

## Stand Up for Your Stander - Information on the Benefits of Standing

Anyone in the disabled community can easily justify the importance of a stander during idle conversation. Independence, physical benefits, emotional well-being - the list goes on. When it comes time to justify the purchase of a stander to your insurance company, however, more formal explanations of its benefits may be required to receive coverage for such an item. For those who have experienced the difficulties of insurance company denials, especially for reasons of standers being "experimental," the following letter could be helpful in providing facts that support what you already know - that standers can play a key role in maximizing the quality of life for disabled persons. The following supporting documentation was provided to FSMA by Permobil, Inc. <http://www.permobil.com/>

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To Whom It May Concern:

This letter is to address your statements in which you consider a vertical power wheelchair "experimental treatment". Based on this statement you denied reimbursement for Mr. \_\_\_\_\_ (ID#: \_\_\_\_). We are unable to agree with this reasoning of denial because it is factually incorrect. We request that you reconsider your decision based on the information below.

You define "experimental treatment" as: "there is inadequate evidence in scientific peer reviewed literature to document efficacy and safety". However, the scientific literature actually offers plenty of evidence. For your information, let us summarize and outline the relevant literature from Medline referenced scientific journals.

"Reduction in loss of Bone Mineral Density, prevention of osteoporosis and the consequent risk of fractures"

- Evidence on the effects of immobility on bone mineral density is overwhelming to the point that we could not possibly list it all. Various disability populations have been studied, such as children with Cerebral Palsy or Spina Bifida, as well as adults with Stroke and Multiple Sclerosis and SCI. (1) Review studies establish the direct relationship between immobility and weightlessness and loss of BMD, as well as the relationship between osteoporosis and high risk of fractures (2), (3), (4). Studies with astronauts and people in bedrest quantify the negative effect of weightlessness on BMD (5), (6), (7), (8), (9). For the SCI population in specific, numerous studies point out the benefits of frequent passive standing and weight bearing/exercise on BMD (10), (11), (12), (13). Further animal studies clarify that standing is to be dynamic in

order to fully prevent loss of BMD. This is of utmost importance regarding a vertical power wheelchair, since in stationary standers one can not obtain dynamic loading of the bones, only static. According to the scientific literature, static loading is less efficient than dynamic loading in prevention of BMD loss. (14), (15), (16), (17), (18).

“Lesser risk of pressure ulcer formation at the Ishial Tuberosities”

- When standing, pressure is 100% relieved off the Ishial Tuberosities. However, when tilting, there is only partial reduction of pressure underneath the ITs – at full body tilt, only 11% reduction, according to Hobson (19). Pressure ulcers are the primary complication for people with Spinal Cord Injury (27). There is evidence that users have experienced lesser occurrence of pressure sores while using power wheelchair standers. (20),(21), (22), (23)

“Prevention/delays of contractures and reduction in tone”

- Animal studies have shown and quantified how muscles which were fixed in a flexed position resulted in increased contractures of the joints (24), (25). Without the passive ROM exercises and stretching that the stander will provide, Mr. \_\_\_’s shortened muscles will likely result in contractures. Standers have added benefits of ROM exercises as compared to human assisted stretching, because it aids in tone reduction as well; research indicates that muscle stretch COMBINED with weight loading reduces muscle tone, more so (32% vs. 17%) than stretching alone. (26)

“Reduced likelihood of Urinary Tract Infection”

- UTI is the 2nd most frequent complication for SCI clients (27). This is because prolonged immobility causes hypercalcaemia, increased urinary calcium output (28). Vertical power wheelchairs have reduced the occurrence of Urinary Tract Infections for wheelchair users, including those with SCI (20).

“Improved bowel function, reduced constipation”

- Many users, including those with SCI have experienced improved bowel regularity, reduced constipation, and lesser occurrence of accidental and unregulated bowel movement as a consequence of using power wheelchair standers (20). Elimination of chronic constipation has also been shown as a result of frequent standing (29), (30).

“Significant reduction in spasticity”

- Research studies show that vertical power wheelchair users have experienced significant reduction in spasticity (20), (30). This helps with transfers, can aid in better sleep, reduces fatigue and pain, and improves positioning in the wheelchair. Standing has an immediate and significant effect on spasticity (31).

“Reduction in respiratory and gastro-intestinal complications”

- Studies have shown that those who stand frequently in vertical power wheelchairs have lesser or delayed occurrence of gastro-intestinal and respiratory complications (20), (30). Standing can help reduce congestion and coughing (32).

In addition to the aforementioned research studies, evidence exists to describe the various additional medical benefits of standing, such as reduction in fatigue and pain, improved circulation, strength, and overall well being, especially for the Spinal Cord Injured population.

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