



# balance

... what it's all about

## IN THIS ISSUE



**A journey of snow and self-discovery**

• 6 •



**Biohacking**

• 9 •



**Leveling the gaming field**

• 12 •

# Climate Change Challenges

By Ruth Marzetti

**As** we transition into cooler months, it's crucial to address climate control issues faced by members of Technology for Living (TfL), especially amid the global climate crisis.

Temperature regulation is a major concern, as increased summer heat and humidity raise the possibility of heat stroke, while winter's dry air can worsen respiratory issues. Poor air quality, especially during wildfires, poses additional health risks. Reliable power for breathing devices is crucial, particularly when away from power sources. Managing temperature and air quality can be stressful, affecting mental well-being.

PROP now provides batteries for members, a new initiative since our last board meeting. Those requiring a battery for independent living can submit a request to TfL. Each request will be assessed on an individual basis.

Our TfL program offers home automation and temperature control systems to help our members regulate their home environment. We are there to ensure ventilators and other essential devices are properly integrated into wheelchairs and other mobility aids.

For mental health support, our Peer Hub provides a platform for members to discuss their concerns and build resilient networks. Online meetings are held every first Tuesday of the month at 1:00 PM.

This past summer, our Peer Team successfully distributed cooling vests funded by a C40 grant to the City of Vancouver. TfL collaborated with Praxis Spinal Cord Institute to manage logistics. TfL is well-positioned to continue this effort due to our strong community connections and robust operations. The City of Vancouver has agreed to increase vest distribution next summer.

Emergency planning is a critical aspect of health management. For support, contact our TfL biomed or a PROP respiratory therapist. We're open to discussing individual power-related needs with our members.

As we face global climate changes, TfL and PROP remain committed to providing tools and support to help our members live independently and comfortably in their homes.

For more information or to join our Peer Hub, contact [peer@technologyforliving.org](mailto:peer@technologyforliving.org).



# Technology for Living round up

## Changes to the PROP Phone Line (1.866.326.1245)

We're excited to share updates about our PROP phone line! TfL has grown to over 900 members in both PROP and TIL. To serve you better, we've made our PROP number (1.866.326.1245) semi-automated for quicker call routing.

When you call, please listen to the prompts:

- Press 1 for health care professionals
- Press 2 to return equipment
- Press 3 for respiratory supplies
- Press 0 or stay on the line for other inquiries

Staying on the line will connect you to a friendly human operator!

We hope these changes enhance your experience.

For any feedback contact Executive Director, Ruth Marzetti, at 604.301.4201 or rmarzetti@technologyforliving.org.



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## SNOW ANGELS



As December arrives, many Canadians face snow-related challenges, especially seniors and people with disabilities. 'Snow Angels Canada', initiated by Lincoln McCordle in 2015, connects those needing help with willing volunteers. Seniors and people with disabilities can sign up on the Snow Angels Canada website by entering their postal code to find nearby volunteers. Community members can register as Snow Angels to help clear sidewalks and laneways. Started in London,

Ontario, this initiative has expanded into a Canada-wide pilot, demonstrating community willingness to help. It turns neighbourhoods into support networks, providing more than just a clear path—it's a route to independence, safety, and connection. This winter, consider becoming a Snow Angel or reaching out if you need assistance.

Visit <https://snowangelscanada.ca/> to learn more about how you can get involved in your community.



## Elizabeth Rathburn

One of our TfL members, Elizabeth Rathburn, passed away this summer. Her photograph graced our website and her presence distinguished our videos. Elizabeth had a rich life history. She was a trained elocutionist, talented choralist, book publicist, music manager, animated conversationalist, loving partner and mother. Elizabeth lived with MS and was not hesitant to speak about this experience. In a CBC broadcast, she said, "Despite everything that has come to me and my family with MS, I consider myself to live a life that is purposeful and brings deep joy." One of her joys was discovering how assistive technology could enhance her life and she spread this message, as an eloquent spokesperson for TfL. As a tribute to this extraordinary woman, the 2025 Simon Cox Student Design Competition will honour Elizabeth with a prize in her name. We are thankful to have known her.

## BITS & BYTES FROM TIL

TIL will again participate in the Rehab Equipment Expo at the Richmond Olympic Oval (REE @ ROO) on Tuesday, March 4, 2025. This event features numerous equipment manufacturers and distributors, and we look forward to connecting with healthcare professionals and BC service providers for a day of information sharing and collaboration. To see some exhibitors from the 2024 Expo—many of whom may return in 2025—visit our YouTube channel to watch a WE Talk Tech episode ([https://www.youtube.com/watch?v=fzp0Efalz\\_4](https://www.youtube.com/watch?v=fzp0Efalz_4)), where our Community Coordinator, Taylor Danielson, interviews various organizations and vendors.

### CONTACT US!

We are always happy to discuss any member's needs. Simply phone us at **604.326.0175** or send an email to [info@technologyforliving.org](mailto:info@technologyforliving.org)

## TIPS & TRICKS

Do you have an iPhone and worry about calling 911 in an emergency? You can relax—Siri can help! Simply activate Siri by saying "Hey, Siri" or using the physical button, then say "call 911." Your iPhone will count down for 3 seconds, allowing you to cancel if needed. This feature is a lifesaver when dialing manually isn't possible.

# Step into the gaming world this Christmas

By Wayne Pogue

**I**f you've been considering getting into gaming but haven't taken the plunge, Christmas might be the perfect time! Not only can you connect with friends, family and the gaming community, but you can also add gaming consoles, controllers and games or game passes to your Christmas list.

### Gaming Consoles

While you can play video games on your computer, you may need to upgrade unless you have a gaming-specific machine. Standard computers might struggle with the memory and graphics requirements of modern games. Fortunately, there are other options: gaming consoles.

The three most popular gaming consoles are Microsoft Xbox, Sony PlayStation and Nintendo Switch. When choosing a console, consider the experience you want. Some games are exclusive to certain consoles, and you'll want to ensure compatible controllers are available if needed.

### Controllers

Once you have your gaming console, you can start planning how you'll play. This may include accessible gaming controllers, 3D-printed accessories for



standard controllers, and joysticks or switches to customize your setup.

Adaptive gaming controllers are available for each console: the Xbox Adaptive Controller, the PlayStation Access Controller and the HORI Flex Controller for Nintendo Switch. These controllers, along with switches and joysticks, are available as long-term loans from the TIL program for members.

If you can use a regular console controller but need some assistance, 3D-printed solutions may help. Neil Squire Society's Makers Making Change program offers various controller modifications. If you find something useful on their site, TIL may be able to help you access it.

### Games

Now that you have your console and controller, it's time to explore games. While you may have specific titles in mind to play solo or with friends, there are also subscription options that provide access to hundreds of games for a monthly fee. (*Check out our article on page 12 for inspiration*).

Xbox Game Pass and PlayStation Plus subscriptions start at \$11.99 per month, while Nintendo Switch Online begins at \$24.99 per year.

## INHALE / EXHALE

### 2024 BCSRT Conference

This year, PROP was given the opportunity to have two of our RTs present at the BC Society of Respiratory Therapists' annual conference. It took place in Kamloops and was well attended by RTs from across the province. Michael Bossaer presented on the many new educational materials PROP has been producing over the last year, and Krysten Polsky spoke about a project that PROP was fortunate to be involved in, with our medical director Dr. Shah. This conference was a wonderful opportunity to showcase PROP's work and collaborations, highlighting the impactful work we continue to do in the community.

#### CONTACT US!

If you need respiratory advice or support please contact the PROP team at  
📞 1.866.326.1245

## IDEA CORNER

Are you a curious user of bilevel or ventilator equipment? Join PROP in trialing groundbreaking technology not yet seen in BC or Canada! As a PROP member, you can help shape the future of our equipment pool. We're eager to hear from you and welcome you to our community. Let's revolutionize respiratory care! Contact PROP for more info.



# A productive year for PROP

By Miranda Whiteley

We would like to express our sincere appreciation to the members who participated in satisfaction surveys and focus groups this year. Your contributions are invaluable and play a crucial role in guiding our efforts. As a member-directed program, we take your feedback seriously and have implemented several meaningful improvements based on your insights. Your engagement ensures that our resources and services align with your needs, and we remain committed to fostering an ongoing dialogue to enhance your experience with PROP.

In the realm of educational resources, we have expanded our offerings to better support our members. New self-paced educational modules on Obesity Hypoventilation Syndrome (OHS) are now available on our website under PROP/Online Courses, addressing the request for more information to boost confidence in medical system advocacy.

We have also introduced the Tracheostomy and Ventilation Management Educational Module (PB560) online, catering to our invasively ventilated members in remote locations who cannot attend in-person training. This interactive module includes videos and quizzes in each section. Additionally, we have developed a T/V Management Monthly Refresher course focusing on essential skills for more frequent review by caregivers. Our educational videos have been updated to feature new equipment and supplies, now showcasing each of our Respiratory Therapists.

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**We have made significant updates to our website to enhance user experience and accessibility.**

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The PROP Resources section has been reorganized into categories such as *General, Bilevels, Ventilators, Other Respiratory Equipment, Environmental Controls, and Emergency Planning* for easier navigation. We have also added new equipment information, "cheat sheets," and videos. A dedicated Healthcare Professional Page has been created for physicians, students, and other healthcare practitioners to access all resources in one convenient location.

Recognizing the importance of peer support, we have established an OHS peer support group, with the inaugural meeting held on October 5, 2024. We plan to conduct these meetings approximately once a month for our OHS members.

In terms of equipment updates, PROP has sourced, trialed, and purchased a small fleet of a new invasive ventilator called the Breas 45LS. Detailed information about this ventilator can be found in our Resources/Ventilators section.

We remain committed to continuous improvement and welcome your ideas on how we can further enhance our program. Please reach out to us at [prop@technologyforliving.org](mailto:prop@technologyforliving.org) with your suggestions.

## MEET ALEX CAREY



Alex is a TfL board member and a self-professed nerd with a love of games (video, board, or otherwise). He primarily works as a game designer and accessibility consultant. As the "Strength & Dexterity Barrier Expert" at Play-Ability Consultancy, Alex helps developers create more accessible gaming experiences for players with physical challenges. On the design side, he is part of a team developing "Sacre Bleu," an upcoming action game where players take on the role of a French musketeer escaping from prison.

### CONTACT US!

We are always happy to discuss any member's needs. Simply phone us at **604.301.4208** or send an email to [peer@technologyforliving.org](mailto:peer@technologyforliving.org)

## TIPS & TRICKS



Dreading the holiday cooking marathon? Try this: precook your festive meal. It's a game-changer

for everyone, especially those with limited energy or mobility. Prepare dishes days ahead and reheat when it's time to celebrate. You'll reduce stress, save time, and have more energy to enjoy the holiday.

# Connecting with OHS Peers

By Lasha Seniuk

Technology for Living is pleased to announce the launch of a new interactive platform for people living with Obesity Hypoventilation Syndrome (OHS) as part of PROP's services.

Peers living with OHS face unique breathing challenges that impact their daily lives. We aim to provide a supportive space where they can connect, share experiences, and access resources tailored to their needs.

When you can't easily breathe, life becomes extremely restrictive. A trip to the grocery store can require detailed plans and hours of strain, a routine doctor's appointment can evolve into an exercise in misinformation, and daily chores, for some, are simply out of reach. Essentially, a lack of breath can trigger a nightmare of social, medical, and technological limitation. It's not an easy life.

OHS is a multifaceted condition that affects not just breathing but also various aspects of daily life.

## Individuals living with OHS often face unique challenges that can hinder their ability to engage fully in social and physical activities.

By fostering awareness and understanding of OHS, we aim to create a supportive environment where individuals can share their experiences, access valuable resources, and connect with others who understand their journey. Our goal is to empower those affected by OHS to take charge of their health and well-being.

We don't believe those living with OHS should experience a difficult life or be

marginalized, shamed, and forgotten. And we certainly don't believe that the medical profession is well served by a lack of OHS awareness. There is just so much more that can be done.

## OHS Zoom Meetings

Our first OHS Peer Zoom meeting, hosted by Lasha Seniuk (OHS Community Peer Support) on October 5, was attended by Dr. Jeremy Road and current PROP medical advisor Dr. Aditi Shah. Also in attendance were Program Development Lead and Respiratory Therapist Miranda Whiteley and various curious and well-informed OHS peers. All involved found the interaction to be engaging, supportive, informative, and requested more meetings.

We're happy to announce that, moving forward, Zoom meetings for OHS peers, their family and friends, as well as healthcare professionals will take place on the first Saturday of every month at 11AM. Each meeting will feature guest speakers from various fields of medicine or any discipline our peers would like to invite.

## How to Participate

To participate in the OHS peer group and help build a valuable community support system, please join us. All are welcome!

- > Check your email for details
- > Follow us on social media: Facebook, Instagram, and X
- > For more information, email [prop@technologyforliving.org](mailto:prop@technologyforliving.org)

If you have any questions, please bring them to our monthly Zoom meetings or, if preferred, submit them via email to [mwhiteley@technologyforliving.org](mailto:mwhiteley@technologyforliving.org)

# A journey of snow and self-discovery

By Sean Marihugh



When I was learning to ski at '49° North' in Eastern Washington, the learning area was filled with wooden animal signs along the trail. Weaving through the cat track in the trees and spotting critters was an instant highlight and great motivator for young me. It's a memory that sticks with me today when I think of skiing and what it felt like being on the mountain, breathing mountain air, and developing as a young athlete.

However, the progression of skiing became increasingly challenging for me over the years. Around the second grade, I was diagnosed with Becker Muscular Dystrophy, a degenerative condition affecting muscles in the body over time. While I had enjoyed an active childhood, some activities I loved were becoming harder to do.

By age 10, I was struggling to ski down the mountain and ultimately felt it was an activity I could no longer do. Even though I had experienced their wonder, I felt for many years that the mountains were no longer for me.

Not long after I stopped skiing, my brother signed up to volunteer with a local adaptive sport organization called 'Outdoors for All' [[outdoorsforall.org](http://outdoorsforall.org).] This was likely a nudge from my parents to accept that what I figured was a "loss of ability" should instead have been a motivator to figure out how to continue skiing as my body changed.

Struggling with my identity, I simultaneously thought I wasn't disabled "enough" to fit into a program for people with disabilities and was "too" disabled to be an athlete. I remember feeling internalized guilt – was I really disabled? I could still walk and do many things when I was younger. Could I really do sports and be active?

I resisted for years the pull to return to the mountains, stuck with the idea that it was no longer for me and not knowing anybody "like me" who had tried it. When I finally registered for 'Outdoors for All's' adaptive skiing program in early January 2019, I didn't think I'd like it. I worried I'd be cold and uncomfortable.

Turns out, I loved it. Yes, I was cold and didn't quite have the right gear that first week to stay warm enough, but I was quickly hooked by sliding on snow. Having used a power wheelchair for many years, I've learned the terrain it works on, and more importantly, where I'm not able to go. Snow was one of those no-go things for me; my chair would quickly get stuck.

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**My wheelchair is a tool that gives me freedom and independence; phrases like "wheelchair bound" or the idea that people with mobility devices want nothing more than to get out of them always grated on me.**

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It was hard for me to walk more than a few steps without getting tired; my wheelchair opened the world to me. It allowed me to live independently, travel, and cover a lot of distance quickly that I was no longer able to do otherwise. But the sit ski was next level! I could go fast and use my body to control my path down the hill.

The following season, I signed up again with 'Outdoors for All', this time at Stevens Pass [<https://tinyurl.com/AdaptiveSkiStevensPass>]. A bit farther from Seattle, but with much more terrain to access and generally less rain. It was a great next step in developing myself as an athlete, growing my community, and laying the groundwork for what I hope remains a lifelong passion. It was the first year that I was able to go skiing with friends outside of a formal program – the independence to be in the mountains on your own terms was great.

When skiing with Outdoors for All, they predominantly use a method called "tethering", where I'm a few feet in front of but still attached to an instructor. They're assisting with braking and turning. I don't have the strength to use handheld "outriggers" - small skis attached to your forearms that provide stability. Instead, I used fixed outriggers, which mount to the front of my sit ski – they make it easier to keep the ski upright but limit the tightness of your turns, and thus the terrain that you can ski.

Whistler Adaptive [[whistleradaptive.com](http://whistleradaptive.com)] exposed me to a new method – some organizations call it piloting. I've never felt that to be a great term as it doesn't reflect the athlete's experience. After all, who is the "pilot"? Adaptive skiing is and always should be centred on the athletes doing the sport in all aspects, including language. Terms like "assisted sit skiing" or "seat assist" feel more meaningful and descriptive to me.

Unlike tethering with fixed outriggers, this method does away with the outriggers altogether, and an instructor holds onto the back of the ski. Paradoxically, I feel like this allows me much more independence. Without the outriggers, this opens a lot more terrain that's either too narrow or steep for tethering to be safe. I've also developed this method to where I'm initiating and leading the turns, but they're providing some support when I need it. Mostly, the handle on the back of my sit ski is sliding through their hands.

My goal as an athlete, especially with a degenerative disability, isn't necessarily to ski independently. Instead, I want to ski hard and push my boundaries within the constraints of my changing body. If having the support of a ski partner is what I need to push those limits, then it's the right method for me.

In 2024, I spent as much time as I could up in Whistler, both honing my own skiing and pushing my limits, but also becoming an adaptive ski instructor. I realized that what I missed while skiing—seeing people who skied like me and discovering possible pathways—was something I could offer to others. It's almost the exact embodiment of "nothing about us, without us", that's been such a common phrase in disability rights movements around the world. Adaptive sports are for people with disabilities, but who is better to teach and share their experiences than people who have similar lived experiences?

I joined an adaptive level 1 training hosted by 'Whistler Adaptive', and having "nerded out" over the curriculum for months prior, I surprised myself with how I could explain a lot of the methodology. But importantly, the course conductor essentially had me teach some of the modules and allowed me to share my experiences.

For example, I'm not able to independently transfer into my ski, and I am frequently coaching new ski partners on the best way to do it. This is often someone's first interaction with sit skiing – if it's an uncomfortable transfer, someone is less likely to enjoy the overall experience. Though someone without a disability can teach this, I feel that sharing my experience can help "ground" prospective instructors in the potential impact of each of our actions.

I'm excited by what this upcoming season will offer – to continue down the instructor path and share my experiences and show new athletes the joy of being on snow and using your body in whatever creative way works. Whistler Blackcomb is hosting the first year of snowsports with the Invictus Games [<https://tinyurl.com/InvictusGamesWhistler>], and I'm looking forward to being able to coach new and developing athletes.

As my body continues to change, it's gotten easier to reframe what I've previously considered a "loss" of ability into the opportunity to be creative and adapt, to try new methods and tools. I'm encouraged by innovations like the TetraSki [<https://www.tetraski.us>], a project run by the University of Utah, which allows someone to use a joystick or other adaptive input device to manipulate the skis. But it's one iteration of hopefully many I will see in my lifetime, and whatever it takes to keep me on snow as long as I can, game on!

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# Time to pump up accessibility in gyms

By Kyle Hindley

**Oh,** what a time to be alive! We're seeing more support for disability inclusion than ever before, both in the physical world and online. While we're making progress in many areas, there's still plenty of room for improvement. Let me shine a light on one particular issue that needs work.

Exercise is paramount for managing disabilities of all kinds. Whether it's rehab, maintaining physical health, or just wanting to feel a little bit like Arnold Schwarzenegger at peak '80s, the benefits of working out are huge. But guess what?

## Most recreational gyms apparently didn't get the memo about accessibility.

There are smoothie bars, entry ramps and a neon sign that says, "No Pain, No Gain," but wheelchair-accessible equipment? Not so much.

Here is an example of wheelchair-accessible equipment that I am talking about: something simple as a roll-under table that houses a rehab arm cycle to equipment that has been designed to swing away from its stationary benches allowing it to be used by a person confined to their wheelchair.

I used to go to the gym three times a week. There were plenty of gyms in my area, but none had the accessible equipment I needed. It felt like me going to a brewery, I already know I am going to be disappointed, as I don't like beer. I was forced to drive 30 minutes to the next town over—just to get my sweat on. And as gas prices kept climbing it was like fueling up for a road trip just to work out. If there was a gym closer

that met my needs, I'd still be there today, doing curls for the girls and feeling like a champ.

This isn't just about lifting weights, though. It's about lifting spirits, too. Gyms are places where people come together, whether you're there to train for a marathon or just to people-watch while pretending to stretch. But when accessible equipment is missing, it's like being invited to a party and then being told, "Oh, but there's no room for you on the dance floor."

Imagine a world where every gym—big, small, bougie, or budget—had the gear to meet everyone's needs. Picture not having to choose between paying for a tank of gas or a protein shake to get to that gym. It's not just about checking a box on a list; it's about creating spaces that shout, "Yes, you! You belong here, and we're ready for you!"

Gyms and other recreational spaces need to understand that accessibility shouldn't be an afterthought; it should be the standard. People with disabilities aren't asking for gold-plated treadmills or machines that make smoothies while you sweat (although, who wouldn't love that?). We just want the basics: equipment that everyone can use, so we can all get our endorphin fix and maybe snap a few gym selfies for the 'gram.

We are getting closer to a world where accessible equipment isn't a hidden treasure but a standard feature. It's just a matter of a little more effort. We've got this; we just need to push that last mile. And hey, if we're going to be pushing anything, let's make sure we've got the right equipment to do it.



# Biohacking

The potential to transform lives of disabled people

With Ean Price

**B**ody hacking, or biohacking, has emerged as a compelling frontier in human enhancement, drawing significant interest for its potential to transform lives, especially for those with physical disabilities. Inspired by the transhumanist philosophy introduced by Julian Huxley in 1951, this practice encompasses a range of interventions—from wearable technologies to surgical implants—aimed at expanding human capabilities. As biohacking gains momentum, it offers exciting possibilities for improving quality of life, while also prompting important discussions about the future of human evolution and the ethics of self-directed biological modification.

## Medical implants

In the world of body hacking, medical implants play a key role in changing lives by combining technology with biology. One of the most exciting developments is the creation of synthetic and mechanical hearts. Since the first successful total artificial heart was implanted in 1982, these devices have been a game changer for patients with severe heart failure who can't get a traditional transplant. For people facing serious heart problems, these advanced implants offer more than just a chance to survive—they give them the opportunity to live a better life. As body hacking keeps evolving, these innovations show how technology can truly make a difference in our health and well-being.

## Small chips, big impact

While synthetic hearts represent a pinnacle of medical biohacking, everyday people are exploring more accessible forms of body modification. Near Field Communication (NFC) and Radio Frequency Identification (RFID) technologies. These tiny chips, inserted under the skin, are making waves in the world of personal technology and convenience.

Ean Price, TfL's Peer Team Lead and Innovation Strategist, who has undergone such procedures, shares his experience: "I have two implants in my right hand, an NFC and an RFID on the same circuit board essentially, on the side of my hand, between my wrist and the baby finger. If someone rubs against it, you can feel a bump. I had it implanted in 2018. It has two functions. The RFID function is used as an identifier, it has a unique number which is assigned only to that chip. The NFC portion is kind of like a very small flash drive/memory card that I can read and write text files to it using an app on my phone, any phone that has an NFC reader can do this."

## Practical applications

For people with disabilities, these implants offer several practical benefits:

- › *Emergency Medical Information:* NFC chips can store vital medical data that can be easily accessed by scanning the chip with a smartphone.
- › *Home Access/Vehicle access:* RFID implants can be programmed to unlock doors, providing a convenient and secure way for anyone with mobility impairments to access their homes without fumbling with keys or smartphones.
- › *Personal Identification:* These chips can store personal identification information, useful for quick and secure verification in various situations.

Ean highlights the practical use of his implants: "I wanted a gadget that is part of me, something I never have to worry about losing or charging. Now, I even forget that I have it implanted in my hand."

## The appeal of body hacking

Ean's journey into body hacking began with a fascination for the unique combination of technology and aesthetics. He recounts: "I met someone at an event who works at a tattoo shop who introduced me to someone who does body hacking/body modifications. I found it fascinating right away, checked deeper into it, and eventually asked him to do it. I was fascinated because I love being unique and I am a nerd. Body hacking delivers on both accounts, the aesthetics and the functionalities it can bring to the table."

In addition to the NFC and RFID chips, Ean also has an aesthetic implant called the "Firefly v. 2," which glows in the dark. He describes it: "It's a little larger than a grain of sand. It has a tiny glass capsule containing tritium, a radioactive gas. It glows like digits on a watch glow in the dark. So whenever there's no light around me, I have this faint green light glowing."

## A leap forward

Brain-computer interfaces (BCIs) including implantable brain chips like Neuralink [<https://neuralink.com>], are pushing the boundaries of body hacking, creating direct pathways between the brain and external devices. These technologies hold great promise for people with disabilities, potentially offering significant benefits by enabling control of devices through thought alone.

Ean is enthusiastic about this technology: "I am looking forward to technologies like the Neuralink chip, a brain implant. I believe a chip like that can change the lives of so many people with disabilities, whether it is mobility, vision loss and more. Really exciting technology and I am grateful to be alive in a time where things like this are becoming a possibility."

Ean envisions a future where individuals with traumatic spinal cord injuries could recover mobility through brain implants and rehabilitation processes. He also hopes for implants that monitor body temperature, heart rate, and other vital signs, which could trigger automations in SMART home devices and notify caregivers in emergency situations, not unlike today's SMART watches but directly built into the body.

## Embracing the future with caution and hope

While body hacking offers numerous benefits, it also raises security and ethical concerns. Ean acknowledges these risks: "Anybody that has a reader, and walks close by me like in an elevator, can scan my RFID/NFC chip and get all the information. Malicious people can also rewrite the information on your chip. It is after all a very

basic technology. Both RFID and NFC are simply transmitting info when they are being scanned by a reader. I would love to see new technology where you can encrypt or password-protect certain sections of the filing system so not the whole chip is available for any scanner."

The integration of technology into the body can be intimidating, but the potential benefits are profound. Ean reflects on the balance between risks and benefits: "For me, the increase in mobility that it will potentially offer far outweighs the potential risks and downfalls. Right now, the Neuralink implant for example is pretty much a Bluetooth connection that will allow you to control a device like a phone or computer etc., similar to a Bluetooth mouse. The Bluetooth connection is primarily a one-way output from the brain to the external device, reducing the risk of hacking or injecting malicious commands into the brain." There are also encryption and authentication procedures in place, adding an extra layer of security against man-in-the-middle attacks.

## Balancing caution and innovation

As technology advances, it's crucial to prioritize human well-being. Ean advises caution for those interested in body hacking: "Reach out to the body hacking community; join forums; visit websites; learn what's available. Be aware of safety concerns. For example, I didn't consider potential MRI complications when getting my chips implanted. It's important to inform medical professionals about any implants before procedures. There's been no issue with airport security yet." He added, "But I also have a lot of other metals in my body from medical procedures over the years."

Ean's final words emphasize the importance of responsible innovation: "I commend those who are having the brain-computer interface operations now. They are true pioneers. I know the technology available now is inferior to what will be available in a few years. But someone has to start. I am sure the first prosthetic legs, the procedures around it, were gruesome. But look at the marathon runners on prosthetic legs today: the technology has advanced immensely and faster and faster."

The potential of body hacking to transform lives is clear. From enhancing abilities to overcoming disabilities, this technology offers remarkable possibilities.

However, with great power comes great responsibility. We need to ensure that body hacking technology is developed thoughtfully and used responsibly, balancing innovation with safety, and individual rights with societal impact.



# Accessible Forest Bathing

Personal transformation, peer support, and community resilience

By Kari Krogh, PhD Psychology,  
Co-Founder EcoWisdom Forest Preserve

**D**uring my years of living in constant pain, I found that sitting still with a single pink blossom, feeling the warmth of sunlight on my face, or breathing in the earthy scent of soil, brought moments of comfort. This led me to begin a regular practice of going on retreat in nature. As I spent time on a small wooden bridge, absorbing the music of flowing water, I started to envision a new life with complex chronic illness. Nature invited me to slow down, listen deeply, and discern my path.

I found ways to foster my own healing and growth through training in contemplative communication, nature therapy, and meditation. Undertaking the nature therapy guide training required numerous access accommodations, and I confronted limiting beliefs about disability and who belongs in nature.

## I could see that a more inclusive approach to forest bathing and guiding training was needed.

When I moved off-grid to a cabin on the EcoWisdom Forest Preserve, I was in awe of the land's gifts of accompaniment, resilience, and insight. My pain subsided and among wild-roaming moose, I was able to pursue my dreams with a community of collaborators. Together, we responded to needs in the disability community heightened by the pandemic.

My previous work as a health researcher and professor of disability studies led me to review the science of forest bathing, but it was reflecting on my own experience that inspired me to consider accessible program design

options informed by neuroscience and mindfulness research. Ultimately, EcoWisdom's Accessible Nature Wellbeing Program (ANWP) model, which can be used online or in-person, was developed.

The Individualized Funding Resource Centre and Technology for Living support the offering of these programs. Our unique peer-support model, involving nature guides with disability/chronic illness, has attracted the interest of international forest bathing researchers. Three research studies documenting the many benefits of EcoWisdom's unique mindful nature connection programs are complete.

In response to a need for accessible nature programs and guide training, EcoWisdom offers ANWPs and its own Nature and Forest Therapy Guide certification training based on the ANWP model that researchers have found to foster physical, emotional, and spiritual well-being. As one ANWP participant stated in the study exploring the 'Experiences of Change in Connectedness Through Forest Bathing Among Adults with Disabilities and/or Physical Health Difficulties', it "stimulates a sense of belonging that is beyond anything many people have experienced in their lives."

The above photo shows EcoWisdom-Certified Nature and Forest Therapy Guides connecting mindfully to nature.

### MORE INFORMATION

<https://ecowisdom.ca/research/>

<https://ecowisdom.ca/training/>



# Leveling the gaming field

By Benson Au

**G**aming has come a long way in ensuring that more people, especially those with disabilities, can enjoy video games. Game developers are now recognizing the importance of accessibility and are incorporating advanced adaptive features and tools to make gameplay more inclusive.

In the past, games might have had a basic "accessible mode," which often felt like a simplified version of the real game. However, with the advent of advanced adaptive controllers and in-game accessibility features, people with disabilities can now enjoy games the way the creators intended. Here are three games you may want to consider.

## The Last of Us Part II

Naughty Dog, the creators of *The Last of Us Part II*, have set a new standard for accessibility in gaming. This game includes over 60 different accessibility features, making it one of the most inclusive games available. Key features include high-contrast modes to help players with visual impairments, a screen reader that narrates text and menus, and fully customizable controls that work seamlessly with the PlayStation adaptive controller.

The game also incorporates dynamic difficulty adjustment, allowing players to tweak the game's difficulty based on spe-

cific challenges they face. Additional features such as auto-aim, aim-assist, and navigation assistance make it easier for players with limited mobility to navigate and enjoy the game.

## Forza Horizon 5

*Forza Horizon 5*, developed by Playground Games, is another exemplary game in terms of accessibility. This open-world racing game offers a range of settings tailored to players with different types of disabilities, particularly those with mobility and cognitive impairments.

One of its standout features is the ability to slow the game's speed by up to 50%, making it easier for players with limited dexterity or motor control to enjoy the fast-paced action. The game also allows full controller remapping, compatible with the Xbox Adaptive Controller, and includes an on-screen narrator that reads menus and options aloud. The co-pilot mode allows a second player to assist, creating fun and shared experiences.

The adaptive gameplay in *Forza Horizon 5* includes features like a "rewind" option, driving assists such as auto-steer and auto-brake, and adjustable camera settings. These features ensure that all players can participate without feeling overwhelmed.

## It Takes Two

*It Takes Two* is a unique and engaging cooperative platformer that offers a compelling narrative and innovative gameplay mechanics, making it an excellent choice for players looking for a fun and accessible gaming experience. This action-adventure game was developed by Hazelight Studios and published by Electronic Arts.

The game revolves around the story of a couple on the verge of divorce whose daughter unknowingly turns them into living dolls using her imagination and a magical book. Players take on the roles of the doll versions of the couple, navigating through various levels set within and around their house and garden. The core of the game is its cooperative gameplay, where both players must work together, utilizing unique abilities to solve puzzles, overcome obstacles, and progress through the story.

For instance, in one level, one player might gain the ability to rewind time, while the other can replicate themselves, requiring coordination and teamwork to succeed.

Although *It Takes Two* does not have an adjustable difficulty setting, it is designed to be accessible in other ways. The game allows one player to assist the other in certain challenging areas, making it more manageable for players with varying skill levels. However, each player will need their own controller or mouse and keyboard to participate. In terms of accessibility features, the game includes subtitles, although they are a bit small and not adjustable.

There is also a Voice-to-Text option that allows players to change the font size, and gameplay elements that rely on color are paired with symbols to aid colorblind players. The game is specifically designed for split-screen cooperative multiplayer, which means it must be played with another player through either local or online play. This cooperative design makes it an excellent choice for friends or family looking to enjoy a game together.

The game is forgiving, with a restart system that allows players to retry puzzles without penalty, encouraging experimentation and teamwork.

The story of *It Takes Two* is deeply intertwined with its gameplay, focusing on themes of relationships, communication, and teamwork. As the couple navigates through their miniature world, they learn to work together and rediscover their connection, mirroring the real-world importance of collaboration in relationships. While the game's narrative is engaging and heartwarming, it is important to remember that this is a game meant to entertain and provoke thought rather than serve as a real-world relationship guide.

Overall, *It Takes Two* is a game that excels in creating a cooperative and enjoyable experience, making it an excellent addition to any gaming library. Its focus on teamwork, accessibility features, and engaging gameplay mechanics make it a great example of how games can be both fun and inclusive, helping to bring families and friends closer through their shared adventures.

## The importance of adaptive gaming equipment

Adaptive gaming equipment plays a crucial role in making gaming accessible to everyone. Customizable keyboards and mice, adaptive video game controllers like the Xbox Adaptive Controller and the PlayStation Access Controller, and technologies such as voice control software and eye tracking devices are transforming the gaming experience for people with disabilities.

These devices break down barriers to entertainment, social interaction, and the therapeutic benefits that video games can offer. For instance, the Xbox Adaptive Controller allows players to connect different equipment like custom buttons, trigger inputs, and other assistive devices, making it possible for players with limited mobility to customize their gaming setup. Modern games are increasingly incorporating a variety of accessibility features. These include customizable control schemes, text-to-speech and speech-to-text options, visual and audio cue adjustments, and adjustable difficulty levels.

## Embracing accessibility

The gaming industry is finally recognizing the importance of inclusivity. Games like *The Last of Us Part II* and *Forza Horizon 5* demonstrate a commitment to making games accessible for everyone. As more games include these features, gaming will become even more inclusive, allowing everyone to participate and enjoy this amazing form of entertainment.

Organizations and advocacy groups are playing a vital role in promoting and supporting accessible game design. Resources like accessibility reports and reviews help players make informed choices about which games they can enjoy.

Gaming is no longer a niche activity reserved for a select few; it is a universal form of entertainment that can be enjoyed by everyone. With the continuous advancement of adaptive technology and the increasing focus on accessibility in game design, the future of gaming looks brighter than ever. By embracing accessibility, game developers are not only ensuring that their games are enjoyable for a wider audience but also fostering a more inclusive and supportive gaming community. Whether you are a seasoned gamer or just starting out, there are now more opportunities than ever to join in and experience the joy and camaraderie that gaming has to offer.

# Weather adventures

By Linda McGowan

**Do** you know when winter is coming? If you pay attention, the signs are hard to ignore! We've enjoyed a fantastic summer, but then the unmistakable hints of fall are upon us. The leaves transform into a beautiful array of colors, and there's nothing quite like the satisfying crunch of dry leaves underfoot—or under wheel! So, why not find a local park filled with those crispy leaves and celebrate the change of seasons?

As late October rolls in, it's time for harvesting! This is the perfect opportunity to enjoy delicious fall vegetables. Gather some friends for a vegetarian dinner featuring corn, squash, and other seasonal delights. Cooking together can be a fun adventure as you discover new ways to prepare these tasty treats.

Living by the river, I know winter is near when the fog rolls in and the trees start looking dreary. It's a reminder that, like the Boy Scouts say, "Be Prepared!" A trip to your local wheelchair store is essential. Check your tires and bearings—smooth tires can slip and slide like a vehicle on ice. Generally, power chairs handle snow better than manual ones, and pneumatic tires can give you an edge. Keep your battery charged; a good night's rest can rejuvenate both you and your chair.

If you find yourself slipping on your cushion—especially while navigating winter hills—consider picking up a roll of rubber from the dollar store. It's designed for kitchen cupboard plates but works wonders under your seat! It's a much more economical option than the fancy stuff from medical stores.

In Metro Vancouver, navigating snow can be quite a challenge. People are responsible for clearing the snow in front of their buildings or homes, but let's be real—does that always happen? Spoiler alert: not always! Municipalities do clear the roads, but often the snow ends up piled in front of a curb cut. Before the snow arrives, have the phone number for the Engineering Department handy. Be pleasantly assertive—turn those lemons into lemonade!

Having a support system is vital. Have you spoken to neighbours, friends, or anyone who can help? And don't forget to check your food supply! A trip to Costco or Safeway might not be reasonable on snowy sidewalks.



For those eligible for Taxi Savers, remember you can purchase two books each month, but you can use as many as you have. It's wise to stock up during the summer since they never expire. And never leave home without enough Taxi Savers to get yourself back—keeping taxi companies' contact info in your cell phone is a smart move!

When it comes to clothing, opt for bright colors and weather protection. Many retail outlets sell wheelchair-specific clothing, but if that's not in the budget, Salvation Army and Value Village are great alternatives. Lighter colors help identify your presence, especially since many of our chairs are black. Yellow Gore-Tex jackets are available at outdoor stores, and if that's not an option, a colored vest from a workwear store can do the trick.

And let's not forget LED lights! They come in various colors and can be solid or blinking. While some may joke that "that lady has Christmas lights on her chair," they actually reduce your chances of getting hit by a truck by about 50%.

As the World Health Organization reminds us, nature plays a significant role in our well-being. If you can't venture outside, houseplants or pets can provide that much-needed connection to the natural world.

When it's time to cut down the Christmas tree, don't let your wheelchair hold you back! As Billy Joel says, "You may be right, I may be crazy." I often joke, "You guys leave me here, and I'll wait for you to cut the tree." But that never seems to work out, so I find myself rolling up hills and through bushes, voicing my choice for the perfect tree.

With a little planning and a positive attitude, you can navigate the changing seasons with confidence and maybe even a smile!

# A plate full of joy

By David Hill



**My** appreciation of food stems from my two-year-and-one-day stay at B.C. Children's Hospital in Vancouver. My tracheostomy breathing tube may have interrupted crucial developmental processes, leaving me without a fully developed nose-sinus sensory area. However, unlike some who require an abdominal tube connected to their stomach, I can eat and enjoy meals through my mouth and oesophagus.

My first vivid food memory in hospital was when my mum would bring homemade spaghetti sauce or chili stew. It was far superior to most foods served on the hospital meal trays! I eat using my tongue, jaw muscles, teeth, and salivary glands. To interpret taste, I rely on my taste buds to distinguish flavours - salty, sweet, sour, bitter, and umami. Although I lack a strong sense of smell, I pay close attention to touch (temperature, texture, consistency) and sound. I enjoy listening to the process of food preparation and cooking. I also take note of the dish's appearance when it's plated.

My breakfasts are unconventional - I rarely eat typical morning foods except for oatmeal, which my mum transforms into a baked apple dish with cheese. I request smooth peanut butter as well, I love how it tastes, even though I know it's not that healthy. In elementary school, my breakfasts often consisted of baked potato with melted cheese or broccoli with cheese. I seldom had breakfast cereal, only trying variety fun packs a few times.

I have numerous favourite foods, including sirloin steak, meat lasagna, spaghetti, beef burgers with cheese, and pizza. I also enjoy diverse cuisines like Italian, Japanese sushi, Chinese xiaolongbao (soup dumplings), and Jewish foods such as corned beef, smoked lox, and babka (sweet, braided bread). Shawarma kebab, similar to a donair or gyro, is another favourite.

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**I find any food I can eat with cheese is particularly tasty, especially cheese with fruit pies.**

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Food-related movies and TV shows have inspired my writing about cuisine. Some favourites include 'Ratatouille', 'Julie and Julia', and 'Last Holiday'. I've also enjoyed Anthony Bourdain's series like 'A Cook's Tour' and 'Anthony Bourdain: No Reservations'. A public TV series called 'Food - Delicious Science', particularly Episode 2, was especially inspiring.

These shows and movies have taught me how food connects people and cultures worldwide. Cooking and eating can be more than just sustenance - they can be a way to explore, learn, and bring people together.

In my 41 years, I've adapted to eating solid food despite early health challenges. My body has adjusted following congestive heart failure and respiratory distress. Even with my underdeveloped sinus-nose region, I've found ways to appreciate and enjoy a wide variety of foods. Food has been a constant source of pleasure and discovery throughout my life, reminding me that even with physical disabilities, we can find joy and connection through culinary experiences.

Every meal is an opportunity to celebrate my abilities and the flavours that bring happiness. Whether it's a homemade dish reminiscent of my mum's hospital visits or trying a new international cuisine, food continues to be a source of joy and exploration for me.

So, the next time you sit down for a meal, remember that every bite is a chance to experience the world anew. Take a moment to appreciate the textures, temperatures, and tastes. Consider the story behind the dish and the people who prepared it. In doing so, you might find, as I have, that food is not just about eating - it's about living, connecting, and celebrating life's simpler pleasures.

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## ★ Donate to TFL ★

Supporting individuals with disabilities fosters a sense of belonging. Play a role by providing autonomy, respect, dismantling barriers, and instilling confidence.

Become an essential part of building a society where everyone, regardless of their abilities, is accepted and given the space to flourish. Join us in shaping a future where inclusivity is not just a goal but a lived reality.

Your donation to TFL can become a catalyst for creating a more inclusive and accessible future for those facing mobility challenges.

Scan the QR code to make a meaningful impact.



Youth Assistive Technology (YAT) promotes independence through assistive technology and home automation. Services including assessments, equipment, and installation funded by generous foundations and donors.

Apart from automatic door openers and many other assistive devices we also offer gaming equipment on loan like XBOX Adaptive Controllers, PlayStation Access Controllers, HORI Flex Controllers for Nintendo Switch and more. We also provide various mounting options, joysticks, and switches to customize your gaming setup.

Eligibility: BC Youth with limited mobility, ages 9-18

For more information, visit [technologyforliving.org](https://technologyforliving.org) or email [yat@technologyforliving.org](mailto:yat@technologyforliving.org)

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