“The students need project ideas,” continued Terri. “We will begin supplying requests to well equipped, with engineering, mechanical which can give just enough of a massage to calm students down. These are used by paraplegics learning the technique,” she said. “The gloves are used by tetraplegics, people who have had strokes or have multiple sclerosis. "The gloves are used by tetraplegics, people who have had strokes or have multiple sclerosis."

"The difficulty is sewing the material, handmade, so it is quite a challenge," said Sylvia. "We help the patients to set up on the exercise machines, but they can detach themselves when swinging between bed and wheelchair."

Hand in hand with health professionals and patients
HAMILTON-HALTON: The region’s largest rehab centre turned to Tetra for help creating projects to aid patients going through treatment. Staff at Hamilton’s Regional Rehab Centre requested six Tetra projects – four pairs of hand-cy-clone gloves, one pair of ‘grippy’ palm gloves to teach wheelchair transfers and a set of transfer-aiding blocks.

The three-storey, 106,000-square-foot rehab centre serves more than 2.3 million residents of Hamilton and south central Ontario. Staff found these smaller items of rehabilitative equipment either worn out or gone missing at the fully-accessible centre. The initial request was made in September through chapter coordinator Sylvia Bullock’s brother Ron, a C4-5 tetraplegic who fell from his wheelchair last year and is an out-patient. He made a list of contacts there—and when he noticed they were using two mis-matched gloves for people that didn’t have the grip strength to hold on to the table-top exercise machine he recommended Tetra,” said Sylvia. "The gloves are used by tetraplegics, people who have had strokes or have multiple sclerosis and have no grip strength."

"We also made palm gloves, which use a non-slip material so people learn to transfer into a wheelchair. Basically, your hands might slip from the arm rests of your wheelchair when you are learning the technique," she said. "The difficulty is sewing the material, manufactured by Dycon, because the needle goes through it and then sticks. I had to put a layer of tissue paper over the top and sew that into the gloves, then tear off afterwards."

The transfer blocks are a short length of plywood, peeled by frame and held together by a leatherette material, which Sylvia again sewed together. These are used by paraplegics learning new transfer techniques — to give a little more clearance when swinging between bed and wheelchair. Physiotherapist Diana Herrington, who requested these projects on behalf of Regional Rehab Centre, said they are in daily use. "The handcycle gloves are in both the in-patient and out-patient gym, and are used by everyone with SCI who cannot grip," she said. "We help the patients to set up on the exercise machines, but they can detach themselves when they are finished."

"We have had transfer blocks before, but we couldn’t get exactly what we wanted. When we told Sylvia’s brother Ron, he said he’d get them made. They turned out exactly to specification. ‘I’d heard of Tetra before, but I’d heard it might take a few months to have custom projects like these made. In fact, I was really pleased to receive them so promptly,’” Diana added.

The projects were turned around within weeks despite the fact that it is has been a busy year for the Hamilton chapter with 51 requests for projects received by November, of which more than 30 had been completed and 10 were in progress at press time. Sylvia completed 15 which required sewing. The most recent involved making four pairs of specialized pajamas and waterproof duster covers for severely autistic girls aged 11 and 14. They had been wearing diapers, but had been removing them during the night due to obsessive compulsive issues, forcing mom to wash the sheets daily.

Their new pajamas are reversed — sewn up at the front with zippers added to the back — in held together by a plastic layer from sleeping bag covers stitched together with six-foot zippers.

The Tetra Society of North America was founded in 1967 to purchase and distribute community gardens run by the Disabled Independent Gardeners Association, one of Tetra’s sister organizations in Vancouver.
Cup of Cheer

**VICTORIA:** Tetra’s chapter in the BC capital has just completed a request for a wheelchair cup-holder that can hold water bottles, coffee cups and the occasional rink-side beer.

The holder is joined together with mesh, said chapter coordinator Chris Marks, who has been heading the rejuvenated chapter this past year.

“The project is for a man who wanted to be able to hold both big cups and small. He wanted it to be able to withstand a hit because he’d found, in the past, that cup-holders can easily get knocked off and broken.”

“The client is a big hockey fan, and he wants to be able to put a beer in it when he goes to the rink.”

**ST JOHNS:** Tetra’s longest serving chapter coordinator will receive another well-deserved award for using engineering smarts to overcome everyday barriers faced by people with disabilities.

Dr. Leonard Lyons, associate dean in the Faculty of Engineering and Applied Science at Memorial University, St. John’s, will receive the President’s Award for Exceptional Community Service in recognition of his 18-year leadership of the town’s Tetra chapter on December 11, 2014.

Dr. Lyons, who has worked at Memorial since graduating from the University of Manitoba with a PhD in civil engineering in 1988, has been volunteering with Tetra since 1996.

“I didn’t expect to receive this award,” he said. “It felt very good just to be nominated, but to win it was a bit of a surprise.”

One of Dr. Lyons’ many innovations over the years has been the use of engineering students in the creation of Tetra projects, which he said not only teaches basic engineering principles but also instills a sense of community.

The more straightforward projects go to students taking the first year engineering graphics and design course, and more complex ones to the capstone design course in the final year – although Dr. Lyly also completes projects that lack teaching potential in his basement. He detailed this approach in a paper, Incorporating Real-Life Open-Ended Design Projects in a First-Year Design Course, published in 2010 in the Canadian Engineering Education Association’s Journal.

“Tetra’s chapter is meeting people for whom Tetra has made a difference in their lives. Earlier this year Dr. Lyly gave a talk to a stroke support group and found that the audience included a recipient of a previous guitar strummer project,” said Lyons.

Earlier this year, Dr. Lyons received a Lifetime Achievement Award from the Tetra Society in recognition of more than 30 accessibility projects completed over the years.

“Tetra bowling ramp is in constant use around Canada to work with Tetra.

“Schools might bowl for one hour every day. In September of this year, Brian completed three more bowling ramps, with slight modifications to existing designs. The new incarnation rolls easy-to-clean bocce balls along a 360-metres long bocce ball line, with a wooden backdrop behind the pins. All component parts stash away in the unit when not in use.”

“My mother is in a care centre, and my wife is another care centre with dementia,” said Jim. “After working on the initial design I wanted another one for my wife. The word got round and more facilities and Alzheimer’s groups started requesting them.

“The ramps are at wheelchair height, and the only physical requirement to bowl is being able to move your arms forward one inch. My mother was her 97,” he said proudly.

“They might bowl for one hour every day. It’s a social activity – everyone cheers when someone gets a strike. There is a lot of laughter and lots of stories. Someone can’t hold playing cards they can still bowl.”

Jim, who has recently received a request for an additional bowling ramp, recently worked with Brian to devise a giant plinko game – in which a ping pong ball drops through an array of pins to land in hoppers marked with scores, similar to the Price is Right game. Their version is button-operated to make it fully accessible.

It is currently in use at the Beverly Centre – with variations requested by four more centres so far.

**CALGARY:** A bowling game devised by an acclaimed opera singer is performing perfectly for Calgary care homes.

Shortly after retiring from his professional singing career, Jim Monck was visiting his elderly mother in a city care home when he noticed that a Battalion bowling ramp had the potential to involve all residents in an active, and social, pastime.

He also saw that a new design improvements would make a bowling ramp that was more inclusive for residents and more convenient for staff at Beverly Centre Lake Midnapore, Calgary.

The Canadian baritone had enjoyed a five-decade musical career since landing his first professional gig at the New York Metropolitan Opera in 1966. Appearing as Allan Monck, he toured North America and the United States, enjoyed a lengthy stint with New York’s prestigious Metropolitan Opera, and, in 1985 was made an Officer of the Order of Canada.

Jim, 75, who retired from singing to care for his wife, was no woodwork. But he is a personable and hard-working individual who knows how to get things done – and was soon talking to Tetra volunteers about their bowling ramp project.

“We worked together over a couple of months, improving the design,” said Brian. “We built three ramps at the time, which Jim delivered to nursing homes.”

“He came back to write a donation cheque. Later, when Tetra had a reception evening, I suggested inviting Jim in recognition of his donation. He was asked if he would be interested in serving on the board.”

This was back in 2012. Jim is currently president of the board, where he acts as a trenching ambassador for the city’s chapter, making presentations to people with disabilities.

Kiley Neath, adult day program manager at Beverly Centre, said their Tetra bowling ramp is in constant use with people diagnosed with dementia.

“It works great. It’s the right height for people in wheelchairs, and it is a social activity that brings everybody together. Everybody gets a turn and there is the cheering and team spirit.”

“We’ll be using the bowling ramp for a long time to come. We can run bowling tournaments when we are arranging activities, but we can also bring it out at short notice if we realise we need to switch quickly between activities.”

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The Tetra Society of North America would like to thank the following organizations whose generous support through 2012 has made it possible for us to continue to create custom accessible devices:
- BC Rahal Foundation
- Chris Spencer Foundation
- Community Foundation of Lethbridge and Southern Alberta
- Community Foundation of Southeastern Alberta
- Edmonton Community Foundation
- Face the World Foundation
- Geoffrey H Wood Foundation
- Hamber Foundation
- Harold E Ballard Foundation
- Hyacinth Foundation
- JP Bic
- Knight Press Ltd.
- Leonard Foundation
- Loyal Protestant Association
- Mr. and Mrs. PA Woodward’s St. Andrew’s Memorial Church
- Oakville Foundation for Intellectually Handicapped People
- Optimist Club of Hamilton
- Shoppers Drug Mart - Life Foundation
- Stantec Consulting Ltd.
- Surrey United Way
- Vancouver International Airport
- Wild and Jean Bell Foundation

**Award to Tetra’s class act Bowling Project Strikes Gold**

Tetra’s very own MacGyver

PRINCE GEORGE: A modification to an establiished band that allows a lady with tetragripia to stretch may sound simple enough, but Tetra coordinator Nadine Lindstrom knows how much difference it makes.

Nadine, who has multiple sclerosis, puts her own mobility down to stretching, through a yoga regime, and walking.

“Anybody with MS has muscle spasticity – to me it’s stiffness,” she said. “I don’t take mediations, I take a lot of exercise!”

While conceding that not everyone with MS is able to walk, she says every person with a disability should take as much exercise as physically possible. Which is why she was so keen to oversee the project to allow a 53-year-old lady to use an exercise band to stretch, her legs and feet.

“The lady called us because she’s been without her exercise band for years,” said Nadine.

“I went to see her with volunteer Steve Seaback. I sat talking in her living room, and she asked if she had a wide coat hanger.

“He bent it like MacGyver, then got some duct tape and made a strap from it that would loop over her foot – and fixed her exercise band there and then, announced during the Beverly chapter’s Gismo Awards in May 2011.

He was awarded the Canadian Society for Civil Engineering Outstanding Contribution Award to Tetra’s very own MacGyver

Tetra’s chapter in the BC capital has just completed a request for a wheelchair cup-holder that can hold water bottles, coffee cups and the occasional rink-side beer.

The holder is joined together with mesh, said charity coordinator Chris Marks, who has been leading the rejuvenated chapter this past year.

“The project is for a man who wanted to be able to hold both big cups and small. He wanted it to be able to withstand a hit because he’s found, in the past, that cup-holders can easily get knocked off and broken.

“The client is a big hockey fan, and he wants to be able to put a beer in it when he goes to the rink.”

**Cup of Cheer**

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When children with autism get agitated, another project being tackled by engineering health professionals is one they hope will provide comfort. The request came from staff from a special education centre, a public high school in Regina. The centre serves more than 2.3 million residents of the city’s chapter has been calling on the services of David DeMontigny, associate dean at the university for special education students with disabilities – and anyone else that asks for a lady who, due to arthritis in her fingers, cannot operate her existing controls. Damaged by Dycem, because the needle goes through it and then sticks. I had to put a layer of security, their duvets are now within a plastic layer from sleeping bag covers stitched together with six-foot zippers. They had been wearing diapers, but had been unable to change them. Sylvia completed 15 which required sewing. She turned out exactly to specification. ‘We have had transfer blocks before, but we didn’t get exactly what we wanted. When we told Sylvia’s brother, Ron, he said he’d get them made. They turned out exactly to specification.’ ‘I’d heard of Tetra before, but I’d heard it might take a few months to have custom projects like these made. In fact, I was really pleased to receive them so promptly,’ Diana added. The projects were turned around within weeks despite the fact that it is has been a busy year for the Hamilton chapter with 51 requests for projects – four pairs of hand-cycles, one pair of ‘grippy’ palm gloves to teach wheelchair transfer, and a set of transfer-aiding blocks. The three-storey, 106,000-square-foot rehab centre serves more than 2.3 million residents of Hamilton and south central Ontario. Staff found these smaller items of rehabilitative equipment had either worn out or gone missing in the fully-accessible centre.

The initial request was made in September through chapter coordinator Sylvia Balick’s brother Ron, a C4–T4 tetraplegic who fell from his wheelchair last year and is an out-patient. ‘He made a lot of contacts there – and when he noticed they were using two mis-matched gloves for people that didn’t have the grip strength to hold on to the table-top exercise machine he recommended ‘Tetra’, said Sylvia. ‘The gloves are used by tetraplegics, people who have had strokes or have multiple sclerosis and have no grip strength. ‘We also made palm gloves, which use a non-slip material for people learning to transfer into a wheelchair. Basically, your hands might slip from the arm rests of your wheelchair when you are learning the technique,’ she said. ‘The difficulty is sewing the material, manufactured by Dycom, because the needle goes through it and then sticks. I had to put a layer of tissue paper over the top and sew that into the gloves, then tear it off afterwards. The transfer blocks are a short length of plywood, padded by foam and held together by a leatherette material, which Sylvia again sewed together. These are used by paraplegics learning to transfer into and out of bed.

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