals with a high-level spinal cord injury, severe upper extremity weakness, or any other neuromuscular, orthopedic, or cardiopulmonary condition that would rule out the use of even the best manual wheelchairs.

As with ruling out the use of a cane, crutch, or walker, clinicians can make decisions based on sound intuition without placing their client at risk of injury while evaluating a device that is clearly not appropriate. It is, however, the responsibility of the treating physician and licensed certified medical practitioner (LCMP, such as an occupational or physical therapist) to make these decisions and document them in the patient's record. Therefore, it is critical for the supplier of mobility assistive equipment (MAE) to work in conjunction with the physician and OT or PT as part of an interdisciplinary team to identify the most appropriate MAE device to meet a person's needs.

While manual mobility is not appropriate for some, there are many individuals for whom a manual wheelchair is the best option. When considering manual wheelchairs—whether for a young, active individual or an older person with functional ambulation limitations—proper selection and configuration require careful consideration. A comprehensive client evaluation is necessary to determine which equipment and configuration will optimally meet the client's needs.

A thorough evaluation should include a



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review of the client's diagnosis and prognosis, medical history, physical evaluation, functional assessment, psychosocial profile, and environmental considerations. A clear understanding of the client's unique presentation guides clinical judgment for which manual wheelchairs and specific configurations are potentially appropriate for trial.



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Published research evidence also should be used to guide clinical judgment and best practices surrounding manual wheelchair prescription. An excellent resource for manual wheelchair selection and configuration is *Preservation of Upper Limb Function Following Spinal Cord Injury: A Guide for Health-Care Professionals*. Written by the Consortium for Spinal Cord Medicine with

administrative and financial support from the Paralyzed Veterans of America (PVA), the publication provides a thorough review of pertinent research and recommendations for wheelchair prescription for those with spinal cord injury (SCI). While targeted toward SCI, most of the information applies to those who use manual wheelchairs, regardless of disability. To get a copy of the Guidelines, go to: www.pva.org.

Clearly, a wide range of manual wheelchairs is available. Under Medicare policy, manual wheelchairs are described by codes ranging from the standard Depot (K0001 to K0003), high-strength lightweight (K0004), and ultralightweight (K0005), to custom manual wheelchair (K0009). For self-propellers, K0001 through K0003 are inappropriate because these devices are heavy and have limited features and adjustability for efficient propulsion.

The K0004 is slightly lighter with a few added features; however, it still has limited clinical utility or durability. The K0005 is typically a much lighter device with features and components that are appropriate for self-propulsion. However, for many full-time manual wheelchair users, the K0009—which is a very lightweight, high-strength, fully customizable wheelchair—is the only device that adequately provides necessary support while allowing the individual to get around independently, safely, and efficiently.

So basically, the K0005 and K0009 wheelchairs are the only appropriate options for individuals who rely on manual wheelchairs for primary mobility. For ease of communication, we will refer to these chairs as "ultralights" with the distinction that most K0005 wheelchairs are adjustable and K0009 wheelchairs are more customized. Unfortunately, Medicare policy is vague or nonexistent when it comes to the ultralights, and therefore these devices could be viewed as not medically necessary by reviewers in a postpayment audit. However, clinical documentation that supports the need for an ultralight wheelchair over a lower cost alternative should ensure coverage.

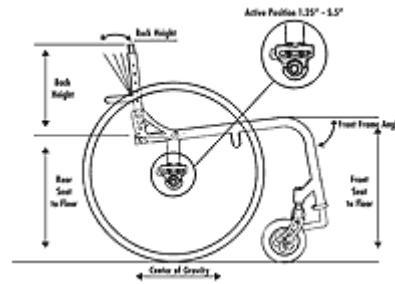
Documentation must include a review of the client evaluation and demonstration that the features unique to the prescribed ultralight best meet identified needs. There are a number of key features inherent to the ultralights that should be emphasized to funding sources.

ULTRALIGHTS

The ultralights are the lowest weight wheelchairs available. A lightweight wheelchair is important for several reasons. A lighter weight frame reduces strain on the user when self-propelling, because rolling resistance is decreased. An ultralight wheelchair reduces the likelihood of upper extremity repetitive strain injuries, which have been identified as a significant problem for people who propel wheelchairs. Lighter weight frames are also easier to manage for lifting and stowing in a vehicle.

Another reason that ultralights should be considered over lower cost alternatives is that they can be configured in a variety of vertical and horizontal rear wheel axle positions. Rear wheel position options provide for more efficient propulsion biomechanics

and decreased rolling resistance. A properly configured vertical rear wheel position should place the user's elbow between 100 and 120 degrees of flexion when the hand is at the top (12 o'clock) position of the push rim. A forward axle position, which allows increased access to the hand rim, has been demonstrated to provide improved propulsion mechanics. The rear wheel should be positioned as far forward as possible without compromising rearward stability. A forward rear wheel position also provides greater weight distribution over the rear wheels rather than onto the front casters to decrease rolling resistance. The rear wheels are better suited to take the weight and roll as compared to the smaller front casters that will tend to "dig" into the surface if they assume too much of the weight—which creates more resistance. When a client resides in an area where MRADLs are performed on surfaces with significant roll resistance, such as carpet or uneven surfaces, power mobility should be considered.



Factors such as transfers and clearance under tables and desks must be considered when pondering seat height and other dimensions. *Click on image for larger version.*

Ultralight manual wheelchairs are available in a variety of frames. The traditional cross-frame wheelchair offers both highly adjustable and custom models. They are typically preferred by people who have become accustomed to them over the years (prior to more contemporary options) and who tend to fold their frames with the wheels for transportation stowing. One concern with cross-frames, however, is that they tend to be heavier and have more "flex" in the frame, resulting in less efficiency compared to their rigid frame counterparts. Rigid frames tend to be lighter due to less framematerial and fewer moving parts. While many users are concerned that rigid chairs may be difficult to stow in a vehicle, stowing is actually quite efficient through the use of quick-release rear wheels, fold-down backrests, and practical techniques.

Rigid frames also offer more options for seat and backrest angles. A rearward slope of the seat (rear of seat lower than front of seat), with a backrest that is perpendicular to the ground, is often preferred by active users. The rearward slope, in conjunction with a perpendicular back angle, helps stabilize the pelvis and seated posture for improved upper body control, which results in improved upper extremity function to propel the wheelchair and perform other activities.

It is critical that clients have adequate hip and low back range of motion available to tolerate this position. While postural support is improved, greater rearward seat slope can result in increased pressure on the bony prominences of the buttocks, especially if the legs are not well supported. Increased sitting pressures put the user at increased risk for pressure sores, thus pressure distribution at the sitting surface must be addressed. Increased seat slope can make the client's transfers out of the wheelchair somewhat more difficult. This challenge can be overcome with modified transfer techniques taught by a skilled clinician.

FOOTRESTS

Standard wheelchairs, and some of the ultralight wheelchairs, are equipped with swing-away footrests. Users who prefer these tend to move the foot supports away for transfers, or to get closer to surfaces and objects for functional activities. However, positioning the lower extremities with less than 90 degrees of knee flexion (feet forward of knees) can create problems. First, the overall length of the wheelchair is increased, which negatively impacts maneuverability. Second, posture can be compromised for an individual with tight hamstrings because they will shift into a posterior pelvic tilt and slouched posture. Many active users prefer their feet to be placed more under the seat with 90 or greater degrees of knee flexion.

Additional articles by Dr. Schmeler can be accessed via the [online archives](#).



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