

**BMG enters  
the  
Blogosphere**

May 21, 2012 / 3

Hi! and welcome to the new Better Motion Group (BMG) blog. We are a Canadian company committed to transforming knowledge into better products and services. And our first product is the P44 Stepper that allows seniors to safely engage in resistance training of the legs to remain mobile and independent.

The inspiration for this blog is not otherwise self-promotion, but rather to educate the readers about the issue that we are passionate about and shape our offerings. And at the moment, that issue is the devastating effects of age-related muscle and strength loss.

So follow along as we try to educate and burnish, drive to inspire, and hopefully make a difference.

# Better Motion Group

## Contact

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### Business Summary:

Better Motion Group is a Canadian product development and manufacturing company that is committed to transforming knowledge into better products and services. BMG developed and manufactures the patented p44 Stepper, the only portable resistance device used from a chair or wheelchair for clinically-proven leg strengthening to improve stability, mobility, and independence. The p44 Stepper is used in the company's pFIT Mobile Group Strength Training program that travels to wherever older adults are and leads up to eight participants through a group strength training program. Better Motion Group plans to create a line of health and wellness products to serve the rapidly growing older adult market, including Dr. Ditor's Anti-Contracture Wheelchair Legs.

### Customer Problem:

Although wheelchairs are a necessary solution for millions of people worldwide, chronic wheelchair use can result in further disability and reduced quality of life. One such problem stems from the fact that while sitting in a wheelchair, the hamstring muscles are constantly kept in the shortened position, and rarely experience stretch. Over time, these muscles shorten (known as a muscle contracture) and as a result, the individual loses range of motion about the knee joint. This poses major problems, even in individuals with no ambulatory capacity, as this loss of range makes transfers more difficult, and certain types of exercise rehabilitation virtually impossible.

### Solution:

If the legs were permitted to extend for periods of time, the hamstrings would not shorten over time and the issue would be resolved. Thus, the currently proposed solution is to develop two moveable leg rests that can be retrofitted to any wheelchair (manual or electric). These leg rests will be motorized and controlled by a button or joystick attached to the armrest of the wheelchair, and they will allow the individual's legs to be extended at the knee joint to any degree between 90 and 180. Thus, the user can spend large portions of the day with his or her legs in the extended position and either prevent muscle contractures from developing, or slowly reverse existing contractures. These retrofit, motorized wheelchair legs will be known as Anti-Contracture Elevating Wheelchair Legs (ACE-wheelchair legs).

### Revenue Model:

Better Motion Group will manufacture the device and distribute the product through existing major wheelchair companies in North America.

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## Target Market:

There are an estimated 2.7 million wheelchair users in the United States alone, or 0.94% of the population. Likewise, approximately 155,000 Canadians who were living in private households in 2000/01 needed a wheelchair to get around, which represents 0.6% of the total household population aged 12 or older. On a global scale, there are approximately 10 million wheelchair users in developed countries and 67 million wheelchair users worldwide. A substantial proportion of wheelchair users develop knee contractures (11% in the spinal cord injured population, for example). However, it is vital to note that no consumer can predict whether he or she will develop contractures and therefore, 100% of wheelchair users should elevate their lower legs as often as possible as a precautionary measure.

## Competitive Advantage:

Standing wheelchairs currently exist that also allow lower leg extension. However, addressing contractures this way requires a new wheelchair to be purchased (ranging from \$10,000 to \$28,000) which is prohibitively expensive for many consumers. Furthermore, there are elevating wheelchair legs on the market, that retail for approximately \$500, but they are deficient in several ways. For example, they can only be attached to a small number of wheelchairs that have an existing bracket on their frame, and further, they cannot be independently used by the consumer as they require a caregiver to elevate the legs by lifting the distal end of the device. The ACE-wheelchair legs can be retrofitted to any wheelchair, and they can be attached or detached from the chair without the need for tools. They are also motorized, and thus can be used independently by the consumer.

## Milestones:

Dr. Ditor is the inventor of the ACE-wheelchair legs and he has partnered with Steven Coates, P.Eng from Better Motion Group. Dr. Ditor was the recipient of a FedDev ARC (Applied Research and Commercialization) grant for \$25,500 to support the development of the prototype by Better Motion Group and Phase I feasibility testing of the device which is currently underway. Dr. Ditor was also the recipient of an OPIC (Ontario Partnership for Innovation and Commercialization) grant to support the costs of patenting the ACE-wheelchair legs.