

Canadian James Borisoff put mind toward designing wheelchair

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Jim Morris, THE CANADIAN PRESS

BEIJING - While other disabled people learned to cope, James Borisoff put his scientific mind toward designing and building a wheelchair that helped him deal with life on his own terms.

Borisoff is a member of Canada's wheelchair basketball team competing at the Beijing Paralympic Games.

He is also a biomedical engineer who used the reality of what he faces each day to produce an ultra-lightweight wheelchair with a seat that can easily be raised and lowered 25 centimetres. It also has a backrest that can be adjusted 30 degrees.

"It gives you that range of functions that you use throughout the day," Borisoff said Wednesday, after he scored six points and grabbed two rebounds as the Canadian men thumped Japan 75-48 to improve their record to 4-0.

The seat in Borisoff's Elevation wheelchair can be lowered to make it more stable and efficient for movement. It can be raised to a level so a person can work at a desk, or type on a computer.

The seat then can be lifted even higher to give a person access to counter tops, reach shelves and look an able-bodied person in the eyes during a conversation.

It's one of those simple ideas that you are surprised took so long for someone to come up with.

Patrick Anderson, another member of the Canadian team, said it's just an example of how Borisoff sees life.

"He's always rethinking things and challenging the status quo," said Anderson. "He always has been that kind of a ball player and a person as long as I've known him, much to the consternation of coaches and people who would rather not be questioned at every turn.

"That's just the kind of mind he has. It was only a matter of time before he put some of his engineering skills to work."

Built of heat-treated aluminum construction, and manufactured in Canada by mountain bike specialists, the chair weighs about 11 kilograms. They sell four about \$5,000 each and so far about 50 have been sold in Canada.

Anderson remembers sitting in one of the original designs.

"It was kind of a creaky prototype but I saw the potential," he said. "He's really cleaned it up.

"It's a simple idea but it's not simple to execute it and make it a lightweight chair."

Borisoff, 36, has an engineering degree and a PhD in neuroscience. He doubts he ever would have designed the chair if he hadn't lost the use of his legs in a car accident when he was 19.

"It's definitely been a product of my experience," said the Vancouver resident. "At the beginning you look to what's out there. You look to your peers and therapists and they show you what's available.

"After having that experience and thinking about things, it took many years to really conceive of the idea. Then it took many years to actually kick myself in the ass to actually go ahead and implement it."

Usually it's people who have used a wheelchair for a long time who understand the benefits of Borisoff's design.

"I show this to people that are newly injured (and) they don't appreciate it," he said. "Six weeks ago they used to stand. They have also been in hospital and a rehab centre which are the most accessible places they'll ever be in their lives. Everything is low.

"Once you've been out in the community a bit, you realize there are a lot of barriers out there. There are a lot of barriers in your own house. The people who have been around think it's a great idea."

What strikes Borisoff odd is how many of the devices built for disabled people are designed by the able-bodied.

"You don't see a lot of engineers in wheelchairs, designing wheelchairs," chuckled Borisoff. "There are a few of us, but not many."

As a kid, Borisoff played hockey and baseball. After his accident he was looking for a sport.

At the time there was no organized sledge hockey in Vancouver, leaving wheelchair basketball as the most developed, high-level team sport.

"It was a natural thing to do," he said. "I started and I liked it."

This is Borisoff's fourth Paralympics. He helped Canada win basketball gold in 2000 at the Sydney Paralympics and four years ago in Athens.

The Canadian men came into the Beijing Paralympics hoping to become the first country to win three consecutive gold medals.

"It would be great," said Borisoff. "I'm 99 per cent sure this is my last Paralympics.

"If we look at this tournament so far it's the most competitive."

Borisoff and his wife of four years plan to start a family soon. He currently works for the Neil Squire Society in Vancouver, which does research and creates devices, technologies and products to improve the quality of life for people with disabilities.

His own company Instinct Mobility Inc., which designs and builds the wheelchairs, was founded in 2006 as a sideline.

"It's now growing into more of a full-time job," said Borisoff. "Eventually I think we'd like to partner with other companies and other people that have the resources and distribution to other areas of the world."

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