

gizmo

THE TETRA SOCIETY OF NORTH AMERICA: CUSTOM ASSISTIVE DEVICES

TETRA NATION



MOVING PICTURES:
VOLUNTEER JIM RENNIE
TAKING FOOTAGE OF
THE BOCCIA RAMP HE
DESIGNED AND BUILT.

[VIEW ONLINE AT TETRATION.ORG](http://tetration.org)

Tetra tales of triumph

WE'RE CELEBRATING the Tetra Society's 30th anniversary by launching TetraNation an exciting video project to bring some much-deserved recognition to our hardworking volunteers.

TetraNation: volunteers are uploading videos of completed custom assistive device projects, and you can vote on the best of the best!

Volunteers across Canada are sharing footage of their Tetra innovations in use, to showcase ingenuity and demonstrate how custom assistive devices overcome barriers in the physical landscape, transforming the lives of people with disabilities.

Jim Rennie, who gives his time to Ontario's Hamilton-Halton Chapter is one such volunteer.

His latest boccia ramp project, allows children with high-level disabilities to play the Paralympic bowling sport. It's built for visitors to Heartland Forest, an all-abilities fully-accessible outdoor education centre in Niagara Falls.

The design uses four-inch PVC pipe, sliced down the middle, with an adjustable support that swings side-to-side for aiming and moves

up-and-down for wheelchair accessibility. A release mechanism with five wooden pins set at 90-degrees to the pipe allows children and teens with high-level disabilities to play.

"It's designed to include children in play. It's about inclusion – so there are no children who have to sit out on the sidelines and watch others play," explained Jim.

"We've even created an electronic switch, which can be operated by mouth or head-rest contact, for anybody without hand function."

Watch videos on tetration.org. More are being uploaded every week, so come back! Voting closes March 31, 2018.

The Tetra Society of North America was formed in 1987 by Vancouver's Sam Sullivan.

TetraNation will celebrate 30 years of volunteer-led community, and the innovative solutions that help people with physical disabilities overcome mobility barriers.

Tetra currently operates 39 chapters across Canada and the US, with more than 250 volunteers together completing more than 350 projects each year.

Volunteer engineers work directly with clients, finding solutions and deepening awareness of accessibility within the community. Tetra projects also help overcome social and economic isolation.

Please share the videos highlighted by TetraNation, recommend the Tetra Society to your friends, and consider making a tax-deductible donation.

TETRA SOCIETY OF NORTH AMERICA INDEPENDENCE, FREEDOM & ACCESS

Tetra is a registered charity that enables people with disabilities to overcome barriers in the physical landscape. We recruit technically skilled and compassionate volunteers who work one-on-one with individuals requiring custom engineering solutions. The completed gizmos empower people with disabilities to live independent and active lives. Know of someone in need of a custom assistive device, or interested in sharing your skills and time as a volunteer? Call us at 604-688-6464 or (toll free) 1-877-688-8762.

Counter CULTURE



ICE ICE BABY: WHEELCHAIR SPORTS MADE MORE ACCESSIBLE – SO PEOPLE WITH HIGH-LEVEL DISABILITIES CAN PLAY.



ROCK AND ROLL WITH TETRA'S WHEELCHAIR CURLING ADAPTATION



OTTAWA: The completed project was delivered with an eight-page instruction manual and a wiring diagram.

That point gets a chuckle out of Ottawa chapter coordinator Paul Marriage – but he's also intensely proud of the thoroughness of his volunteers who wanted to detail every aspect of the operation and maintenance of the elevating chair they had just built.

It's for a woman born without arms, who uses her feet for all household tasks, who wanted a chair that raises to the height of a bar stool so she can access countertops, the stove and microwave with her feet.

“What keeps her independent is being able to cook for herself in her apartment,” said Marriage. “To do that she needs to be level with the counter.”

He said volunteer Derrick du Toit put in hundreds of hours of work with help from Michael Parry and design from Nathalie Tambay. The completed chair raises by 35cm (14 ins.) from the resting height of 69 cm (27 ins.) to a working level of 104 cm (41 ins.).

It's a stable and sturdy plywood “column in a column” structure that creates a telescoping pedestal which - powered by a battery-operated electric motor - raises an upholstered seat that swivels through 360 degrees.

RAISING THE BAR STOOL (PHOTO ABOVE): THE SELF-RAISING TETRA KITCHEN SEAT.

SURREY: Four friends looking for winter sports opportunities asked Tetra's newly formed Surrey chapter for some wheelchair curling knowhow.

Renuka Senaratne and Kim Egger, from Surrey, and Marney Smithies from nearby Delta along with Aaron Gelowitz of Langley were looking for devices to make the sport more accessible – asking for custom brace bars and delivery sticks.

“I was hurt when I was 16, so I've played some able-bodied sports, including curling as I'm from a small town,” said Marney. “It's been 30-something years that I've been in a wheelchair, and although I've played some basketball I was looking for something new to do.

“The group of us got together saying we've got to get out and find things to do over the winter – it's about getting out of the house and having fun.

“Wheelchair curling is a great sport, but the problem is that none of us balance that well. In sports, if you balance well and are not worried about falling, you perform better. If you have a bracing bar you can push with more force – so we put a call in to Tetra!

“We also asked for custom delivery sticks – regular ones are designed for people standing, and you need something longer if you're in a chair.”

Surrey volunteer Robin de Goutre took on the challenge to make equipment for people of different physical abilities – Kim and Aaron are quadriplegic, the others paraplegic, with

Renuka able to get about on crutches at times. Ever the over-achiever, he made five bracing bars for the four players so they could switch around to find out what works best.

“I manually bent one-inch pipe,” he said. “For Kim and Aaron I made it into a shepherd's hook shape, covered with pipe foam insulation which takes the diameter up to three inches, to give them more to hang onto.”

These fit to the chairs via off-the-shelf Ram mounts, handy attachments more commonly seen holding GoPro cameras to mountain bikes – but a small, strong and affordable solution.

Finding quality push-poles proved more of a challenge, until Robin hit on the idea of taking apart 12-ft paint roller extenders, making them lighter.

“Robin made the process so easy,” said Renuka. “He figured everything out for us. The equipment he made for us makes a huge impact. It makes the sport completely accessible.

“Having Tetra available is very special.”

It was the first project for new Surrey coordinator Dan Sloan, who is in the enviable position of starting a chapter with some motivated and experienced volunteers who had previously been travelling to the Vancouver chapter.

Robin, a retired engineer, is already at work on his next curling project, this time for two women in Langley.

Bathing in athletic glory

EDMONTON: Powerhouse athlete Brian Hnatiw hopes his one-of-a-kind Tetra travel bath bench will take him through to the 2020 Paralympics.

The lightweight, folding device allows him to sit across a regular bathtub to shower, so that Brian can use regular hotel rooms when attending wheelchair track and field events across North America, as the accessible rooms book out months in advance.

“I have a hard time finding accessible rooms so I can have a barrier-free shower,” said Brian. “I’m always left with regular rooms. I wanted a shower chair designed that I could easily set up wherever I found myself staying.

“I came up with the idea of what I wanted, and Tetra made it come to life. I use it – it works. We’re talking about modifications to make it lighter and have less moving parts, so it will be even better.”

The project was overseen by volunteer Randy Seccafien, a mechanical engineering student at Northern Alberta Institute of Technology, aided by three University of Alberta students.

“There are many bath benches out there, but what makes this unique is the requirement to be light and fold down into a carry-on bag,” explained Randy.

“It adjusts so it goes onto a wide range of bath sizes. It clamps down, there’s a shelf at one end for transferring, and two adjustable legs that drop down for support into different sizes of tubs. The seat back is adjustable for comfort.”

He is currently working on a modification to switch out a steel clamp with a custom aluminum welded replacement, shaving weight off the completed unit so that it’s easier for Brian to maneuver in confined bathrooms.

Brian travels Canada and the US to compete in sitting shotput, javelin and discus – his sporting outlet, post-injury.

In September 2015 an unregistered driver in an uninsured vehicle knocked Brian off his motorbike, throwing him 50-feet through the air and severing his spine, leaving him paralyzed from the chest down.



POWERHOUSE: BRIAN HNATIW

“After injury you re-start your life from square one,” he said. “I used to play basketball – and be really good at it – but when I tried wheelchair basketball it wasn’t for me.

“I was an athlete before my injury, but I’d never really tried track and field. Turns out it was something I really liked.

“I’ve always had the drive to excel, to train and improve.”

BRIAN TRAVELS CANADA AND THE US TO COMPETE IN SITTING SHOTPUT, JAVELIN AND DISCUS – HIS SPORTING OUTLET, POST-INJURY.

This summer he participated in the Desert Challenge out in Phoenix, Arizona (May); the Canadian Nationals (July), where he took gold in shotput and silver in javelin; and the Canada Summer Games (August), winning another shotput gold.

In the process, Brian set a Canadian shotput record – but says he’ll do better in 2018. His ultimate aim is representing Canada at the 2020 Paralympics.

In the meantime, he’s recommending Tetra to peers: “Tetra has been really good to me – they can help a lot of other people with one-off projects custom made to someone’s personal disability.”

Sledge hockey players uplifted by Tetra invention

VANCOUVER: Sledge hockey players turned to Tetra for help righting themselves after taking a tumble.

Kate Lee, who organizes Vancouver Park Board adult fitness classes, was looking for options so people in their mid-50s could get back into sport. They tried sledge hockey at Friday night drop-in sessions and loved it – apart from tipping over and getting stuck on their sides.

“One of the participants used to play stand-up hockey and wanted to get back on the ice,” explained Kate. “We thought about sledge hockey – they tried it, and loved it. It’s a wonderful sport.

“Some have problems righting themselves, and it would take two people to lift them, which was difficult and humiliating.

“It becomes easier to right yourself as you gain strength, and they generally gain it through play – but first, you need the confidence to get on the ice and play.”

Tetra volunteer Glen Parker devised a “big stick” – a lever, wrapped in hockey tape to look inconspicuous, which the ref carries to flick overturned sledges upright.

“Glen had it figured out in seconds,” said Kate, All Bodies Community Fitness Program coordinator. “He even showed where on the sledge to get the most leverage to right the players, which now only requires one person.

“The big stick is clever and marvelous and beautifully effective. It looks like it belongs on a hockey rink.”





BABY TALK: MORE RESOURCES ALLOW US TO OFFER MORE PROJECTS LIKE THIS. CAN YOU HELP?

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Building inclusion

Tetra's caring volunteers enable improved quality of life for people with disabilities – can you help us achieve more?

Our custom assistive devices allow people to overcome mobility barriers in the physical environment. Projects like the roll-under crib seen here, with accessible swing-open doors, recently completed in Edmonton.

Each year the Tetra Society collectively creates 350 custom assistive devices. These range in assisting with daily home activities to enabling inclusion in community sports and leisure.

Currently there are hundreds of Tetra volunteers in 36 chapters across Canada and three in the US. Your support would allow us to reach out to more people with disabilities, recruit more volunteers, and better provide resources to existing chapters.

Make a cheque payable to Tetra Society and mail it to:

Suite 318 – 425 Carrall St.
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Or donate online at tetrasociety.org.

TETRA Thanks!

- BC Rehab Foundation
- Bergeron Clifford LLP
- Cadillac Fairview Corporation
- Canada Post Community Foundation
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- SurreyCares
- TELUS

TETRA SOCIETY OF NORTH AMERICA

DEDICATED TO ASSISTING PEOPLE WITH DISABILITIES TO ACHIEVE AN INDEPENDENT AND FULFILLING LIFE, ONE ASSISTIVE DEVICE AT A TIME

Have an idea for a project? Want to know what's possible? Want to overcome a barrier?

Here's how to reach us...

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