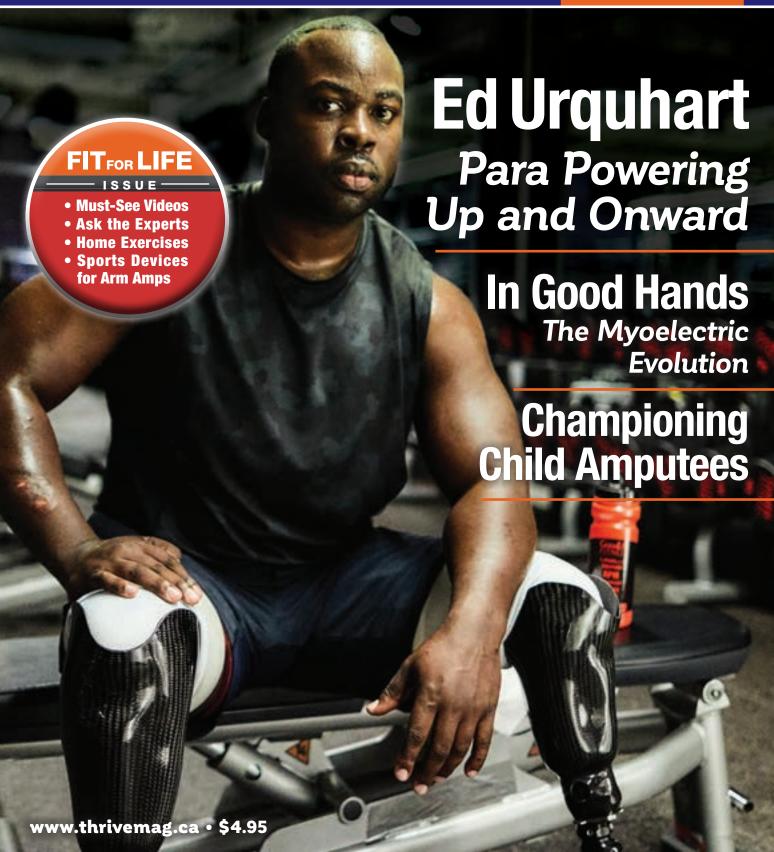
# thrive

Living Well with Limb Loss

**ISSUE #13** 





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#### **WELCOME**

Typically, the content for each issue of thrive is mapped out many months in advance, even up to a vear ahead. This issue was no different. But it was different. Just a week before press we went back to work on it, quickly making some unexpected changes.

It dawned on me that our content needed to be adapted one March



thrive founder and publisher, Jeff Tiessen

afternoon while swimming in our office building's facility pool, eerily, all by myself... the three lifeguards on deck dedicated to just me notwithstanding. The building had just closed the doors to its pool, gyms and courts to its 6,000 members. Only those who worked in the building could still access the amenities that day. The next day, it was closed to us too. It was time to self-isolate.

My afternoon swims came to an abrupt halt. So did my after-work routines in the gym and on the indoor running track. I thought about this issue's Fit for Life focus. I had created an unflappable habit of daily exercise for myself. Many of you have too. And for those who haven't, we wanted this issue to encourage you to do so. We still do. With a slight twist right now.

We've shared some excellent resources to get you started... at home. And there are plenty more great videos and exercise suggestions for home workouts online. Time for a new habit!

Admittedly, I've taken to the streets too, running solo, looking for the most uninhabited areas, with utmost caution for me and others along the way, of course. Oddly, what once was a relatively straight path on city sidewalks is now a winding, zigzagging course, always to ensure a two-metre swath around other runners and pedestrians... an ever-changing obstacle course. Unexpected changes indeed.

Stay Safe.

Jeff Tiessen, publisher jeff@thrivemag.ca

> **ABOUT THE PUBLISHER:** Disability Today Publishing Group, a disability community leader for over 25 years, is known for its quality publications, and compelling editorial. The publisher of *Alignment* for Orthotics Prosthetics Canada, and a host of in-house magazine and book titles, the media firm is led by Jeff Tiessen, an amputee of 43 years. Tiessen, a three-time Paralympian, award-winning journalist and Canadian Disability Hall of Fame inductee, is a respected advocate within the amputee community, the prosthetic profession, and other healthcare fields as well.



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# Nervy Innovation for Arm Amputees

By Cal Jeffrey, www.techspot.com

The field of neuroprosthetics has made enormous advancements in the last several years, aiming to give amputees limbs that provide the natural function and movement of arms and legs.

But current methods are invasive and require patients to relearn impulses to manipulate the prosthesis. Neuroprosthetic arms are a particular challenge because of the complex ways the hand and fingers move. Since the prosthetic limbs are controlled by muscle movement, nerve impulses, or a combination of both, most



systems require quite a bit of practice to learn how to use.

University of Michigan Bioengineering Professors Paul Cederna and Cindy Chestek think they have the solution. They have created a system that is so intuitive that users can use the limb with no training.

They, and their team, have figured out a way to not only make prosthetic limbs more intuitive but also increase the voltage sent from nerve endings. The technique involves separating large nerve clusters, then using tiny muscle grafts to boost the impulses, which are then interpreted by a "brain-machine interface."

In tests, the prostheses have worked on the first trv. Participants can seemingly think about what they want the hand to do, and the bionic limb does it. "You can make a prosthetic hand do a lot of things, but that doesn't mean

that the person is intuitively controlling it," said Chestek. "The difference is when it works just by thinking about it."

Typically, researchers working on neural interfaces tap straight into the brain because that is where they can get the strongest and most stable signals. However, it is a risky and invasive procedure mainly

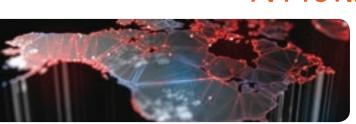
reserved for people living with paralysis. Using peripheral nerves in amputees is safer but comes with some hurdles, the primary one being that nerve impulses are too weak.

The new technique grafts small muscle fibres to the nerves, which converts the tiny nerve signals into a much larger muscle impulse, amplifying the voltage. It also gives nerves new tissue to connect to, helping to prevent neuromas, which cause phantom limb pain. "This is the biggest advance in motor control for people with amputations in many years," said Cederna. "We have developed a technique to... provide some of the most advanced prosthetic control that the world has seen."

The study has already been published in Science Translational Medicine. It is however, ongoing and looking for more participants.

# Canada's Prosthetic Coverage

#### A Provincial Review



The Canadian healthcare system serves as an example of equity for citizens but it is not without its challenges. Prosthetic coverage across Canada is variable and largely unable to provide equal coverage for Canadians living with amputation. Many with limb loss are forced to rely upon personal resources, fundraising, or the charity of non-governmental organizations to meet this

basic healthcare need. Learn more about coverage policies and eligibility criteria for replacement in your province at: www.jps.library.utoronto.ca/index.php/cpoj/article/view/33489

# Life-Like Prostheses Sculpted for **Amputees of Colour**

By Marie Cyprien, www.blackenterprise.com

Nigerian John Amanam, a 32-year-old former movie special effects expert and sculptor, has used his extensive experience to create hyper-realistic prosthetic ears, noses, fingers, toes, and legs.

According to Shoppe Black, Amanam's inspiration came after his cousin lost his fingers in an accident and summoned a desire to help him get them back. "I was thinking of ways to help him as a sculptor and thought to myself, 'Since I've sculpted human beings, why can't I mold something that can actually be used on a human body?"

Amanam also wanted to help others who had lost limbs, similar to his cousin, gain back what they had lost. "I saw it as a challenge. It would go a long way to ease that emotional trauma and loss of confidence."

In addition, Amanam wanted to make those prostheses look realistic in terms of skin colour. Most prosthetic devices in Nigeria are usually white or are unrealistic. "I want this need of blackskin prostheses to be met within Africa," Amanam stated. "I want to reach out to blacks all over the world as well, by making this process accessible, at an affordable rate."

He wants to open a prosthetics factory in his hometown of Akwa Ibom to produce a large number of his prosthetic products to be available internationally.



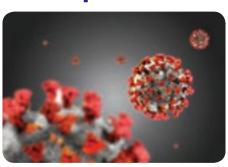
# **COVID-19: Tips for Amputees**

With a lot of precautions about COVID-19 in the news and many of us falling into the vulnerable category, here is a short list of tips for amputees during this time.

Self-Isolation... a new play on a word that negatively affects our community since we encourage socializing in our recovery. Minimize and limit the risk of

exposing ourselves and others to the virus. It will be even harder for those of us who rely on family members or neighbours to assist us with getting things from stores or to places or appointments. Understand that they are in self-isolation too. Technology can still keep us social. Face time with friends and family. Check on family and friends who may need it more - like those in senior homes or care facilities.

Medical Bag... among tips for items for your medical bags shared in past issues of thrive, some key items that you should definitely have in your bag include: alcohol swabs, isopropyl alcohol, hand sanitizer, disinfectant wipes, polysporin or ointment gels for minor cuts and wounds, gauze and medical tape. Make sure your medications are filled and you have repeats in case your doctor gets busy attending to more urgent-care patients.



Prosthetic Appointments... your prosthetist may not be readily available as employees are self-isolating or have office closures. Do not get upset. You should be at home self-isolating too, so don't worry about your prosthesis. If it's too painful right now to wear, and you can't see your prosthetist, minimize wearing it for now to

lessen your risk of injury.

Practice Hand Hygiene... the World Health Organization has provided amazing materials for hand-washing hygiene tips. Wash your hands for at least 20 seconds. Frequent hand-washing with soap and water or using an alcohol-based hand sanitizer (if you're not sensitive to it) is

Where to Get Information... do not rely only on social media to get your information on COVID-19. Double check the sources and check websites from the following to ensure you are getting the correct information: World Health Organization, Centre for Disease Control, Ministry of Health Canada, Ministry of Health Ontario.

And above all, take care of yourself. Wash your hands and avoid large crowds.

With thanks to the Amputee Coalition of Toronto.



# GoodLife Focuses on Diversity

By Daniel Calabretta, Strategy

Diversity is at the heart of GoodLife Fitness's latest ad spot: a diversity of genders, races and physiques. This is in an attempt to stray away from elitism and people with the "perfect body" often seen in gym-related ads, while also answering consumer demand for a range of different fitness offerings. A 60-second spot in the new "Canadian Strong" campaign led by FCB Canada - shows a multitude of activities, but also a multitude of people doing them, such as women punching into focus mitts, or a man with two prosthetic legs doing kettle bell raises. That man is para powerlifter Ed Urguhart (this issue's cover story).

Sander van den Born, GoodLife's chief marketing and technology officer, explained that when he first joined the company about a year ago he noticed that the marketing of the fitness industry is "very elite," portraying the perfect, fit body, as well as being very sales-oriented. He noted how GoodLife wanted to move away from that in the "Canadian Strong" campaign, which is focused more on strengthening brand perception by focusing on diversity.

"We're truly diverse," he says, referring not just to the welcoming and accessible atmosphere of the gym, but to how GoodLife has everything from cardio equipment, weights and machines to boutique services like yoga and RPM classes. "It was really about re-positioning the brand, in a sense that we wanted everybody to be proud of."

According to van den Born, gym-goers still desire that boutique-style gym – a "small, intimate, social experience." GoodLife's website outlines policies and services for members with disabilities, like "allowing members with disabilities to do things in their own ways, at their own pace, as long as it does not present a safety risk," and "using alternative methods when possible to ensure that members with disabilities have access to the same services, in the same place and similar manner."

READERS WRITE

# Celebrating My Ampuversary

My name is Brian Budden, I'm a 66-year-old, left below-knee amputee. I lost my leg in an industrial accident 22 years ago and my anniversary is March 6th. It is like a birthday every year. Accidents do happen and I was in the wrong place at the time of my



I served 25 years in the Canadian Armed Forces with The Queen's Own Rifles of Canada, obtaining the rank of Chief Warrant Officer and was appointed Regimental Sergeant - Major. I'm still very active in the QOR Regimental Family as President of the Association in

I went back to work after a year and a half of physical and occupational therapy at St. John's Rehab Hospital in Toronto. I'm still working today. People are amazed, some not even realizing that I'm an amputee. I have had my ups and downs, but mostly ups. In other words, good and bad days.

I have travelled to different parts of the world and have adjusted very well in accomplishing these tours.

You have to stay positive and have a good attitude towards life in general to overcome what we have gone through. Family and friends have been very supportive over

I saw thrive magazine at my prosthetist's office last year and have been receiving the publication for the last year and enjoy the articles very much.

Best Regards,

#### Brian Budden

Ed. Note: Celebrating Your Ampuversary was an article featured in Issue #12 of thrive.



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You have questions.
With the help of
Aristotle Domingo,
the founder of the
Amputee Coalition
of Toronto, and his
peer network, we
have answers. You
asked...

### Q. When can I start exercising after my amputation?

A. This is one of the most common questions I get when I tell amputees that I work out. If you are in a rehabilitation centre, then you have already started working out. It may not seem like much to you, especially if you were a "gym rat" before your amputation, but it is. Your physiotherapist is giving you exercises to strengthen those muscles that may have gone lazy during your recovery in bed. If you are feeling strong or find that your rehab exercises are not meeting your expectations, talk with your physiatrist and physiotherapist about changing your exercises to meet your needs safely.

#### Q. How do I start?

A. Glad to hear that you are eager to start! If you are still in outpatient rehab, make notes on the exercises that you

do with your physiotherapist or ask him or her to write them out so that you can do them at home. Ask how much (repetitions and sets) and how long each exercise should last. Let them know about equipment you have at home, if you have any. If you don't, don't worry. Many things around your house can be used as exercise equipment. For example, varying sizes of canned food can be enough to replace a dumbbell. A sturdy chair may be good enough to help you work on balance. Ask your therapist which exercises to do. Committing is key to staying on a fitness regimen for better health.

### Q. I want to join a gym, but everyone will stare at me. How can I work out?

A. Staring, unfortunately, is something that we all deal with whether you are an amputee or not. You should know that many people in the gym have insecuri-

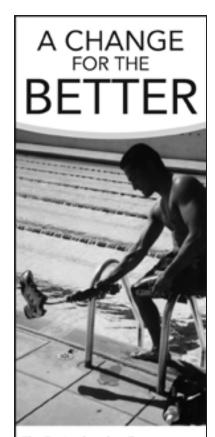


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See all of our products at www.ferrier.coupler.com ties about their own bodies too. That's why they are in the gym. Everyone in the gym has different reasons for being there – it can be about how they look, how they feel, their health goals or simply a lifestyle choice. Don't let gyms or those who workout in gyms intimidate you. As they say, "If I can do it, you can do it!" My other recommendation is to look for a gym that is accessible or has accessible equipment and showers. This is key if you use a wheelchair or any other assistive devices to get around. Or better yet, look for a gym in your area that is committed to inclusivity for all.

#### Q. I like working out alone but sometimes I don't have the motivation to workout. Are there benefits to group classes?

A. Absolutely! Working out in groups or in a group exercise class has many benefits. For one, it is a great motivator to get ready and join your workout group. A casual walking group, for example, not only helps motivate you to get ready for a workout, but is also good for your mental health. Socializing, making friends, and chatting while you're on your walk can be very rewarding. Start a walking group with your family members or friends in the neighbourhood if there isn't one. Or join a group exercise class at your gym a few times a week. This is a great way to change up your exercise routine and work other muscles or areas of your body that you may not be working during your solo workouts.

### O. Do I need to work out with a

A. If you can afford it, go for it! Only work with a certified trainer or better vet, a certified trainer who has expertise working with amputees or persons with different abilities. They are much more equipped to adapt exercises for you to meet your fitness goals. If you can't afford one, or are just starting out on your fitness program, there are apps, videos and fitness instruction

quides for amoutees. You can start with those, but always keep your safety in mind. Do not attempt exercises that can set you back.

#### Q. How do I stay motivated?

A. It's cliché but think about why you started working out in the first place. What were your goals? Fitness and staying active is a lifestyle choice. Many fail at it because they approach it as a trend – a New Year's resolution for example. For us amputees, fitness and staying active is almost always a necessity. Think about what contributed to your amputation. Was it due to diabetes or other vascular issues? This applies to those whose amputation was caused by trauma, infection or cancer too. It's about being as mobile as we can be. Not moving increases our risk of developing, or worsening, cardiovascular disease or diabetes later in life. Not moving worsens our mood, attitude and behaviour too, and that can affect our relationships at home and with our friends. It can affect our mental health, our self-esteem and even sexual drive. Your immediate goal and motivation may be to walk, for a lower limb amputee for example, but all of the benefits of a fit and active lifestyle should keep you motivated.

More solutions for an active lifestyle at www.amputeecoalitiontoronto.ca.

#### **ABOUT THE AUTHOR:**

Aristotle Domingo is a double below-knee amputee, an adaptive athlete and founder of the Amputee Coalition of Toronto. Since becoming an amputee, he has



for the amputee community in Canada – advocating for rights for amputees, access to funding for prostheses and care, and amputee research so that amputees can live their best lives.



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# THE Power of Intention

# Habit Trumps Motivation

**By Timothy James** 

I was the "fat kid" growing up, and I've struggled to find the motivation to lose weight and lead a healthy lifestyle my whole life.

I first realized that I was fat when a teacher asked for a volunteer to play Santa in the third grade Christmas play, and a classmate loudly blurted out, "Tim's already got the belly!" I was mortified.

I turned to food to numb my embarrassment. I discovered the emotional rollercoaster known as bingeing... a rollercoaster which I would struggle to get off or my entire life.

I can pinpoint the exact moment when I told myself enough is enough. I was cleaning up the crumbs around an empty box of cinnamon buns, and I decided I'd clean up my act too! "Tomorrow will be different!" I promised. I finally found the motivation to stop the bad habits. "Tomorrow," I thought, "will be the day I start a healthy diet and daily exercise!"



But tomorrow never came. The next day I was back at it again with the sweets, far sweeter than anything the gym or a healthy lifestyle had to offer. Only after the sweets were gone did I feel motivated to clean up my act. Motivation was never there in the moments I needed it most. I've discovered that motivation was the last thing I needed. Motivation is trash.

# WHY IS MOTIVATION TRASH?

We all think motivation is what drives action, but in many cases it's the other way around — actions create motivation.

Have you ever felt like you didn't want to go to the gym, but once you put on your gym shoes and walked out the door you felt motivated? That's an example of motivation coming after the action.

Motivation should never be the sole force driving your actions because it is a temporary emotion. You can't feel motivated all the time. Motivation was not going to save me from my cycle of bingeing. I knew exactly what I needed to do (lose weight), but I didn't know how or why I wanted to do it.

I needed to connect to the intention, or the why, behind my goals before I could determine how to follow through on them. I also needed something that required very little willpower or motivation. What I needed was a habit.



# POWERED BY HABIT AND INTENTION

Habits are at the center of everything we do; most waking hours are spent executing one habit after another without even thinking about it. Get out of bed, make the bed, make coffee, drive to work.

Habits are essential for our daily lives to run smoothly. Because they are so engrained in our brain, there is little thought or resistance that occurs when executing our daily routine. In my case, I knew that I needed to create a habit to get off the couch. I wanted to create a habit of a daily fitness routine at the gym. But before I could create a habit that would stick, I first had to connect with the intention behind it. A powerful intention is something bigger than just yourself. It's connected to a higher purpose. A habit infused with a powerful intention is what gets me to those workouts even when I'm not feeling motivated to go.



Intentions are so important because a poorly-developed intention can actually drain your energy. When I was stuck in the binge cycle my intention was "to lose weight because I don't want to be a fat slob."

This intention sucks! For two reasons: the first problem is that it is not connected to a higher purpose. It's all about ME, ME, ME! Secondly, it's framed in a negative way that reinforces the belief that I am a fat slob. A negative intention like this destroys my self-confidence and willpower.













# SET A POWERFUL INTENTION

I knew I needed a more powerful intention to carry me through when temptation reared its ugly head! My new intention: I want to get in shape to have a healthy life and age gracefully, and inspire others to do the same. This intention is connected to a higher purpose, something greater than just myself.

Laying on the couch eating cinnamon buns hurts not just me but those around me as well. This intention gave me the energy I needed to follow through on my goals and build the right habits into my daily life when motivation was nowhere to be found.

To create a powerful intention, think about how to connect your goals to something bigger than yourself... taking care of your family, helping your local community, or anything you want it to be.

#### STICKING TO A HABIT

I found the best way to stick to a habit is first to understand what a habit really is.

Every habit consists of three parts: cue, routine, and reward. Cues are the trigger for a habit to begin. My morning alarm triggers my morning habit. Having a routine takes the motivation and decision-making out of the process... no energy wasted on the internal debate about if or when I'm going to the gym. I just follow the process.





# THE THREE-MINUTE RULE

For the least mental resistance to starting a new habit, strive to have the shortest cue time possible. A cue time of three minutes or less is my golden rule. This leaves very little time for willpower to falter.

Don't want to exercise? Make putting on your workout clothes the cue that starts your routine. Once dressed for fitness and you are in motion you'll be well on your way to getting that workout in!

#### START SMALL

The real secret to creating a new habit is to start out small. When I started working out, I told myself that I would go to the gym and exercise for five minutes. After that I would leave. I only planned to show up. I wasn't worried about the benefits of exercise; I was focused on building the habit. Build the habit first and let the rest come naturally.

The truth is, even now when I don't want to work out, at the very least I'll go to the gym for five minutes. Even if all I can manage to do is breathe, that's okay because I'm keeping my momentum going and my habit intact. Of course, I almost always stay for more than five minutes.



# REWARD REINFORCES THE HABIT

The last stage of any habit is the reward stage. In the case of exercise, the reward for me is feeling energized and focused, and getting the rush of feel-good endorphins that follows a good workout. Every time I go to the gym it becomes easier to go back because I reinforce the link between the cue and the reward in my brain. Writing out a habit with a pen and paper has been shown to dramatically increase follow through. The more cues you have, the greater your chances for success.



#### **WORKING OUT CHANGED MY LIFE**

After I replaced my unhealthy habit of binging with the healthy habit of working out, I quit smoking, lost weight, and started making healthy diet choices. Now, instead of opening a box of cinnamon buns when I'm stressed, I grab my gym bag and head out the door. And it all started by stepping foot in the gym for five minutes a day.

If you want to make fitness part of your daily life, stop relying on motivation this instant! Get connected to the intention behind your goals and make it about something bigger than just yourself. Create a habit of going to the gym or hiking or practicing yoga or doing whatever exercise you enjoy... and the shorter the cue time to begin your fitness routine the more likely you are to follow through.

Start small. Build the habit before worrying about the actual workouts. After you have a habit of exercising, experiment to find a workout plan that you find fun and can follow consistently.

And remember, motivation often comes after the action and not before. Just get started already!

#### **ABOUT THE AUTHOR:**

Timothy James is a health and wellness coach specializing in weight loss and lean muscle gain. Visit www. timothyjameswellness.com and learn how to get your mind and body in shape with

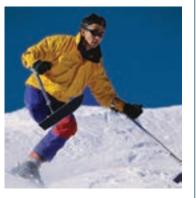


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- Living with Amputation?
- Experiencing Phantom Limb Pain (PLP)?

# **Enjoy Life Again!**

- Farabloc Technology
- The EMF Shielding Conductive Limb Cover



# The Farabloc Stump Sock – For Amputees Experiencing Phantom Limb Pain

#### **Systematic Reviews**

- Two systematic reviews found evidence to support Farabloc as an effective treatment for management of PLP (Halbert et al., 2002; Stanndard, Kalso, & Ballantyne, 2010).
- The 2002 review on the optimal management of acute and chronic PLP, documented that Farabloc research was only one of three studies to score the maximum of five points for a quality assessment.
   For late PLP (greater than 2-week post operatively), this review agreed that there is evidence suggesting that Farabloc is an effective treatment.

(The Clinical Journal of Pain, 18:84-92 © 2002 Lippincott Williams & Wilkins, Inc., Philadelphia. "Evidence for the Optimal Management of Acute and Chronic Phantom Pain: A Systemic Review").

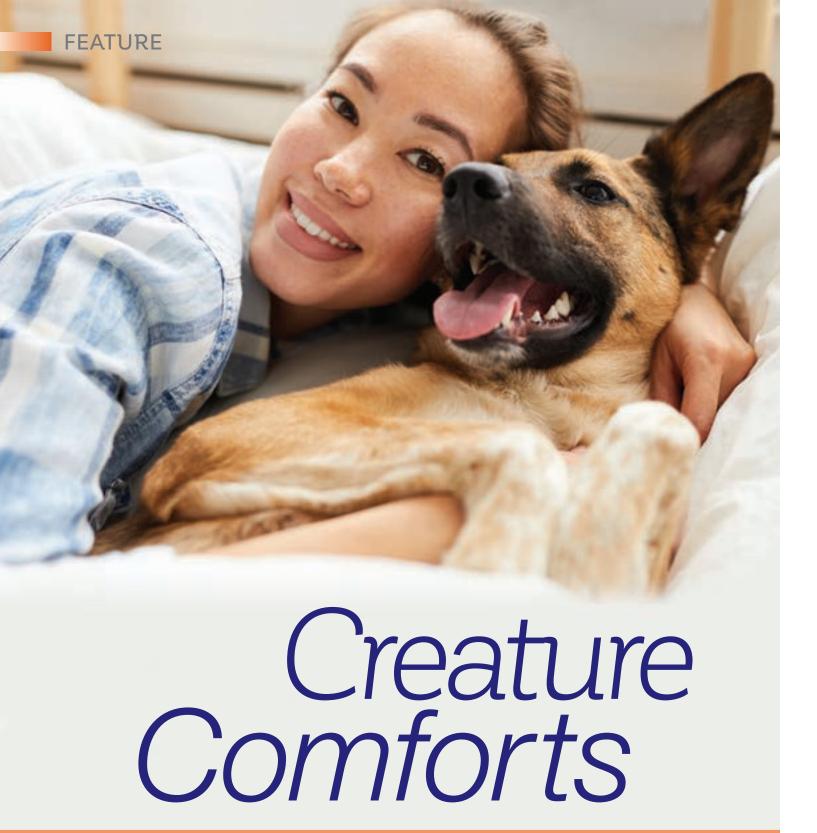


- The findings were affirmed in the second review, listing Farabloc as an intervention supported by evidence for the management of PLP (Stanndard et al., 2010).
- (Nikolajsen, L. (2010) Phantom Limb Pain,

in Evidence-Based Chronic Pain Management (eds C.F. Stanndard, E. Kalso and J. Ballantyne), John Wiley & Sons, Ltd., West Sussex, UK).



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ANIMALS FOR CALM, CUDDLES AND COMPANIONSHIP

As we widen our understanding of the diverse nature of well-being – of healing, emotions and the human mind, the use of therapy animals keeps expanding. The practice of enrolling dogs, horses, cats and rabbits to calm those who are struggling is so old its beginning cannot be pinpointed. Placing numbers on emotional benefits to argue for its rise in popularity can be equally difficult to measure.

"We hear the testimonials," claims Theresa Conforti, Toronto's volunteer resource coordinator for the Centre for Addiction and Mental Health (CAMH), who puts her black lab Juno on task. "We have patients dealing with pain management that we see in our walkin groups. The dogs are more about social engagement than formal therapy, but after our purple bandana-wearing dog interacts, there are comments like – 'the dog made me reminisce about the past, made me feel better.' Or, 'I was not judged by the dog; the dog made me feel welcomed.' Clients light up when they see the dog."

Therapeutic Paws of Canada contributes their services to many, including amputees who may be hurting physically or struggling to manage their emotions. "We serve amputees and many others," Judy Sauvé, the organization's founder, tells. "We visit seniors, colleges, long-term care facilities and we even help children with self-confidence issues. We see an impact. You can tell; you can see it in their smile. It is amazing the depth of the bond the two form with the simple act of a visit."

The St. John Ambulance Therapy Dog Program works to "bring joy and comfort to the ill and lonely." Craig Heron is one of many volunteers who participates with his dog Roxanne. "Just a scratch behind her ears brings a lot of happiness," he insists.

The program's four-legged friends are on duty when their vests are on, visiting hospitals, senior/community centres and schools. "At one time the uniform was a cute red vest that identified our dogs as St. John Ambulance (SJA) Therapy Dogs with the SJA crest and slogan 'Please Pet Me'. That made their role very clear," tells Heron. "We are getting away from that now,

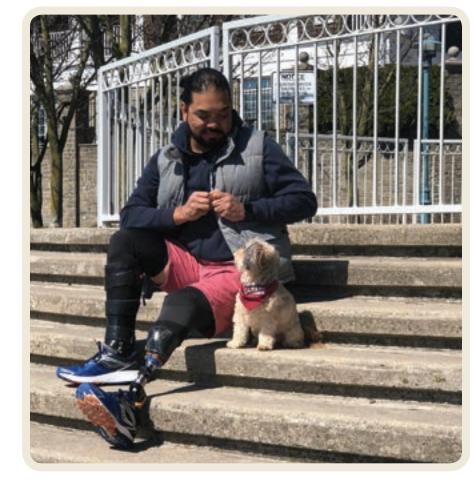
wearing t-dog scarves instead. They work better because they leave more doggie fur exposed and available for petting."

Heron's routine keeps him and Roxanne quite busy. "Monday mornings we do hospital rounds. After visiting patients in their rooms we hang out in the lobby to greet hospital visitors, staff, and patients who need extra cuddle-time with Roxanne. Wednesday mornings we go to Park Lane School, a Toronto District School Board facility for children with severe disabilities."

This heart-warming service is also timely. After the 2018 tragedy in Toronto that saw 10 people killed and

16 others injured on busy sidewalks by a deliberate van driver, it garnered many tributes and memorials. St. John Ambulance Therapy Dogs participated in one of the healing gatherings at the site of the carnage, offering unconditional love to people who needed a calming touch. The dogs also visited with police officers to provide much needed stress relief for the responders who were first on the scene that day.

Heron describes his experience as a volunteer for St. John as "the best job I never had!" He expresses pride when seeing the line-up of patients who greet him and Roxanne in the hospital lobby. "One woman," he tells, "told me that a visit from Roxanne



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is better for her than a pain pill." He laughs, "the physiotherapists on one nursing unit are so impressed by the calming influence of my dogs that they joke about wanting to 'come back' [reincarnate] as therapy dogs!"

Comfort dogs have a distinctly different role than a Service Dog or Guide Dog. Animals that exhibit an exceptionally outgoing nature and level of patience are selected for "Comfort Animal" roles, and then undergo a series of training lessons. A Service or Guide Dog is an animal that has intensive training, is provided legal access to public places and is not considered a pet. Service Dogs are not to be played with or addressed while on the job. An emotional support animal is a pet of proper disposition that often passes lesser training but performs a different, yet worthy duty.

These creatures also seem to understand that they are on-task and performing an important function, with many exuding a detectible expression of pride on their long-nosed face. They offer a gentle presence of unconditional friendliness to many who have few visitors, presenting their silky fur for tactile stimulation that soothes and calms, becoming a cute focal point that pacifies agitated minds with their inquisitive eyes and adorable faces. It has been noted that comfort dogs help patients heal more quickly. Those with mental maladies find their symptoms lessened

and nursing home residents delight in a favourite mark on their otherwise dull schedule. In an institution it is difficult to create and maintain a high

embody just by strolling inside. Most discover the effort of the trainer and the animal heartening, a team that commits to a schedule of service, giving up their time for others. The industry is typically operated by volunteers, with St. John alone having over 3,300 people giving of their time.

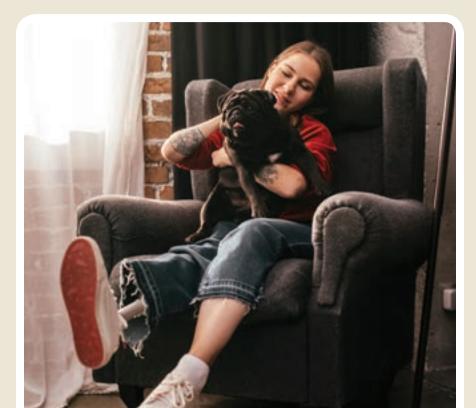
level of morale, a knack that dogs

For amputees, many enjoy the comfort benefits of a companion dog. Mariel Munoz of Ottawa explains: "After losing a leg to burn injuries, my childhood mascot used to watch out

for me. Her name was Petunia – a lab-mix. She growled at anyone with ideas of teasing me. Now I have a puppy Lola and she helps me all the time. I have phantom limb pain and she lets me know when it's time to take a pill. She will even turn the light on for me!"

Aristotle Domingo, founder of the Amputee Coalition of Toronto, advocates for the power of canine companionship. His dog's name is Meeko. "After not having a dog since I was a kid, I thought he would help me with exercise and fitness. I began by merely trying to complete two blocks of exercise. Meeko sensed my struggles and would trek patiently. I had to work on my balance, on getting over different surfaces. Now we go for kilometres in a day! And I have the confidence to take him to open fields and manage him as he runs free."

The American Psychological Association cites the act of pet parenthood as providing mental health advantages. When one is suffering pain - physical or emotional - there is a willingness to try anything that will alleviate the discomfort, particularly one without side-effects. So. it shouldn't surprise that the ancient method of animal comfort is growing in acceptance, a method without needles or chemical consequences.





### **PSYCHOLOGICALLY SPEAKING**

There are plenty of psychological benefits associated with having a comfort animal around. For those who value the company of animals, pets (particularly dogs) have been proven to:

- Reduce stress levels.
- Improve overall mood.
- Reduce Ioneliness.
- Lower blood pressure.
- Combat depression.
- Fend off anxiety.
- Raise self-esteem.
- Improve sense of personal responsibility.
- Bestow confidence.
- Encourage engagement with others.

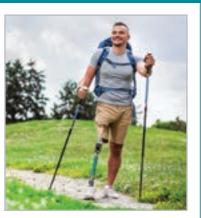


- Living with Amputation?
- Experiencing Phantom Limb Pain (PLP)?

# **Enjoy Life Again!**

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• The EMF Shielding Conductive Limb Cover



The Farabloc Stump Sock - For Amputees **Experiencing Phantom Limb Pain** 

Official Journal of The American Academy of Orthotists and Prosthetists

JPO Journal of Prosthetics & Orthotics

October 2016 • Volume 28 • Issue 4 • p 154-164

ORIGINAL RESEARCH ARTICLES

Combining the Absence of **Electromagnetic Fields and Mirror Therapy** to Improve Outcomes for Persons with Lower-Limb Vascular Amputation

Houston, Helen MS, OTR/L; Dickerson, Anne E. PhD, OTR/L, SCDCM, FAOTA; Wu, Qiang PhD

EXCERPTS: PAGE 155



'There is evidence to support the absence of EMF as a treatment for PLP. Two systematic reviews found evidence to support Farabloc as an effective treatment for management of PLP."

"In summary, there is

emerging evidence that Farabloc therapy contributes to the healing process of amputations and subsequently to PLP."



www.farabloc.com



A first-hand look at the evolution of myoelectric hand prostheses and what's available for upper extremity amputees today.

Gracefully inserting a key into the ignition, slicing vegetables, washing fine china, laundering white clothing and pouring bleach, pulling a rake, gluing a broken Christmas ornament back together... a short list of tasks that two-handed people take for granted and ones that prosthetic wearers are beginning to conquer with more confidence.

Today, technology is refining the dexterity and power of prosthetic hands at an amazing rate. Fillauer offers the TASKA, a myoelectric hand that the manufacturer states, "Empowers amputees, enabling them to peel potatoes, click a computer mouse, wash the car, mow the lawn, and more."

Finding success in a marriage of robotics and prosthetics is challenging, and only the most committed companies excel. Fillauer stands by its motto: "We are not just device providers; we are your partners in 'doing more' for life. We offer TASKA users and clinicians exceptional support."

Fillauer stresses form following function, a practical hand for practical people. The long-established company's cutting-edge hand comes with

a touch-and-go control system, with anti-damage knuckle breakaway, a user-resettable feature that boosts its durability. Its low profile wrist option allows waterproofing up to the socket, and a motorized thumb rotation mimics the real movement of the hand and improves grip speed. Soft pads between the fingers and on the fingertips serve the purpose of better grip and flexibility.

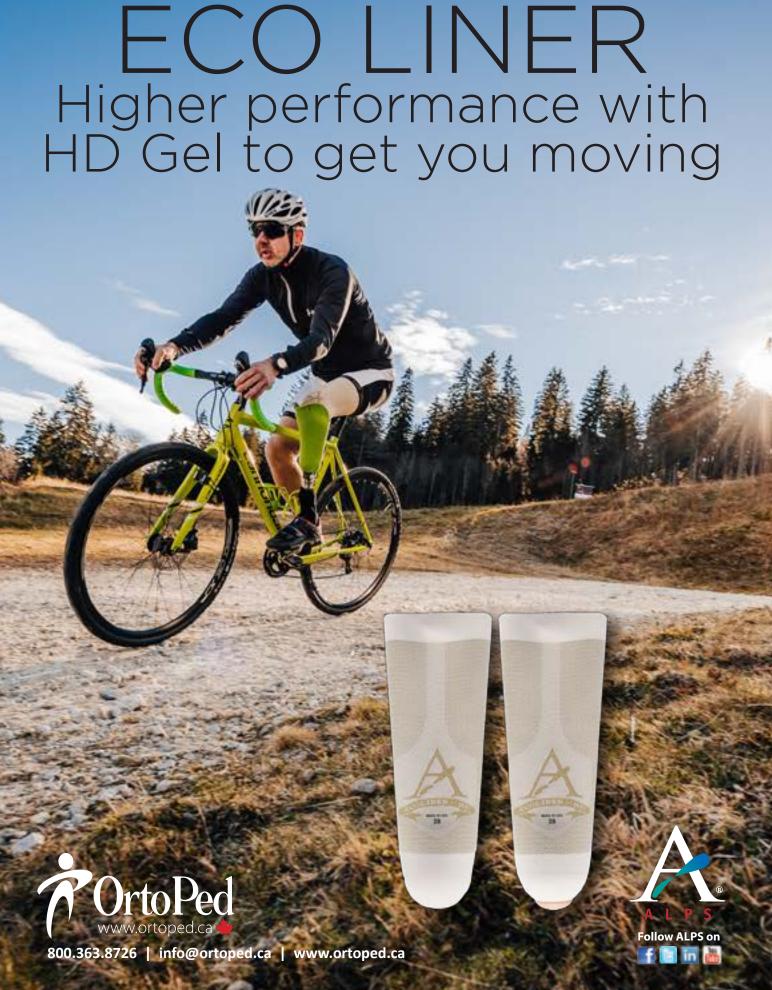
The sophistication of prosthetic devices has progressed from a wooden toe of ancient Egyptian times (pretty life-like for 200 BC!) to the common realization of the bionic man of Lee Majors's 1970s television fame. Medieval knights were fitted with iron hands allowing them to return to battle, but the outfitting offered very limited utility—it was more of an extension of their suit

of armour than a working prosthesis.

In 1921, The Steeper Group emerged in England, a firm that makes state-of-the-art myoelectric hands today, devices with amazingly life-like gloves. The two world wars incentivized industry to produce better upper limb prosthetic limbs, out of which arose the 1948 Bowden cable body-powered prosthesis. Its improvements included upgrading unwieldy straps with a slender robust cable.

In much the same practical fashion, Naked Prosthetics offers a non-electrical hand prosthesis that is simple and tough; a metal exo-skeleton with functional fingertips and a thumb that also protects the injured hand.

The Bowden design has endured over the decades, receiving modern-





Fillauer's TASKA® Hand and ProPlus

ized materials and manufacture, yet today's body-powered prostheses are effectively the same scheme as their early iterations. Body-powered prostheses are simple, durable, require less training to operate, and perform well with heavy jobs. But the myoelectric cohorts are catching up even in these areas, permitting a departure from traditional terminal devices – hooks. Myoelectric versions are preferred for office-related jobs, social settings or working with the public for their cosmetic appeal, comfort, and the benefit of reduced phantom limb pain (when the brain sees a working hand, it seems to reduce PLP many wearers report).

A popular modern hand is the Michelangelo by Ottobock, which accomplishes the German-based firm's goal of making many everyday tasks easier and more natural with delicate grasping, greater control and less effort. Ottobock describes the Michelangelo Hand as a myoelectric prosthesis that "uses the existing muscles in your residual limb to control its functions. One or more sensors fabricated into the prosthetic socket receive electrical signals when you intentionally engage



PIPDriver® and MCPDriver® from Naked Prosthetics

specific muscles in your residual limb."
Other myoelectric offerings from
Ottobock include the bebionic hand,
the System Electric Griefer and the
AxonHook.

These high-tech hands, generally speaking, work with sensors relaying information to a controller, which translates the data into commands for the electric motors which drive the joints. The strength and speed of movements can be controlled by the wearer by varying the muscle intensity. All of it happens in an instant. For those with damage to nerves or muscles in the residual limb or for people with no arms, muscles in the chest or back can be used to direct movements of a myoelectric prosthesis.

Össur, a prosthetic manufacturing company based in Iceland, with a Canadian presence in Richmond, British Columbia, makes globally-recognized brand names such as Rebound®, Innovator®, Unloader®, Iceross®, Flex-Foot® and Total Knee®, all of which have been developed to improve mobility and quality of life. An innovator, the company catalog offers products that are "continuously pushing the

boundaries to create some of the most effective, non-invasive mobility solutions on the market today."

Össur offers the i-limb series, devices with a manually rotatable thumb which positions laterally or oppositionally, increasing grip positions. The i-limb offers other unique features such as power boost, autograsp, 12 automated grips, a touch screen, blue tooth technology, compliant grip with proportional control, and a hand health check via Biosim/My i-Limb app... complicated devices that deliver progressive results.

True advocates of "Life Without Limitations", Össur's myoelectric hands can be outfitted with a "Livingskin" glove that is handcrafted and hand-painted to closely match their customer's unique skin tone and appearance, with details such as freckles or even hair.

Today's myoelectric upper limb prostheses offer outstanding capabilities and have a variety of options in function and cosmetic appeal. If you are new to the world of myoelectric hands it's time to explore. If you've looked before, maybe it's time to take another look. The gap between fashion and function continues to close, making for only a fine line now.





i-Digits Quantum and the i-Limb Ultra from Ossur



Michelangelo Hand from Ottobock



# POWERING ON

# **Edward Urquhart** Lifts Himself Up and Onward

By Max Warfield

Twenty-seven-year-old Edward Urquhart lays on his back, the furious spin of events turned shockingly dire, leaving him looking upwardly towards the sky. A great challenge is before him.

Today, four years later, he lays on his back, looking towards a promising future, accepting his new circumstances. He's a Canadian record-holder in Para Powerlifting, training tenaciously with hopes of qualifying for the 2024 Paralympic Games.

Immediately after his high-speed motorcycle crash (on a closed race course), first-responders stood over him as he calmly described his injuries, staying alert after two rounds of sedatives, talking and not resting until the helicopter had transported him to Hamilton General.

Whether he is viewing concerned faces from a gurney as he did then, or is gazing up at cheering powerlifters as he does now, his philosophy remains unshaken. Embracing the mindset of a competitor, Edward tackled his accident as a temporary obstacle to his goals in sports and life.

"I was conscious after my wreck. I was always told, as an athlete, to never go to sleep right after a potential head injury. The first-responders were confused with how I stayed awake. I had so much adrenaline; I didn't allow myself to pass-out until I felt safe at the hospital. Being aware of the situation the whole time, I accepted that my legs were gone in the moment. I never grieved the loss of my legs [both below the knee]. From somewhere inside me I knew there was the technology to help and I would be back in the gym."

Andrea too, of course, "I remember that day like it was yesterday. I had a long drive on the 401, but stayed level-headed," she recalls. "I organized my thoughts, made phone calls that needed to be made. It helped that I come from a medical profession background. I understood that you can either panic and fall apart, or you can start figuring it out." she adds.

"I took it minute by minute. I looked at it as a blip in our plans. Edward and I are both strong. I found that it made us more ambitious, even more

for granted... to have no excuses. It may sound odd, but we found that others weren't dealing with it as smoothly as we were, saying things like, 'why aren't you sad?', as if we were disappointing them by not being

Both were unusually prepared for their new normal. "There was a lot to deal with at first," Andrea shares. "I was pregnant. We needed to adapt the house. It was important for us that the changes would be subtle: we didn't want a wheelchair parked in the middle of the living room."

they had established for themselves changed in some ways. "I had to learn when to be a caregiver and when to be a spouse," Andrea admits. "You don't say 'get off the couch and get your own glass of water.' You learn to do some things without asking. We communicate well, which is key. At the same time, some new things were left to me, like climbing ladders," she

It didn't take long for them to realize that they needed to add to their ranks. extend their team, with a nurse for example, to keep from burning out.





"I had to learn when to be a caregiver and when to be a spouse."

- Andrea

They could understand how people could just give up on each other if their bond was weak or if they didn't have any support. They were fortunate, with Andrea's hospital, a valued family doctor, her family, his family, and their neighbours.

Right after the accident, Edward learned that Andrea was pregnant with their son Eric. "Now we have two kids, but they're little and this is all that

they've known," tells Andrea. "It was interesting. When Edward first went into the hospital, we had a child coming, and I think that changed him a little bit, discovering greater empathy. He seemed to feel a combination of 'I have to get better for me, for my wife, and for my baby." Their second child is another boy, Joshua, joining them in their Courtice, Ontario, home.

helped me survive that day," reflects Edward. "My body could take it."

Sports have always been his passion and that hasn't changed. "I train every chance I can schedule it in. When someone tells me something can't be done, I ask 'why?' I don't like having limits imposed upon me. My right hand was mangled in my bike accident," he explains. "The doctors told me the torn tendons and broken bones were so bad it would probably be useless. I began learning to write left-handed, but still applied myself with my right hand. After painful therapy, it came around."

"Edward was quick to get back into athletics, sprint kayaking, powerlifting and golf. Through sports, he met a good network of friends," notes Andrea. "He still loves motorcycles but chooses to stay off of them."

After one year of physiotherapy, Edward was back on the golf course showing excellent form. "I belong to ParaGolf Ontario," he says. "I also compete in Para Long Drive Competitions. I hit one in Vegas that went better than 350 yards. That was a nice one. You need to be strong mentally in golf. You can't dwell on a bad shot; like we can't with other things during our day. Life has ups and downs. It's not just about sitting on top. Our family always says: 'Keep moving forward'."

Physical activity is essential to everyone, particularly amputees. Staying fit by stretching and training develops agility and balance, improves range of motion, prevents shortening of the muscles, and helps maintain a healthy weight. Exercise also boosts mood, energy and self-image.

Edward acknowledges that another benefit of sport for him is the peer support from other amputees: learning from tips, struggles and successes of people in similar circumstances. His physical and mental toughness won over his grueling rehab days, and he now enjoys a variety of sports and loves sharing the experience with his sons. But he does question his durabil ity. "It's hard for me to imagine myself



"When someone tells me something can't be done, I ask 'why?' I don't like

having

limits

imposed upon me."

- Edward



as old, but after my accident, surgeries and long road of recovery, I wonder how many ticks have been taken off my clock," he ponders. "It was a lot of stress I put my body through."

Yet, he enjoys working out more than ever. Now he powerlifts, golfs and goes kayaking. "Kayaking is special," he tells. "In a boat, I'm on a level playing field with able-bodied competitors. It's something I enjoy with my sons... a passion that I hope to pass on to them."

Edward is a man of Jamaican and Scottish ancestry, a man who is impressively comfortable in his own shoes, but he doesn't always escape annoyances.

"When children display innocent curiosity, I have no problem talking about my legs with them," Edward says. "Adults, though, can bother me sometimes. Why should I have to explain it to them? Airports are the worst. The screeners see a fit young person like me and have a lot of questions. 'What are you doing in a special needs line?'"

Edward is a man who raced motorcylces, bench-presses 142 kg, hits golf balls 350+ yards and will take on anyone in a kayak. But more simply, he is earnestly impressed with anyone who performs to their personal best, believing that it's the effort and dedication that counts, not a number.

"People ask me how I find inspiration to go for a personal record," he offers. "I don't have to change my routine or have a special occasion because I am motivated and prepared before I leave my house. If you got it, it's already there. I would never just show up and think the job will get done."

When asked for his advice for other amputees, Edward said, "Don't settle for the first equipment suggested to you. Practitioners don't know you like you know you. Do your research; find what will suit your needs and goals. Put some work into trying different technology. I am four years in and was still evaluating my prostheses until I finally found what's good for me. I saw this equipment before, but was told that I was not the right height for it? Yet, it turned out to be the best. Compare! A good fit changes what you can do."

In powerlifting, it is said: "Go heavy, or go home!" Andrea echoes the sentiment. "Our family's message to others is for people to have the right outlook. People see you can get knocked down but show them you can get back up even stronger."

**ABOUT THE AUTHOR:** Max Warfield was born in Ridgefield, Connecticut, now making his home on the southern shores of Lake Ontario. A correspondent for the *Lockport Union Sun & Journal* and the *Niagara Gazette*, Warfield has also written and published numerous novels.







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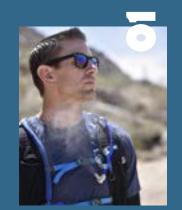
Two person hammock stretches out flat so you're not going to get stuck trying to get out. It provides unprecedented safety and stability. \$159.95 from tenstile.com.

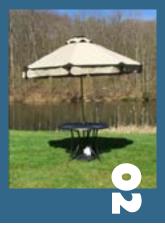
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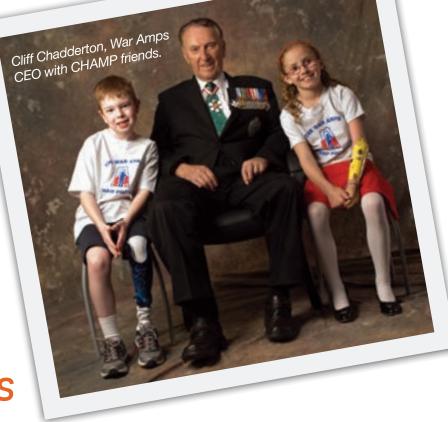
SPF sensing stickers that change colour when you need to use more sunscreen. Originally clear, when you need to reapply, SPOT turns PURPLE to warn you. \$11.99 from spotmyuv.com.

BY KIMBERLEY BARREDA

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# Magical Moments

# Championing Child Amputees



The War Amps became an association to assist war amputee veterans returning from the First World War, but expanded its programs over the years to support all amputees, including children.

In 1975, under the leadership of Clifford Chadderton (1919-2013), a Second World War amputee veteran, The War Amps Child Amputee (CHAMP) Program was created. "When we came back from the second World War everything was there for us," said Chadderton, who led the association as CEO from 1965–2009. "We had a service to provide limbs, and we had a strong organization to fight our battles. We said to ourselves, "What happens now when a youngster loses an arm or a leg? Who is going to speak for these kids?" So we started CHAMP."

From its inception, CHAMP has served all child amputees, no matter the cause of the amputation(s) – be it congenital, medical or from an accident. The program was built on the Winner's Circle philosophy, which encourages child amputees to accept their amputation and develop a positive approach to challenges. It also provides financial assistance towards the cost of everyday artificial limbs which can be a heavy financial burden for most families, especially since child amputees outgrow their limbs like they outgrow their clothes.



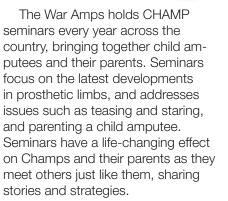
Twelve-year-old Feranmi Oyegunle is a double-leg amputee and member of the CHAMP Program. "Feranmi was born with complications affecting both legs," explains his mom Marion. "When doctors said that the best option to help him to walk properly was amputation, it seemed like the end of the world. Fortunately, the hospital

also told me about The War Amps CHAMP Program, and I soon learned that I was not alone."

Feranmi was fitted with his first set of prosthetic legs at the age of two, and he has outgrown many sets since. His everyday legs allow him to walk and do things without anybody's help. He also has running legs. "Seeing him use them for the first time brought tears to my eyes!" shares Marion. "It ended any worries I had about him not being able to keep up or play with his friends."

Jaelynn Creelman, age seven, was born without her left arm below her elbow. She's been fitted with a myoelectric arm which senses muscle impulses when she flexes her residual limb to open and close her hand. "Life for Jaelynn without The War Amps would be a lot different," affirms her mom, Josephine. "Due to the high cost, she wouldn't have the limbs she needs or the independence she now has. As parents, it takes the worry off of us, knowing that she has that kind of support. And for Jaelynn, it means she can just live daily life as any other kid does."



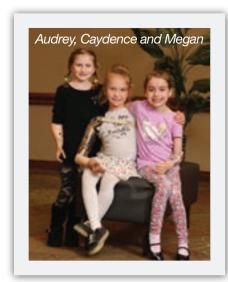


"Seminars are a powerful experience, as Champs and parents learn they are not alone," says Danita Chisholm, Executive Director of the CHAMP Program. "Children are encouraged to accept their amputation and wear it as a badge of courage."

Matthew Reimer, 21, is a multiple-limb amputee and attended his first seminar with his parents when he was just a baby. His dad, Don, remembers going to their first seminar as a young parent with a newborn son. "I had so many questions about Matthew's future," he says. "But many of my fears were relieved when I saw other kids running around who also had multiple amputations. It was great talking to other parents and finding out how they handled challenges." Matthew has also benefitted from the seminars, developing leadership skills and self-confidence by becoming a Junior Counsellor and serving as a role model and mentor to younger Champs.

Child amputees experience many magical moments at seminars, including making friends with others just like them. Audrey Donohue, Caydence

Lee, and Megan Mantha are all eight years old and were born arm amputees. They first met at a CHAMP seminar when they were toddlers and have been close friends ever since. "It's very nice that Audrey has the opportunity to connect with other children who have the same amputation," says Audrey's mom, Meghan. "They share helpful ideas and it reinforces that there is nothing wrong with being an amputee."



Caydence's mom, Candyce, adds: "These friendships play an important role in helping our daughter develop a positive attitude about her amputation. Having their encouragement and support is invaluable."

Caroline Viau lost her left arm in a childhood accident and is now a War Amps Regional Representative in Quebec. "It continues to amaze me how much joy and happiness there



is at a seminar. Parents, and the child themselves, could arrive at a seminar feeling worried, but it never lasts for long. The veterans have left us with a tremendous gift, a legacy, so it's important to continue the tradition of 'amputees helping amputees.'"

The War Amps has embarked on its second century of service, and there is still much to do to ensure child amputees have the prosthetic limbs and the emotional support they need to lead independent and active lives. The association receives no government grants but with the public's continued support of The War Amps Key Tag and Address Label Service, its vital programs for amputees will carry on long into the future.

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# Fitness at Home Eight Easy Exercises

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Exercises are important in preparation of walking with a prosthesis. If you are already using a prosthesis, these exercises can help your muscles maintain strength and mobility. It is very easy to do these routines at home. You may feel a bit of discomfort the first time, which is normal and nothing to worry about. If you experience pain when doing these exercises, please contact your physiotherapist. It is important that you perform these movements at ease, without exaggeration.

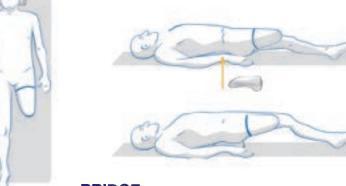
#### **GLUTEUS STRENGTH**

- Lay on your back
- Extend your legs
- Tighten your glutes (seat) muscles
- Hold for 5 seconds
- Start with 5 repetitions



#### **PELVIC SHIFT**

- Lay on your back
- Keep your legs flat on the bed or floor
- Prolong your leg (direction of your toes) and pull your other leg in the opposite direction, while keeping both in contact with the bed or floor
- Make it an alternating movement
- Start with 5 repetitions for each side



#### **BRIDGE**

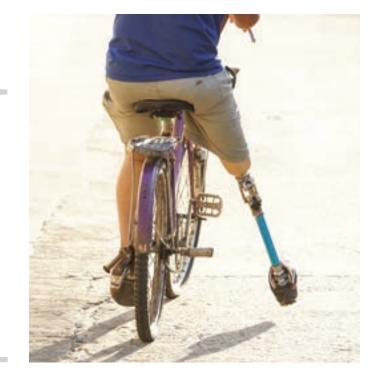
- Lay on your back with your arms close to your body
- Bend your knee and place your foot flat on the bed or floor
- Put a folded towel or a small pillow underneath your pelvis
- Pull your bellybutton inwards and tighten your glutes, then lift your pelvis
- Hold for 5 seconds
- Start with 5 repetitions

TIP: To make it easier, place a rolled-up towel under your



- Lay on your back, preferably without a pillow
- Pull one leg towards your chest and hold below the knee
- Push your other leg down into the bed or floor
- Hold for 30 seconds
- Start with 5 repetitions
- Switch sides

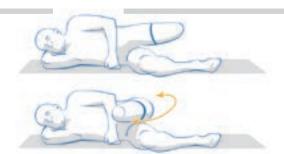
TIP: If you pull up your amputated side, hold if possible!



#### **HIP FLEXION / EXTENSION**

- Lav on vour side
- Bend the leg that is in contact with the bed or floor
- Lift the upper leg slightly
- Move your upper leg forward, then back, as far as you can
- Continuously move for 30 seconds
- Repeat on the other side

**TIP:** Try to keep your pelvis still and keep it from rocking!



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## Össur Canada

# Five Ways it Can Improve Your Health

Physical fitness is essential for a strong body and mind. Regular exercise helps control weight, reduces risk of heart disease and improves mental health and mood. In fact, a recent Mayo Clinic<sup>1</sup> article calls exercise "powerful medicine" and a "readily available therapy... with little to no adverse effects."

But did you know that exer-



#### **Heart Health**

Any type of aerobic exercise (walking, running, biking, etc.) can improve a muscle's ability to draw oxygen from the body's circulating blood. That means that your heart doesn't have to work as hard to pump more blood to the muscles.

#### **Core Strength**

It's been reported that falls occur in up to 50% of amputees with 40% of these resulting in injury.3 Regular exercise can

improve your core strength and flexibility which can improve your prosthetic gait. You'll be more balanced, in turn reducing the risk and fear of falling. As always, it is recommended that you check with your physician or physical therapist for the exercises that are right for you.

#### Lower Stress, Improve Your Mood

One of the most common health benefits of exercise is stress relief. During exercise, your body releases chemicals that can improve your mood and make you feel more relaxed. This can help you deal with stress and reduce your risk of depression, not uncommon with amputees.

#### **Getting Started**

As an amputee, it may be challenging to embrace a regular exercise routine. Fortunately, the good news is that it's never too late to start. Start slowly and find ways to fit more physical activity into your life. Talk with your rehabilitation consultant and prosthetist regarding your needs and changes in activity. If you are a lower limb amputee, consider attending an Össur Running & Mobility Clinic in your area to learn more about nutrition, strength, conditioning and balance.

#### Visit www.ossur.ca for more information.

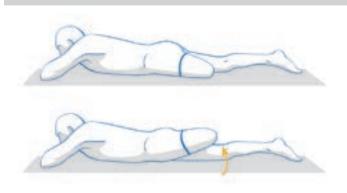
# Exercise for the Amputee

**TIP:** Try to keep your pelvis still and keep it from rocking!

• Slowly lower your leg but don't let it touch your other leg

• To keep your balance, bend the leg that is in contact

• Lift the upper leg up high, hold for 3 seconds



#### **HIP STRETCH**

Get into prone position

SIDEWARD LIFT • Lay on your side

with the bed or floor

 Start with 5 repetitions • Repeat on the other side

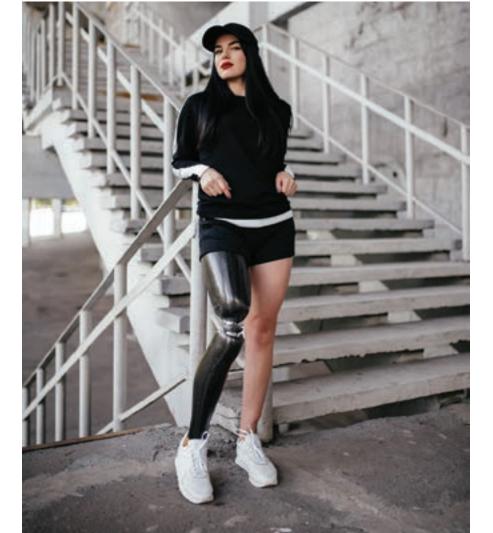
- Lift one leg up as far as you can while pushing the other into the bed or floor
- Keep your pelvis and the rest of your body flat
- Hold your leg for 5 seconds and then slowly let it fall back down
- Start with 5 repetitions
- Repeat on the other side



#### **ADDUCTION**

- Sit with a straight back and both leas extended
- Put something soft, like a towel or small pillow, between your legs
- Squeeze your thighs tight and hold for 5 seconds
- Start with 10 repetitions

TIP: This exercise is also possible when you are seated in a wheelchair or on the edge of a bed!



cise is even more important if you have experienced a limb amputation? Aside from supporting rehabilitation, exercise can improve an amputee's agility, balance, coordination, overall fitness and strength. And for amputees living with other conditions, it's key. Let's look at some of the benefits that amputees can expect with a regular exercise regimen.

#### Weight Management

Excess weight puts additional stress on weight-bearing joints (the knee, for example) and according to Harvard Health,<sup>2</sup> raises the risk for developing osteoarthritis. Regular exercise can help you maintain a healthy and stable weight. Aside from the aesthetic benefits, gaining or losing weight can have a major impact on how your prosthesis fits. Weight fluctuations may require a new prosthetic device in general, which can be costly and inconvenient.

#### Manage Risk of Cardiovascular Disease and Diabetes

Regular exercise can help increase endurance and lean body mass, reducing the risk of developing diabetes and cardiovascular disease. If you have preventative vascular disease (PVD), exercise can reduce symptoms such as breathlessness, angina and intermittent pain often felt during physical excursion. By improving blood circulation through exercise, Type II diabetes can be better controlled as well.

1www.mayoclinicproceedings.org/article/S0025-6196(13)01042-2/pdf <sup>2</sup>www.health.harvard.edu/pain/why-weight-matters-when-it-comes-to-joint-pain <sup>3</sup>MILITARY MEDICINE, 180, 10:1083, 2015



# Sandra Ramdial CHARACTER AND COMMITMENT

For Sandra Ramdial, clinical practice in orthotics and prosthetics is about three things that she learned from the *Ivy Business Journal:* competencies, character and commitment. "Competencies define what a person is capable of doing and their strategic skills," she explains. "Character matters more. It's about how you use those competencies with courage, integrity, humility and accountability. And commitment is critical... aspiration, sacrifice, perseverance and grit. That's not something that can be taught."

Sandra Ramdial, CP(c), FCBC, is a certified prosthetist and operations manager for the Orthotics and Prosthetics department at Holland Bloorview Kids Rehabilitation Hospital in Toronto and has been involved in client care for over 30 years. She has been the president of national and international orthotic and prosthetic associations and has presented her work in numerous journals and at national and international conferences. And she brings an even greater amount of enthusiasm to research and development, and new technologies. Here's what Sandra shared about her work in an interview with *thrive magazine*.

### Q. What makes you a good practitioner?

A. Listening to the needs of my clients and families and working together to find solutions is very important! I remember when I first started in this profession way back when some of the sports attachments weren't available. I worked with our mechanical services team to make an attachment for a hockey stick for this little boy. It was a neat little ball and socket attachment that would pop off if he fell or bumped into the boards to prevent him from getting hurt. He came for a follow-up appointment and was very angry with me. He told me that he was about to score a goal and it popped out! Learning from this I put in a little hinge that gave him more range before it would pop off and I'll never forget the BIG hug I got after it worked perfectly for him! There's always room to make things better and learn from our clients. I'm always looking for ways to improve things! I find it very helpful to put myself in others' situations. I always want to empower others by getting their feedback, connecting them with the right people and supporting them in any way I can.

### Q. What surprised you most about the field when you started?

A. What we learned in our hands-on formal training was just a small part of what we actually needed to do once we graduated. I learned so much from those I've worked with and I'm still learning from those I teach! One other surprise was how few females we were in the profession at the time... which has changed.

### Q. What surprises you most about the industry today?

A. That there is still so much more we can do – from improving the materials to how we provide treatment to our clients and meet their changing and challenging needs. Fabrication methods for prostheses haven't changed significantly for decades. With recent advancements in 3D technology perhaps we need to reassess our conventional methods.

# Q. What's been your most challenging experience, technically or emotionally, or both?

**A.** Many clinicians experience emotional situations. Almost everything we do requires innovative thinking. Getting clients back to doing what is important to them can be challenging. One par-

ticularly emotional situation was when one of my clients, a teenage girl, who had an amputation because of cancer, passed away suddenly. I'll never forget her courage and her beautiful smile. Another emotionally challenging issue for me is the lack of funding for appropriate treatment for some of our clients. It is very disheartening when we cannot provide what a client actually needs to do things that most people take for granted. This is something that saddens me. I do everything I can to help advocate for our clients.

#### Q. Advice for new amputees?

A. Get in touch with great organizations like the Amputee Coalition of Toronto or The War Amps of Canada – just to name a couple. They match clients and families with others with similar circumstances. Connecting with others helps recovery and coping with the trauma of losing a limb. It's always very helpful to connect with someone who has gone through similar situations.



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#### Q. Advice for parents of young amputees?

A. Having a child with limb absence is very traumatic. Apart from connecting with The War Amps, just letting them know that we're all here to work together to ensure their child can live life to the fullest. And we'll provide all the necessary resources and clinical experiences to help their child achieve all that they want to do!

#### Q. What has working with child amputees taught you about yourself?

A. Simple things can make big differences. Children are so resilient - they overcome without complaining! I've learned that what we do, in a small way, can contribute to big accomplishments. I've learned to appreciate that, take pride in it, and share in their joy.

#### Q. Most rewarding experience in the profession?

A. I've been fortunate to be able to mentor and lead in many ways in my various roles in this profession. From technical tips and tricks, to more formalized teaching, to supporting and encouraging others with opportunities to learn and grow. I work with some amazing people and I really feel energized when I see others succeed.

#### Q. What excites you about the future of prosthetics?

A. A lot. New materials, techniques and technologies and great innovations to come. We've been able to 3D-print one-off items in our clinic. and I'm excited about bringing this technology tool into our routine practice. We are collaborating with our researchers, biomedical students, clinicians and technicians to create devices and test them for safety.

#### Q. What expectations do you have of your clients?

A. I encourage them to communicate with me... ask questions, discuss their needs, and share ideas. I ask them. "If you had a magic wand what would you ask for?" Then we look at what's available, and what we can create. I expect them to be truthful about how they feel or if something is working or not. I want them to work with me to find a solution.

#### Q. If you were an amputee, what would you foresee as your greatest challenge?

A. Societal perceptions and attitudes. Getting people to understand that just because I'm different, I don't want to be treated differently. And

that I can do and be anything that I want to with the help of assistive technologies! Unfortunately, some kids are so focused on hiding their limb absence that they choose cosmetic prostheses over more functional ones... that's a society thing.

#### Q. What do you know now about the profession that you didn't when you began?

A. That there's so much more that we can do... through creation and innovation. Learning from clients. That we don't have all the answers. It's a partnership with clients.

#### Q. Most important job lesson, as it relates to your clients?

A. Do not judge. It's not for me to decide that something is too expensive for someone. I have to present all of the options no matter the cost so the client can make an informed decision. People will find the money if they can, or if they can't, they've been involved and informed.

#### Q. What do you want your clients to know about you and your work?

A. I'm here for them. I'm part of a bigger team of doctors, therapists and other healthcare professionals including technicians and clinicians. And that their unique requests can help others like them too.

#### Q. And for fun, what do you think you would be doing professionally if you had not chosen prosthetics?

A. My husband and I are foster parents; we've been a foster family for over 30 years. Since I was a child I wanted to open an orphanage - helping children who have no home. Or maybe an international food critic. My dad was a chef. We were lucky to try all his creations from all over the world right in our home. I'd get to travel and try great food across the globe! I love painting, music and golfing, but I'm not sure if I could've made a career out of those!

# FEATURED IN LAST ISSUE

#### On Bended Knee

Like a good friend, a prosthetic knee needs to be reliable, supportive and trustworthy. And it needs to be compatible with your age, activity level and lifestyle. With over 100 different knees available for lower extremity amputees, the latest



or most advanced componentry is not necessarily the best option for everyone. It's important to understand different prosthetic knee systems. A really good overview in this article.

#### Man of Many Passions

A high-performance athlete heralded as the "Michael Jordan of wheelchair basketball" and a recording and performing indie musician aren't usually the same person. But threetime Paralympic



gold-medalist and double below-knee amputee Patrick Anderson has always been about stretching his exceptional talents to the absolute fullest... and now with two young children too.

#### **Prosthetist Problems**



You have questions. And with the help of Aristotle Domingo, the founder of the Amputee Coalition of Toronto, and his peer network, we have answers. You

asked... Can I go to a different prosthetist if I'm not happy with my current one? What steps do I take if I decide to find another prosthetist? I feel that my prosthetist doesn't listen to me. Should I just switch?

#### **Team Approach** to Wound Care

Some say that "it takes a village" to treat a chronic wound. Almost any wound can become chronic, like neuropathic foot ulcers, pressure and leg ulcers, and diseases. Due to their chronic nature,

and the multitude of factors that impact wound healing, no one is positioned to impact wound healing without the help of a team including the individual, family, and various healthcare professionals.



Find these features and more at www.thrivemag.ca. Plus... blogs and articles on Advocacy, Peer Support, Expert Advice, Health & Fitness, Sports & Recreation, Science & Technology and more!

# CONCEPT TO COMPLETION



"For forty years TRS has developed products, not merely for a participatory level, but with the intent to excel and win. It's a different objective; one of competitive performance."

Bob Radocy is the CEO of TRS, a company he formed in 1979, and now a division of Fillauer. He's a below-elbow amputee who was frustrated by the limits of available prosthetic devices at that time. "My original purpose was to solve problems of my own, using my background in biology, engineering and draftsmanship, and applying them in creative ways," he shares. In 1982, TRS was the first company to use polyurethane to improve ranges of motion for amputees. "We found that certain synthetic rubber captures energy in a useful way."

Radocy experimented with all types of prosthetic devices since graduate school, developing a prehensor which allowed him to perform at the level of two-handed competitors in any sport.

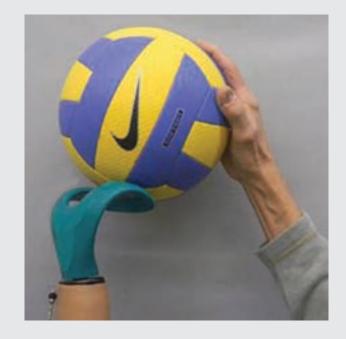
And today, the TRS catalog offers scores of innovative products. The insightful design of the Helix is a good example. It's perfect for all long-handle instruments and tools, rakes, shovels, garden implements, and for sports like lacrosse and hockey. It features a DNA-like coil for control and a snap-in/snap-out connection system. It is flexible, strong, and returns energy, replicating the motion and feel of a human forearm.

"It starts with a customer having a prosthetist-designed limb, one with good prosthetic fit... an arm that can handle load and has good alignment," Radocy explains. "Then add our products and make it as sophisticated as you want it to be."

Sometimes simple solutions are the most elegant. Amputees who enjoy sports for all of its benefits, but want more, can find a catalog of products from TRS for cycling, kayaking, golfing, baseball, basketball, swimming, volleyball, skiing, archery, guitar and more.

Here is a selection of some of TRS's sports and recreation products for traditional summer activities. For more from TRS visit www.trsprosthetics.com.

BARRAGE... designed specifically for competitive and recreational volleyball. The overall size conforms to anatomy and proportions of a human hand with extended fingers. Weighing only 8.5 oz. (241g), it is constructed of a resilient polyure-thane that is flexible and mimics various hand positions and actions, while creating an actual "feedback" or "feel" during play. The Barrage is very versatile and capable of performing setting, bumping, digging and blocking maneuvers.





first-ever, commercially-produced prosthetic accessory for indoor gym and outdoor rock climbing. The RAPTOR has a slim, solid, titanium body which is bolted to a stainless steel wrist adapter system that fits all standard prostheses. It has a user-adjustable "rocking" or pivot action to adapt to various approach angles and pitches.

RAPTOR SKY HOOK... the

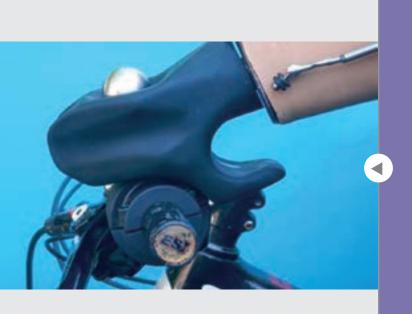
F~ISHI... designed to hold almost any fishing rod and secure it in place with an adjustable tension ratchet-strap system for easy reeling.

With a flexible body to absorb torque on the rod, it creates a "feeling" much like a normal wrist. Rods can be inserted or removed quickly... or cinched down for tighter control.

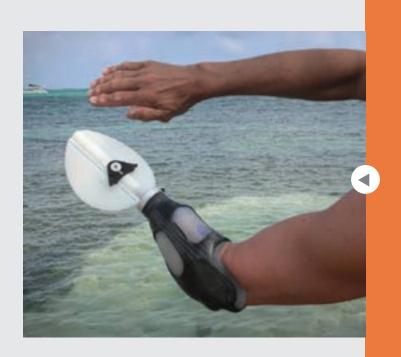


HAMMERHEAD KAYAK... an energy-storing, wrap-around, flexible-strap coupling that safely secures the paddle handle. The strap releases manually and quickly. This device duplicates the bio-mechanical wrist action required for performance kayaking with aggressive, non-marring, friction surfaces for high-torque paddle control.





MOUNTAIN MASTER... a flexible, yet strong polyurethane terminal device (TD) that absorbs shock for secure control over the handle-bars. A stainless steel ball-pedestal mount with a machined aluminum mounting hub fits all standard 7/8-inch (22 mm) diameter bars. A rider-controlled quick-connect and release system ensures that the TD is not locked to the handlebars.



recovery but flares open to provide maximum resistance during the power stroke. The device can be rotated to optimize various swimming strokes and styles.

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# 10 VIDEOS WORTH WATCHING



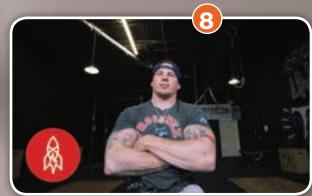




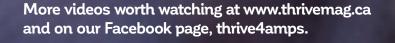














1 Core and Glutes Search Amputee Functional Workout-Plan. Increasing our physical fitness and gaining control over our body develops confidence. Exercises for lower limb amputees to create a fit lifestyle anywhere.

2 Resistance Bands Search AmputeeOT: Beginner Exercises for Amputees. Christina Stephens (The Amputee OT!) offers great insights from both sides of the therapeutic relationship. Check out her YouTube channel for informational videos with some humour and silliness too.

3 Senior Moments Search 20 Min Exercise for Seniors, Elderly & Older People. Seated chair exercises for seniors from HASfit. More workout routines for seniors at www.hasfit.com.

Weep It Simple Search Simple workout for Leg amputee – Part 1. Demonstrating how a simple workout can be done at home. There are many more simple home workout videos on Kazzrozza's YouTube channel.

**10-Minute Stretch Search** *Easy Yoga/Stretch Workout for Amputees.* Join Jo Beckwith in a quick and basic workout, a simple routine you can do anywhere to get your blood moving and stretch out your muscles! More at www.footlessjo.com.

6 Balance Checks Search Functional Training for an Amputee Part 3. The third part in the series, David Clonts goes over exercises that will help recover balance from stumbles and trips. The modified dot drill is a great functional training drill for all amputees!

Hold On to Your Seat Search 20 or 40min Intense Seated Workout for Disabled or Amputee.

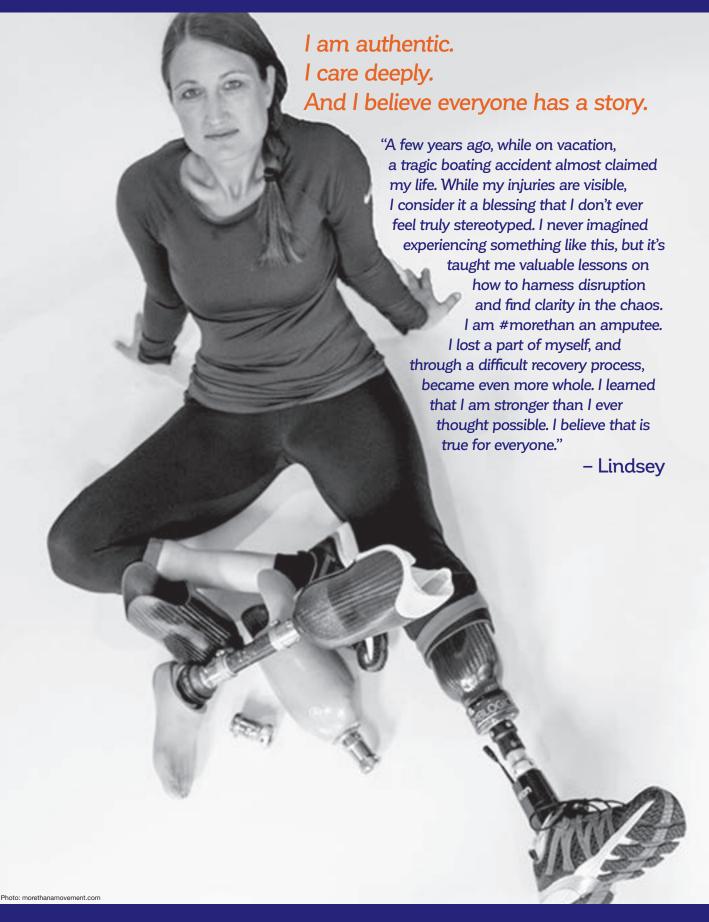
KymNonStop is a bike-messenger-turned-fitness guru who shows you easy and effective workouts that you'll love to do. A great seated workout for all abilities and ages. Visit kymnonstop.com for more fun workout videos.

**Doing it Differently Search Double Amputee** *Fitness Trainer.* Zack Ruhl is strong. The 26-year-old double amputee CrossFit instructor bench presses 445 pounds and can climb a rope while strapped to his wheel-chair. And that's not all — Ruhl owns a gym and trains other adaptive athletes for free.

Take a Seat Search 40-Minute Seated Chair Cardio and Strength Workout. Need a little more support starting up a workout routine? Join Jessica for this workout that uses a chair (a stability ball for more advanced exercisers) for a total body cardio and strength training session. Do just the cardio or the full cardio and strength session depending on how much time and energy you have.

**Ball Game Search** *Amputee Exercise.* Trainer and amputee Cindy Asch-Martin has a client demonstrate several simple exercises using exercise balls working her hips, thighs and hamstrings. Check out her YouTube channel for more: Cindy Asch-Martin Personal Affects.

Please Note: these suggested videos offer health and fitness information for educational purposes only. You should not rely on this information as a substitute for, nor does it replace, professional medical advice. If you have any concerns or questions about your health, you should always consult with a physician or other healthcare professional before beginning an exercise program.









### BALANCE" FOOT S

The new standard for low active users

Combining progressive design elements like a soft heel bumper, a unique C-shape, a wide foot blade with a split toe and optional torsion and Unity modules, Balance Foot S provides the stability, security and comfort that low active users desire, while elevating their experience to the next level.

#### UNITY. COMPATIBLE



Combine Balance Foot S with the new Seal-In X Locking Liner and Icelock 562 Hybrid (Not pictured) to offer low active users who prefer locking suspension the added benefits of vacuum and/or Unity elevated vacuum.

Visit go.ossur.com/balance-solutions-ca for more information.

**Optional Torsion Unit** 

Helps restore lost rotational

and absorb vertical shock.

capabilities, reduce shear forces