

LWL

AN ÖSSUR MAGAZINE ABOUT LIFE WITHOUT LIMITATIONS

SPRING 2021

Stef Reid

**Team Össur athlete ready
for the challenge ahead**

i-Limb® Quantum Titanium
Titanium Tough – Now Even Stronger

—
Unloader One®
Less pain, more mobility

Orthopaedic
Technology

50 years in the making

—
Össur celebrates
50th anniversary!

1971-2021
50
 **ÖSSUR**
LIFE WITHOUT LIMITATIONS



50
1971-2021

LIFE WITHOUT LIMITATIONS®

ÖSSUR

"I don't feel any limitations, and if I have ever had them, they have long been overcome. I just want to live my best and take advantage of everything that life wants to offer me."

Sandro, Professional boxing coach

www.ossur.com/en-gb/life-without-limitations

Dear Reader,

With 2020 behind us and vaccines being rolled out to our populations, we can hope that 2021 will see a gradual reduction in the impact of the virus.

It feels that we have all, as a global family, been through a time of testing, a trial by fire which in many ways has fundamentally changed the way we think about all things. It has heightened the importance of human interaction, it has also shone a light on our behaviours and the impact of those behaviours on our environment, and it has made us conscious of the frailty of things that we have always relied upon. Össur as a company has seen the reduction in our carbon footprint that a freeze on travel, a review of our shipping & manufacturing processes, and a 'will to change' can achieve. We were able to declare ourselves Carbon Neutral this year and we have now geared the organisation to ensure that we will remain so moving forwards.

One of the most substantive changes that we were initially forced to make was the switch to virtual customer training, webinars and product updates. This felt rather awkward at first but very quickly, we realised that high quality interaction between our Össur Academy clinicians and our customers was extremely effective online, and now we have no intention of removing this valuable channel. We will enhance the virtual, with in person visits, where more suitable, but in terms of efficiency and valuable contact time, there is no sense in rolling back.

In many markets, we see that significant waiting times have built up over the year of interruptions to normal treatment. We see opportunities for conservative treatments of long-term musculoskeletal conditions like OA with Unloader bracing, and opportunities to treat amputees with One Visit Socket manufacture using Direct Socket & Connect TF. Breakthrough technologies which have the potential to transform the patient experience and streamline the provision of prosthetic service.

This has been a time that has required us all, in all industries and in all walks of life, to think long and hard about what we do and how we do things, and out of that process we have seen innovation and change.

I hope you enjoy this edition of Life Without Limitations and thank you for taking the time to read it. ••

Emlyn Lewis

Managing Director
Össur North Europe





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Keep up-to-date!



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Stef Reid

Ready for the challenge!

Stef is a Paralympic long jumper who competes for Great Britain. Born in New Zealand to a Scottish father and English mother, she grew up in Toronto, and moved to Dallas, Texas with her Canadian husband all before settling back in the UK in 2010. Stef's talent and passion for sport were spotted early, and at 12 she was already dreaming of playing rugby on the world stage. But at 15, Stef was involved in a boating accident, suffering severe propeller lacerations. Her life was saved but her right foot was amputated.

Stef's focus shifted from her sports to her studies, and she graduated as valedictorian earning a full academic scholarship to Queen's University in Canada to study biochemistry. While at Queen's, Stef joined the university athletics' team "just to see how fast she could still run." Upon graduation, she decided to put her plans of medical school aside and focus on her childhood dream of being a professional athlete.

Fast forward to today! Stef is a five-time world record holder and triple Paralympic medallist in the long jump (2016, 2012) and 200m sprint (2008).

Away from the track, Stef works as a broadcaster, professional speaker, actor, and model. Stef was also a finalist on Celebrity MasterChef 2018 as well as starring in the short film 'The Energy Within' – "an inspirational film about why disability isn't inspirational."

Stef trains at Loughborough University alongside her wheelchair racing husband, Brent Lakatos. Brent is also world record holder, seven-time Paralympic medallist, and seven-time world champion. Together the dynamic duo are working hard towards Tokyo 2021.

Today, wearing her Cheetah Xpanse Stef is ready to achieve her goals.

While reflecting on 2020 and looking to the challenges ahead, Stef says "It has been hard living with so much uncertainty. And yet, I still feel excited about this year, I still enjoyed last year, and I am still loving what I am doing in training. While ready for things to return to normal, I have really appreciated some of the enforced changes to my life and have realised that life doesn't get easier, we just get stronger and more creative." ••

**Team Össur
athlete**

Long Jumper

Paralympian

Scholar

Broadcaster

Professional Speaker

Actor

Model

Member of Team Össur

Össur

Stef Reid

See what it takes to be a
Team Össur athlete on page 32 →



Coming soon: An addition to the Rebound family

Rebound® Post-Op Elbow is an elbow orthosis which combines intuitive functionality with a design aimed at improving rehabilitation times after elbow operations. This latest addition to the family is the lightest of its kind and it's one of the reasons why Rebound® Post-Op Elbow is extra comfortable to the user. In addition, it has straps that fit to clearly labelled parts, where the user themselves can adjust the protection for further support. As the finishing touch, Rebound® Post-Op Elbow is a universal-fit for both right and left elbows.



Virtual Learning@Össur continues in 2021!

As things slowly return to a new normal, our season of Virtual Learning goes from strength to strength. We want to say a huge thank you to the many inspiring key opinion leaders who give up their time to bring us their expertise. Without them it would not be possible to deliver such high-level content, which has educated and upskilled many healthcare professionals through a challenging period.

Spotlight on... **multi- disciplinary team**



Giles
Leeming

Working in Össur's Academy
as a clinical specialist orthotist.

Giles Leeming, an Orthotist from Össur's Academy in North Europe gives us some insight into how the Academy helps customers achieve the best outcomes for their patients.

Q: "Introduce yourself, your clinical background and the Össur Academy."

"I've been qualified as an Orthotist for 15 years, originally with a background in podiatry and now I am part of the clinical team within the Össur Academy. Our aim is to enable Orthotists, Prosthetists and other medical professionals to achieve clinical success, through accessible information and the services we provide."

Q: "Given the current shift to virtual communication and digital learning, how do you think the Össur Academy can support clinicians?"

"Össur has always had a focus on working with the latest technologies and we have used that to develop and share webinars for several years already. Having this pre-existing experience has allowed our team to

deliver not only large webinars led by key opinion leaders, but also more personal product updates and virtual training to specific customers. We are committed to developing the use of digital platforms but are also looking forward to making training visits in person again."

Q: "Has your work with Össur shaped your view about the ways different clinicians can work together to best support the patient?"

"Inter-disciplinary collaboration can only be beneficial, as it means that more clinicians around the UK have the knowledge and experience of how braces are fitted correctly and used safely, thereby helping support their patient and achieving the best outcomes. The Academy team cascades information directly to customers via tailored, digital or face-to-face meetings, ensuring

efficient use of our customer's time and an opportunity for them to access clinical information and training."

Q: "How could Össur's bracing solutions influence the growing waiting lists for surgery, especially for orthopaedic patients awaiting a procedure?"

"We know these delays really matter since they affect the physical and mental health of patients as their condition deteriorates. Our Unloader One knee brace for OA is clinically proven to significantly reduce pain and increase activity in patients wearing the brace. Better understanding of the potential of this solution within the primary care setting, will really make a difference to those awaiting surgery." ••



Snapshot of topics:

- Early Amputee Rehabilitation
- Upper Limb Prosthetic Therapy Training
- Knee Surgery v Knee Bracing – a clash or collaboration
- Patellar Instability: Surgical and Conservative Management Options
- Recorded Live Knee Arthroscopy
- Diabetic Foot Management: An MDT Approach
- British Athletics: Treating and Training Lower Limb Amputee Athletes
- Spinal Fracture Management: A Bracing and Physiotherapy Perspective
- Importance of Sports after an Amputation
- Conservative Management in Multi-Ligament Knee Injuries
- 'The Ruptured ACL' Child to Adult and OA Knee Evidence Based Treatment
- Virtual Mobility Clinic
- Upper Limb Absence Research

Don't miss out! For a full list, visit our website:

www.ossur.com/en-gb/professionals/webinars

**Get in
touch
with your
request!**

i-Limb Quantum Titanium

Titanium Tough – Now Even Stronger

Ever since i-Limb Quantum first saw the light of day in 2015 it has been at the cutting edge of prosthetic hands in the world. In September 2020 a new updated version was released, the i-Limb Quantum Titanium, which further strengthens the hand's position as Össur's flagship among multi-articulated prosthetic hands.

Previously, i-Limb's fingers have had titanium as an optional add-on. With the new update, titanium is now standard. Compared to the previous standard-issue fingers, the ones in titanium have an increased static carrying capacity of 50%, going from 24 to 36 kilos. Patients who choose i-Limb Quantum Titanium therefore are getting a better hand with a longer lifespan at no greater cost. A real win-win situation.

"We have also made technical updates, such as improvements to the gear box and the fingers'

transmission belt, which has already received the positive feedback that the latest version works even better than the previous iteration. Before the update, a quarter of i-Limb repairs were due to broken fingers. By making titanium standard we believe we can reduce servicing requirements. This creates even better sustainability and fewer times the patients have to come in for repairs, which is the most important aspect of this", says Lilian van Eijndhoven, Product Marketing Manager for Össur North Europe. >>



“The ability to move each of the five fingers individually makes a big difference in the user’s everyday life.”

i-Limb Quantum Titanium with its hyper-modern design, is a striking piece, and draws lots of attention to itself. Its futuristic look is hard to beat on the market, and even if most patients choose one of the four glove alternatives to cover up the hand, some like the ‘cool factor’ of it enough to show it off with a transparent glove.

“It’s really super cool, and many people enjoy the Robocop-style of the hand. But, of course, the most important thing is how the user experiences the prosthesis

and how the prosthesis functions in a practical setting”, emphasises Lilian.

In recent years, more and more multi-articulated prosthetic hands have appeared on the market to compete with Össur’s i-Limb hands. According to Lillian, feeling that pressure from competitors is both healthy and partially necessary to keep you on your toes and keep your focus on future developments. Lilian describes how in this very moment, the next generation of prosthetic hand, planned to be released in 2022, is being developed in a highly secretive project we hope to share more about with you in the near future. ..

“We also give users the ability to control their hand via a mobile app. The prosthesis i-Limb Quantum has 24 pre-programmed and 12 individually adaptable grips. All to enable different alternatives for various customer requirements.”

“The ability to move each of the five fingers individually also makes a big difference in the user’s everyday life where the challenges they face can be enormous. Improved mobility naturally requires a bit more practice from the user’s side, but in the end it’s usually worth the effort”, continues Lilian.



Meet Melissa

i-Limb user

Melissa Masterton lives in Edinburgh and has graduated from the University of Aberdeen with a BSc in Marine Biology. She plans to go travelling and volunteer with different animal rescue charities, as animal welfare is a big passion of hers and is something she hopes to pursue in her future career. She was born without her left forearm and got her i-Limb when she was 16.



“I used prosthetic hands when I was younger, but always found them a burden to use. However, as I got older, I grew more self-conscious about my arm, and even found myself being embarrassed about it at times. I also found myself getting frustrated if I struggled to do daily tasks that other people would find simple, such as tying my shoelaces or preparing a meal, even trying to carry more than one item at a time.

Since getting my i-Limb Quantum, I can now do these once difficult and time-consuming tasks with ease. Although my prosthetic hand has hugely helped me with performing these everyday tasks, it has most greatly helped

“Since getting my i-Limb prosthetic hand, I can now do once difficult and time-consuming tasks with ease.”

me improve my confidence. Before I had my prosthesis, when people asked me about my limb loss there was an overwhelming element of pity. Now when people ask me, they are genuinely intrigued and impressed, and I feel proud to discuss my prosthetic hand with anyone who asks.

My i-Limb has increased my confidence in both my social and professional life. I’m no longer anxious when meeting new people, whether it be at a party or a job interview. I’m no longer worried that they will notice my arm. I feel my prosthetic hand has given me the encouragement I needed to strive for what I wanted.” ..

50

years of

Össur

Core values are the key to success

Jón Sigurðsson has been CEO of Össur for 25 years. It's been a historic journey, from 38 employees to the current 4000 spread across the globe. But the philosophy behind it remains the same, and that's something Jón would never compromise on.

In 1996 Jón Sigurðsson took on the position of CEO of Össur. At the time he was living in New York, working to help Icelandic companies establish themselves in the American market. Jón was in the final stages of his assignment in the US when the offer of being CEO of Össur came up.



Jón Sigurðsson,
President and
CEO, Össur

"I had come into contact with Össur previously, and was asked to help them find someone who could head the company. After a while, the company's chair at the time suggested I take the job myself. And that was that, I moved back to Iceland", says Jón.

What he didn't know was that it would be a commitment that would last for over 25 years. When Jón took the position of CEO, Össur made just a single product, and had no distribution channels.

"We had to increase our range of offerings, start to sell different products while also create a means of distribution that allowed us to survive and prosper."

When the distribution issue was solved, they decided to take the company public, and in 1999 Össur was listed on the Icelandic stock exchange. It was a transformative time for the company; a generational shift, as well as a transition from a family company to a publicly traded one. But it was a necessity if the company was to grow to the size it is today, which the founder Össur Kristinsson was fully onboard with.

"The way we worked changed fundamentally. We ended up with an entirely different structure from previously, and that structure became the key to our success." >>

OUR CORE VALUES

HONESTY

Stay true

FRUGALITY

— Make every step count —

COURAGE

Aim higher

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Since then, Össur has acquired nearly 50 different companies. The target was always set high, and Jón always planned for Össur to grow.

"I told Petur, our chair at the time, that if Össur wasn't the biggest industrial company in Iceland within a few years, we would have failed. Petur just shook his head", says Jón with a laugh.

"The ones who will always remain in my thoughts are the users."

Despite this quick growth and the large number of acquisitions Össur made over the years, the company has retained its core values. The various companies have contributed in different ways to Össur's journey. For instance, Flex-Foot didn't just bring with it a new accounting system, it also carried with it the invaluable slogan 'Life Without Limitations', which now suffuses the entire organisation.

"Our philosophy, and the core values which all of Össur is founded on, is that nothing is impossible. I had the luxury of joining the company early on, and being part of building its culture from the ground up. That's unusual. It's our values which have helped us through the

dotcom crash and the global financial crisis, and it is also what will see us through the corona crisis. It may be a simple philosophy, but it keeps us on the right path."

The list of people Jón has met, and been impressed by over the years is a long one. But the ones who will always remain in his thoughts are the users.

"They have the ability to turn even the most hopeless situations to success. If I could have just a tenth of a percentage of their ability, I'd take it – any day of the week."

Jón has always believed in working with people you trust. And to never compromise on your core values.

"It's been the case that I've worked with people who have been super talented, but who haven't shared the same philosophy as me, and it never ends well. Choose those who are fully onboard with the company's core values. That, along with our users, is the key." ••

Carbon neutral in 2021

Our Pro-Flex footprint

"We care about the environment, take our responsibility seriously, and are proud to commemorate the Company's 50th anniversary by becoming carbon neutral", said Jón Sigurðsson, President and CEO of Össur.

Össur is proud to be contributing to the UN Sustainable Development Goals – and Climate

Action is one of four UN Sustainable Development Goals we have chosen to focus on. The others are Good Health & Well-being, Gender Equality, and Responsible Consumption and Production.

We will continue to reduce emissions, improve energy efficiency, source all electricity from renewable sources and offset remaining emissions by supporting emission reduction projects. To achieve the goal of

carbon neutrality in 2021, we have partnered with First Climate, a leading service provider of carbon emissions management.

"As a company, Össur remains focused on supporting a better quality of life for all, not only through excellent products and services but also through our contribution to social responsibility and sustainable development. As much as we have already accomplished over the past fifty years, we aspire to do even more as we continue to help people live a Life Without Limitations", said Jón Sigurðsson. ••

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Mountain Walking

A Knee Brace Experiment

David Stanley's osteoarthritis patient shares his experience with the Unloader One knee brace, which has enabled him to continue with the pastimes he loves.

“An unloader on the right patient is a total game changer on every aspect of their life.”

David Stanley



Meet David Stanley! David has been an external lecturer and examiner on the MSc Neuromusculoskeletal Physiotherapy course at King's College London and has provided external training courses for many years. He has presented his research findings on nerve mechanics nationally and has a special interest in peripheral neuropathic pain.

In 2008 he set up his private practice, Park Physio, and works closely with the local GPs in Horsham.

David focuses on researching non-surgical options for knee arthritis and is undertaking his independent prescribing training.

David currently works alongside the Sussex MSK Partnership as an Advanced Physio Practitioner offering specialist assessment and treatment for complex musculoskeletal conditions. He can directly list certain patients for orthopaedic surgery.

In 2019 David treated patient Anthony Bullock, 54 with grade 4 osteoarthritis. Please see Anthony's story below.

Diagnosis

“When I was originally referred to the knee clinic on 30 November 2018, my knee pain was constant. I had permanent swelling to the back of the knee with a prominent Baker's cyst and it would wake me at night if my knees touched.”

Physio makes a significant difference

“By the time I met David Stanley in 2019, I had received physio and joined a gym to strengthen the muscles around the knee. The constant pain was gone and my general walking ability was much improved.

However, I was on the cusp of giving up weekly badminton because the swelling and pain were so severe afterwards, and I was coming to terms with the idea that I would have to give up hill walking for the same reason. As a writer who works at a computer all day, I see these two activities as essential for both my physical and mental health and was really upset at the possibility of having to give them up at the age of 54.

On the day I met David to discuss the Unloader One knee brace, although my knee pain was mostly under control, if it meant I could carry on walking my dog on the Downs or playing badminton, I was really keen to try it.” >>

X-Ray from Anthony's knee.





Unloader One X

Mountain Walking experiment

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"I was due to fly to Majorca for a walking holiday and had already warned my companion I might not be able to complete the walks, but it was a long-standing commitment that I didn't want to abandon. I agreed with David I would do the first walk without the brace and the second one with, to see if it really made a difference."



Anthony Bullock

Day 1 without the brace

"Walk one was a 15 km coastal walk, relatively flat and undemanding. Walking was fine with little pain. However, 6am the next day I woke with a pain score of 8 or 9. My knee was very swollen and hot to touch. Ice, Paracetamol and elevation helped a little, but ordinarily that would have been the end of my walking."

Day 2 with the brace

"Having the Unloader One with me, but having never worn it before, I told my companion I would come to the start of the walk but might only make 100 yards or so. I could then sit in a café and wait for him. In reality we took on a 800m (2400 ft) ascent of a local mountain up a huge and punishing ravine. Apart from the discomfort caused by the swollen Baker's cyst behind the knee, I had no pain on ascent or descent over about 18 km."

"I had no pain on ascent or descent, over about 18 km."

Day 3 with the brace

"I completed a 10 km hike in the low hills wearing the brace, with no pain at all."

Helping me to stay active long-term

"Since then, I have worn the brace for a wide variety of activities that would previously have caused me pain and days of swelling afterwards."

These have included:

- Taking part in the People's March in London, a long day covering 15 km and lots of standing
- Worn it all day for a train trip to Wembley for the Brighton FA Cup semi-final
- Wearing it for numerous walks on the Downs
- Playing badminton every Wednesday

David Stanley says; "I was really pleased that Anthony's outcome with the Unloader One was so positive and that he is able to continue with his hobbies. An Unloader on the right patient is a total game changer on every aspect of their life." ••

A look into the world of...

Orthopaedic technology

50 years of innovative and fast-paced developments

Iceross Seal-In X

From wooden stilts to intelligent knee joints – there is no doubt that orthopaedic technology has come a long way. Join us for a trip through time, from the 80s to today.

Continued overleaf

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When looking back at the development of orthopaedic technology over the past 50 years, you can see that, in general, it's the discovery of new materials that has been very much the driving force. In the late 80s and early 90s we find the groundwork being laid for how modern-day aids are designed. At that time carbon fibre, silicone and glass fibre arrived in the field and made it possible to create lighter and more easily moulded orthoses and prostheses, while also increasing comfort for wearers.

In the 80s, the first carbon fibre foot was launched by Flex-Foot. It went on, as predicted, to have many more successors, and many believe

was fuelled by the need of Paralympic athletes to constantly push technology to its limits. It was also during the 80s that serious development of prosthetics for children got off the ground.

A clear turning point

The Silicone liner Iceross was patented by Össur Kristinsson in 1986 and revolutionised the way prostheses were used.

"This was a fantastic product – everyone who worked with prosthetics could see it. It made wearing a prosthesis more comfortable and led to improved residual limb shape. There is a clear before-and-after point, and nowadays liners are used all over the world. I would say it was the most revolutionising product of

"There is a clear before-and-after point, and nowadays liners are used all over the world."

the 90s", says Yvonne Meyer, former CEO of Össur Nordic.

The 90's – invention after invention

The 90's also saw the first three-dimensional gait analyses – allowing the objective measurement of patients' gaits – a significant breakthrough for further development.

Another revolutionising innovation that arrived during the 90s was the Swedish invention, Total Knee. Differing from other knee prostheses of the time, Total Knee had a 7-axle joint which both functioned as shock absorption and ensured the knee remained straight when putting weight on the heel. Behind the invention was Finn Gramnäs, who otherwise had an entirely different job, but who was determined to create a better prosthetic solution for his daughter, Lisa.

"Just like with Iceross, the invention required something extra behind its genesis. Finn put all his energy into it, as this was for his own daughter. I'm proud that we could be a part of supporting that", says Meyer, who also was involved in the development of the innovation called

The Pin, a single-step quick-release pin used together with Iceross.

Smart prosthesis

At the turn of the millennium, the first steps were being taken towards smarter prostheses. ICEx technology, which makes it possible to manufacture a permanent prosthetic liner directly onto the prepared residual limb being one of the first examples. Otto Bock's C-leg took the first step towards microprocessor-controlled knee joints and when Össur launched its Bionic Line alongside Power Knee, active knee joints were suddenly a reality. With the help of sensors, the prosthetic knee could now read both walking speed and current load.

Upper limb prosthesis

The next breakthrough came in 2006: Researcher Todd Kuiken manufactured the first mind-controlled arm prosthesis. With the help of electrodes and muscle nerves in the limb, the arm prosthesis reacts just like a 'regular' arm. In 2013, Max Ortiz Catalan and Rickard Brånemark managed to connect a hand prosthesis directly to the brain's nervous system, allowing the patient to control both their hands in the same manner.

Today, it is more likely than not that arm prostheses come with some type of integrated AI. You can now control and change settings for the prosthesis directly via an app on your phone. And what does the future hold? The only thing prostheses have not yet achieved is to mimic sensation. This, in combination with prostheses which are entirely or partially made up of the patient's own cells, are predicted to be something the future will bring, but researchers have already been able to print cartilage using 3D-printing so the future is certainly exciting. ••



1971

Össur was founded in Reykjavik by the prosthetist Össur Kristinsson.



1999

Össur is listed on the Icelandic stock exchange.

2004

Launching of Rheo Knee, which becomes the first product using bionic technology.



1986

The silicone liner Iceross becomes the company's first patented product.



2000

Össur acquires the companies Flex-Foot Inc, Pi Medical AB, Karlsson & Bergström AB and thereby becomes the world's biggest producer of prostheses.

2003

American Generation II Orthotics, creator of the world leading knee orthosis 'The Unloader', becomes a part of Össur. The AFO Dynamic makes its entrance to the orthopaedic market.



Milestones in Össur's history

50 years and no limitations



It's been 50 years since Össur Kristinsson took the step of starting the company now known simply as Össur. Since then, the Icelandic company has spearheaded development of vital products that provide people all around the world the opportunity of living a Life Without Limitations.

Continued overleaf →

2006

Össur enters Asia via the opening of its offices in Shanghai in China. The company also launches two ground-breaking bionic products. Proprio Foot, the world's first smart foot prosthesis, and Power Knee, the world's first motor powered knee prosthesis.



2012

Launch of the world's first complete bionic leg, Symbionic Leg. At the Summer Olympics in London, Oscar Pistorius becomes the first amputee to participate in the Olympics. In the subsequent Paralympic Games, Team Össur's athletes win a total of 21 medals.

2014

Össur signs the UN's convention on women's empowerment.

2018

25 new products are launched, including Pro-Flex LP Align, Rebound Post-Op Knee and a number of software products. The launching of Formfit Pro is celebrated through an official partnership with Iceland's national World Cup football team. Össur is named by ODT as one of the best developers of orthopaedic aids.



2020

Össur donates equipment and work to the Icelandic healthcare authorities during the Covid crisis. The company signs a new development agreement with Nike for a new generation of running blades for Cheetah.

2009

Time for the next IPO, this time at NASDAQ OMX Copenhagen Stock Exchange.



2013

CEO Jón Sigurðsson is named one of the 20 'Greatest Minds in Business'. Among the year's new products are the running blades Cheetah Xtreme and Cheetah Xtend, developed in collaboration with Nike.



2016

British Touch Bionics and German Medi Prosthetics become a part of Össur. The year's new product releases include Pro-Flex LP and XC, Rheo Knee 3 and XC, Unloader Hip and Rebound Hip. The Rebound PCL, the world's first dynamic force PCL brace wins an award for innovation in rehabilitation. At the Paralympics in Rio, Team Össur takes home 26 medals, three world and six Paralympic records.

2019

Over 25 products are launched and many more receive updates, including the much-awaited Unloader One X. Rheo Knee XC wins two design awards.



Team Össur is sometimes referred to as the company's very own Formula 1 team. The group consists of a handful of athletes from the very top of para-athletics. These test drivers inspire people with disabilities all over the world. They are also partially involved in evaluating new prototypes, where their feedback is taken into account for future prosthetic solutions.

Team

Spearheading Para-athletics

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The criteria for joining Team Össur is deliberately set high. Para-athletes have to compete at either the European Championship or Olympic level to even be considered. Preferably, they are ranked in the top five worldwide in their respective sport. The athletes need to be ambassadors for Össur's values, and for its motto 'Life Without Limitations'. Team Össur is kept to a small number of participants, usually between 12 and 20 athletes, in order to be able to give each athlete the time and attention they deserve.

In 2000, Össur acquired the company Flex-Foot and their project, Team Flex-Foot. Under Össur's direction, the concept was expanded, from just focusing on American athletes to including candidates from across the globe.

"We made great progress between 2004 and 2008. Both for para-athletics in general, and also



for Team Össur. In those years we added more athletes from other sports than athletics, such as Swimmers and cyclists. A Paralympic gold medallist in table tennis also joined Team Össur. The majority of the team's members are still sprinters, long jumpers and from other track and field disciplines, but we aim to develop a broad base of talent", says Össur's Edda Heidrun Geirsdottir, Communications and PR manager at company headquarters in Reykjavik. With her 23 years at Össur, where her last twelve have been focused on Team Össur, she knows the ins and outs of the whole organisation, and especially the team.

The 2008 Paralympics in Beijing was a turning point. The investment in a championship, filled-out arenas, and the publicity to go with it put

"We aim to develop a broad base of talent."

more and more of these athletes in the public eye. But according to Edda the last step up for para-athletics was the 2012 London Olympics. There, Oscar Pistorius did what no other Paralympian had done before and competed in the 'regular' Olympic games. He managed to make it to the semi-finals of the 400-metre dash and thereby put his name in the headlines of every newspaper around the world. Although his later life story took an abrupt change of direction, he became a symbol for para-athletics' ability to assert itself, and contributed to prostheses being developed into first-class aids. And since 2012, the world has opened up to para-athletes.

"Something which is often forgotten, is that it isn't just our products that have become better,

but also the athletes themselves. We represent only a small part of it, the rest is down to our athletes. The entire worldwide scene for para-athletes has developed incredibly over the past eight years. Many more are able to dedicate themselves to their sport full time by getting sponsorship deals and professional backing. Better conditions lead to better athletes", says Edda.

As a member of Team Össur, you have access to the best products on the market. You receive a small monthly stipend and act as a representative for the team and for the entire company. Some of the athletes visit Reykjavik on a regular basis to participate in the development of products by testing them and providing important feedback.

According to Edda, Team Össur is reason enough to get out of bed every morning. Every athlete has so much fighting spirit in them, so many experiences and challenges turned into fuel for their willpower. Many of their life stories are upsetting and can bring on tears of both sorrow and joy.

"Take Stef Reid for example, who lost her right leg in a boating accident when she was 15. Always dreaming of becoming a professional athlete, Stef joined her University Athletics team and hasn't looked back since. Fast forward to today! Stef, wearing her Cheetah Xtreme, is a five-time world record holder and triple Paralympic medallist in the long jump. "Getting to be just a small part of her journey... the feeling is indescribable", says Edda. ••

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Me and my... Direct Socket

A user review from Mitch Singleton, a transfemoral amputee.

Mitch
Singleton



Direct Sockets enable prosthetists to consistently provide users with a high quality, correctly fitting, tailored prosthesis in one session. The process and socket solution are designed to increase user satisfaction through improved outcomes and allows the prosthetist to spend time more efficiently with the user, while the user has fewer trips to the clinic. Below, we hear from both a user and prosthetist about their experience with the Direct Socket TF.

Mitch Singleton is a retired Royal Marine, keen cyclist and transfemoral amputee. He was one of the first patients to be fitted with a Direct Socket TF at Wrexham NHS.

Enthusiastic to try out the new socket fitting when approached by his prosthetist Rachel, Mitch had seen it on an online forum and felt that this was how a socket should be fitted, a clean and efficient process. His experience of traditional casting was that it involved numerous appointments – over long timescales – requiring check

socket fittings, and sometimes may not end with the desired result.

Mitch who lost his leg 3 years ago due to compartment syndrome, enjoyed the experience of being fitted with the Direct Socket TF. He was first given a step-by-step demonstration which inspired confidence and helped him understand what it takes to complete the direct casting, which unlike a traditional fitting, is achieved in one appointment, as part of the One Visit Prosthetics method.

“I didn’t have to stand up for long periods on one leg and I felt completely at ease.”

With constant reassurance and communication about the process, this method nurtures a partnership between prosthetist and patient, an added value where patient is fully connected to their treatment. Mitch feels this allows a user to be “more readily available to feel connected to their new limb and build confidence moving forwards.”

“It is unobtrusive, more compact, more comfortable and the biggest compliment I can give is that *I feel connected to my leg again.*”

After the socket fitting, Mitch felt more securely connected to his prosthetic leg for the first time.



used before can ache when you are first fitted, but he swiftly goes on to add that, “once you commit to it, you will feel more connected to your leg than you have ever done.”

Mitch feels very happy with the new socket, he found the process “100% better than anything he’s had before” and is also pleasantly surprised by others reaction to it, receiving nothing but compliments about

He felt that it was tailored to him with a snug fit, and most importantly immediately stable when he first stood on it. “The flexible collar makes it far more comfortable around the top of my residual limb and doesn’t pinch or dig in.”

**“I didn’t
have to stand
up for long
periods on
one leg and
I felt completely
at ease.”**

While adapting to his new socket, other advantages became apparent. The socket has made Mitch feel more in control and much more confident when walking around with no rotating on his leg. The increased comfort encouraged his positive mindset and inspired him to push his own boundaries, taking up his cycling hobby again and now often accomplishing 40-mile journeys.

In terms of challenges faced by the new socket – which can be fitted with a pin or suction system and is compatible with most existing componentry – Mitch acknowledges that sometimes muscles you haven’t

how different it looks. Moreover, he has not needed to return to the clinic since having it fitted, freeing up his time to focus on other things. The added confidence has had a positive impact on Mitch’s mental health, he is looking forward to achieving more and feels that his days of cycling ahead will become more enjoyable.

For those considering the Direct Socket TF, he says,

“*Just do it*, if given the opportunity, grasp it with your residual limb, take the chance, work hard and the benefits will be yours. It is the foreseeable future for sockets.” >>



A Prosthetist review

by Rachel Malcolm, a Senior Prosthetist at NHS Wrexham.

Rachel has been treating Mitch since he underwent his amputation over 3 years ago. Below Rachel shares some insight into the Direct Socket Solution and her clinic's first experience with it.

The team at Wrexham were excited to trial this solution as an alternative to lengthy traditional and HiFi casting processes. They were grateful to have been given the time to devote to this new concept, reflect on their current service and try something new.

Representatives from Össur Academy, visited Rachel and her team of prosthetists over the course of 2 days to train them on the application of the Direct Socket TF, training very much valued by Rachel who says, "the investment of this initial clinic time quickly pays off." Indeed, the ongoing time saving for the clinic promises to be huge. This has been evidenced already with two of her most challenging users – in terms of fit and satisfaction of sockets – not needing to return to clinic at all for socket adjustments.

Where clinic times per patient are a little longer than a traditional casting appointment, Rachel emphasises that restructuring clinic times is not an issue for them as they will be saving time with the Direct Socket TF in the future, since users will not need to return for further socket appointments. Each appointment can be used more efficiently with extra time for the user to practise walking and physiotherapy if needed. In fact, the centre is hoping to use technicians in the process more in the future, but for now are focused on improving their own experience levels.

"Patients can complete the whole treatment in one visit."

Rachel applauds the personal and efficient process, as well as the bonus of having all the equipment on the trolley in the fitting room, keeping the patient, team, and socket in one place throughout.

"The investment of this initial clinic time quickly pays off."

But it's not only the ease of use and time saving that has the NHS Wrexham team enthusiastic. It's the remarkable patient outcomes

and more personal, collaborative process that have resonated with them. In addition to Mitch, Rachel has seen the clear benefits of the socket on several of her patients so far, who have remarked on its comfort and appearance.

"We delivered our young lady's direct socket, and it was a resounding success! She burst into tears with the look of it in her leggings and her words for sitting were 'it's like it's not even there'. She is a very happy young lady!"

Rachel sees the system being of particular benefit to teenagers who sometimes struggle with the cosmesis of their traditional sockets, and to children who often can't sit still during a session, and who grow so quickly between appointments.

In terms of learning the new process, the team initially found the lamination – ensuring the resin distributes evenly all the way through the braid – a slight challenge, but with the support on hand this wasn't an issue for long! Rachel says, "the results just confirm to us that we are doing the right thing by offering these sockets to our patients. Seeing the patient satisfaction is so rewarding." ..

Iceross

Where it all began

Iceross wasn't just the starting point of Össur as we know it today – it revolutionised the entire orthopaedic technology industry. But Iceross becoming such a success, or even making it to production, was far from a given. We met with Yvonne Meyer, who played a significant role in that very success.

Iceross
Seal-In X

Continued overleaf

These days it can be hard to imagine prostheses without liners, but the fact is that the first patent for Össur's silicone liners was filed as recently as 1986. The technique of using silicone for prosthesis liners was developed in Iceland in the late 70s. The difficulty lay in finding the right balance between comfort and durability.

The person to finally get it right was the prosthetist Össur Kristinsson, himself a prosthesis user and thoroughly dissatisfied with the contact between his residual limb and the prosthetic liner. One challenge of using a prosthesis without a liner is to get the residual limb all the way into the prosthetic liner. And a poor fit automatically results in significant strain on the residual limb, such as chafing up and down with each step, which quickly becomes a very painful experience.

"He was a true inventor and determined not to compromise. He couldn't understand why no one had solved the problem yet. And he was sufficiently innovative and stubborn to go at it himself", says Yvonne Meyer, former CEO of Össur Nordic.

When Kristinsson finally developed the correct silicone mix, Yvonne had already known him for years. The Iceland native Kristinsson had worked in Sweden previously, including alongside Yvonne's father, who also was also a prosthetist.

Össur worked with double reinforcements in the bottom of the silicone liner and managed, after much trial and error, to create a standard product and technique that worked.

The theoretical description was then written, and the decision taken to patent Iceross.

At the start, Iceross only existed in three different sizes, and the moulds used were expensive to create. In addition, the new product was initially met with scepticism. Yvonne Meyer, at the time part owner and CEO of Pi Medical AB acquired the global rights to sell the product and she describes how it was far from an easy endeavour.

"The Iceross liner wasn't just a new product, it was a new technology. We had to turn to the select few prosthetists who dared to think outside the box, so called 'early adopters', and win them over one by one. I remember when we showcased Iceross for the first time in the US and one of our contacts just looked at me and said, 'But Yvonne, do you really think I want to pay for a rubber bag?' And I answered,

'Yes'', she says with a laugh. Because when they finally understood the technology behind it, they realised it was a phenomenal concept for the wearer of the prosthesis. It was both more comfortable and easier to use, especially as the prosthesis no longer needed to be hung by a strap, usually a so called PTB strap.

When did you realise you had succeeded?

"There never really was a point in time like that, it didn't come overnight, we had to really work hard for it. All countries had different rules for what was required in order to sell healthcare aids, so it was a long journey each time. A lot was won by us doing the work of travelling around the world to teach the technique to others and by Össur managing to handle its

When Iceross was first introduced 30 years ago, it signified an important breakthrough for prosthetic technology. Silicone became the keyword for prosthetic innovations and led to the development of suspension systems and hydrostatic liner technology.

Today, Össur remains a true pioneer at the cutting edge of orthopaedic design and functionality. Iceross stands for Icelandic Roll-On Silicone Socket. The first Iceross liner was launched in 1986, and developed by Össur Kristinsson, himself both a trained prosthetist and a prosthesis user.

production despite many defects causing returns in the original product."

Yvonne continues: "But a clear turning point was when Iceross started being used right after amputation and people noted that the Iceross liner made both the residual limb heal faster and gave it a better shape. I remember that we set our goal to be that 20% of those with lower leg amputations wearing prosthesis would be using our product. Today those numbers are reversed."

She describes how Iceross laid the foundation of what the company Össur now represents – proof of quality and innovation.

During the 1990s, Iceross was the most revolutionary orthopaedic product; akin to the artificial and intelligent technology solutions of recent times. As Össur didn't just focus on sales, but instead taught the technique to other professionals during the product launch, it built up the Össur brand's reputation for quality and paved the way for all that was yet to come.

**“Össur Kristinsson
was a true
inventor and
determined not
to compromise.”**

"I'm proud to have been a part of the products that have been so crucial for the orthopaedic technology industry in recent decades, products such as Iceross, The Pin and Total Knee. But I'm just as proud that we already then had an organisation where everyone had the opportunity to develop and where everyone was motivated to keep doing their very best for the patient", says Yvonne Meyer. ••



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But I can always choose to be free."*

Shiori

Law student & passionate dancer



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