

Helping therapists and clients find the right equipment

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Imagine you're an occupational therapist. You have a patient who has unusual seating requirements, and needs your help making a decision on which motorized wheelchair would be the best choice of almost 100 models available. Who can give you an objective recommendation based on sound information and years of clinical experience studying and evaluating equipment?

Now imagine you're a physiotherapist, and you have a patient who requires a ventilator and uses a power wheelchair. You've been told that cell phone use could disrupt the ventilator, and you're also aware that cell phone use is prohibited in your facility partly for this reason. But what if you feel your patient is ready to go back to her community? You can't stop the whole community from using cell phones. Will your patient not be able to leave the health facility, even though physically and psychologically she is ready to rejoin the world at large? Who could possibly give you advice?

Ian Denison could. Denison is a physiotherapist at GF Strong who specializes in equipment evaluation. "It's a fairly broad scope of jobs I do," he admits. A current project for Denison is comparing the performance of 18 different power wheelchairs and producing reports. "That's only a small percentage of what is available ... there's probably close to 100," he says.

"All the different qualities that people look for in a chair we try to quantify. And figuring out why a chair does what it does is what takes time. It's fairly easy to test a chair and say it starts slipping at 18 degrees on a hill, and it won't descend anything steeper than 15 degrees without losing control and skidding. Figuring out *why* it's doing that takes time."

Denison says his job as equipment specialist started out as an idea. "About five or six years ago, I was working as a physio and clinical specialist. But because of my interest in equipment, I was being used as a resource for equipment-related issues, and I just couldn't keep up with the developments," he says. "I put it to my boss ... the physiotherapy director ... that we should look at the efficacy of creating a full-time position for this."

As a result, Denison was sent on a three-month fact-finding mission to various facilities throughout the US and Canada, studying what work needed to be done in different areas related to equipment. "They agreed with my

report, and here I am. We could easily have twelve people doing this work ... theres so much to do ... and thats a nice aspect of the job. Everything I do is interesting."

Denisons enthusiasm for his job is catching as he explains the various ways he is able to assist fellow rehabilitation therapists. "Most occupational therapists and physiotherapists are able to do basic assessments. They know the size of the chair their client needs, and the environment that the chair is going to be in. But they dont necessarily know which chair is best for that environment, or which chair is available with which accessories," he says.

"And they dont know which dealers provide what services, and thats where Im drawn in as a consultant to work with the client, the clinician, and often also the person who will be supplying the equipment. So my job is part clinical and part research."

Denisons expertise doesnt just apply to clients and patients in the health care system. "When GF Strong had some carpets put down on the second floor, the administration said this was to make the ambiance of the place more appropriate for rehab ... more like a hotel, instead of a hospital," he explains. "But we had staff complaining about having difficulty pushing stretchers and lifts, and laundry and maintenance carts. And clients were complaining about how hard it was now to push their wheelchairs."

Denison did some investigating, and turned up surprising results. "We did research into the effects of carpet on wheeled objects, and it was astounding. Everything was three times harder to push on carpet than it was to push on hard linoleum; thats an average, because it depends on the size of the wheels, etc. Anyway, we ended up taking the carpet out," he says.

"It cost quite a lot to get the carpet in, put it down, then take it out and put the lino back down. But at least we got a solution that scientifically meets our clients needs, and everybodys happy."

"We were able to effect that change because of that research, and before I was put into this position, nobody would have been able to do that study. And that reports been given to four different facilities who were also looking at having carpets put in, so were having an effect on other facilities, particularly in extended care."

Another study Denison undertook describes how the Ministry of Health could save a significant amount in funding while increasing clients sense of independence. The project looked at a situation where a client required turning during the night to prevent pressure sores and compared the cost of providing a specialized \$15,000 bed to the cost of being turned nightly by a caregiver.

"The cost of looking after that person over the course of the year was absolutely astronomical, especially compared to the one-time cost of buying a bed that could avoid the need to be turned," he said.

In the area of wheelchair design, Denison has noticed significant changes in recent years. "They are meeting the needs of people who ten years ago wouldnt have used power wheelchairs," he says.

"Nowadays, you are getting people with less severe disabilities recognizing that over time, joints are going to wear out from repetitive stress injuries. Some of those people are getting power chairs now. And because their balance is so much better and because their lifestyle is so much more active, theyre demanding more from the power chairs. So people in the manufacturing industry cant say that people dont do that in chairs ... they do! They do everything!"

So what about that cell phone question?

After some intricate research, Denison came up with an answer. "Yes, cell phones can affect wheelchairs. But the reality is that most cell phones within an urban area like Vancouver, which for the most part operate on very low power, will not affect wheelchairs."

Denison says he cant imagine a better job. "It gives me a chance to help people with their specific needs," he says. "My work here can enhance their recovery process. I can get them to a higher level of functioning ... a higher level of quality of life ... because of what Im able to do. This job allows me to provide people with information that they cant get from anywhere else; nobody does what I do."

Denison adds that he enjoys being a resource for therapists at other facilities across BC. "My mandate is to be a resource to clinicians, and to anybody in BC who wants help in evaluating rehabilitation equipment."

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