



irst of all, we sincerely hope that this issue of Össur News finds you and your near and dear in good health. Hopefully the Christmas and New Year's holidays brought a moment of relief. 2020 will no doubt be the subject of many discussions, analyses and reflections based on current developments. Similarly, many will want nothing more than to leave it behind.

As of the time of writing, no one yet knows if it will even be possible to leave it behind us as Covid-19 still keeps the world in an iron grip. The time for final reflections and learning will have to wait. But I'm convinced we've already learned a lot, both in our private and our professional lives. These lessons we can already put to use and develop from, and will most likely be the after-effects we take from this experience into the future.

Because it's by learning these lessons and adjusting our course that we develop. This is what Össur has been doing now for 50 years! From 1971, when Össur Kristinsson invented the Iceross-liner, through to today there has been much water under many bridges. Thanks to the company's ability to quickly adjust its course we've always been able to keep moving forward. This issue of Össur News will take you along on a handful of our milestones that in several ways have been crucial in bringing us to where we are now.

We'll look back on the "birth" of Össur in the Nordic countries. What did the industry look like back then? How do you really become an Orthopaedic Practitioner, and what does it mean now that we have both doctors and professors

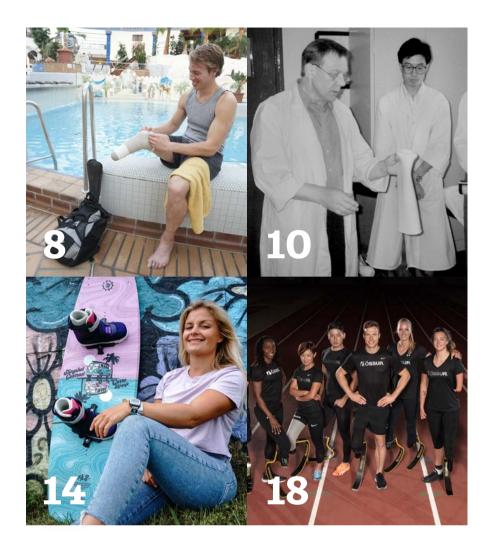
in the field of orthopaedic technology? What has Team Össur meant to the industry and to health-care in general? Are amputees viewed differently now than 50 years ago? Yes, this and much more we hope to share with you.

We have all had reason to value and evaluate our existence based on the situation the pandemic has put us in. Our industry is and remains an important part of healthcare. However, this will place expectations on us that we need to live up to. Thankfully, there are many ways for us to help provide your users the opportunity to live without limitations. We'd like to thank everyone for giving us the opportunity to meet and provide support via entirely new avenues during Covid-19. Together we have made great progress, not just for Össur, but for the entire industry. Something we can all be proud of together.

We hope we can offer you a moment of enjoyable reading, regardless of what the world outside looks like at the moment. Let us reminisce and look back on the impressive journey that both Össur and the industry as a whole has taken over the past 50 years, a journey which would have been impossible without you and your knowledge.

Pleasant reading, and take care!

Johanna Östergren Managing Director Össur Nordic

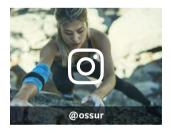




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#### Stay updated!









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# 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.





At this point, many of us have grown used to working from home. Having digital weekly check-ins, conferences, and customers meetings digitally is no longer anything new, and it's likely we'll continue to hold meetings on digital platforms even after the pandemic is over. We have listed three popular platforms which (usually) work well for various forms of digital meetings.

#### ZOOM

One of the most popular platforms for digital meetings. Its company level functionalities include fitting up to 200 participants, and unlimited cloud storage.

#### GOOGLE MEET

Easy to use platform based on using scheduled video meetings. Meet is adapted towards companies and is perfect for those using Google's mail service for their organisation.

#### **TEAMS**

For those using Office 365 at work, Microsoft's digital meeting service, Teams, works great for collaborating online.



#### ACL Expert Consensus Conference

This year's ACL Expert Consensus Conference will be held in Stockholm on Saturday April 24th. During the day, leading orthopaedic specialists will discuss the topic of ACL injuries. The participants are specialists from the Nordic countries, as well as a world-leading specialist from the US. The conference will highlight, investigate, and discuss current flaws in successful ACL-reconstructions and also suggest clinical protocols for the effective treatment of ACL injuries using dynamic supports. Whether the conference will be held in person or digitally remains to be seen.

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### i-Limb Quantum

#### - 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 multiarticulated prosthetic hands.

Text: Niklas Simonsson | Photo: Össur



reviously, 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. A quarter of all 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 patients have to come in for repairs, which is the most important aspect of this," says Lilian van Eijndhoven, Product Marketing Manager for

# "Improved mobility naturally requires a bit more practise from the user's side".

Össur North Europe.

"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," says Lilian van Eijndhoven.

"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 practise from the user's side, but in the end it's usually worth the effort," continues Lilian van Eijndhoven.

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 coolness 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 van Eijndhoven.

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 in order to keep you on your toes and keep focus on the future and continuous development. Lilian van Eijndhoven 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. ••

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

Text: Karolina Arenhäll | Photo: Össur

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hen looking back at the past fifty years of developments in orthopaedic technology you almost have to take even a step further back, to the sixties and seventies. This is when the Swedish government stepped in to pour millions into research grants and making sure orthopaedic products were made available for free to the public. Suddenly there were opportunities for private operators to invest in the industry as well. Similarly, Bertil Allard in his book Svensk Ortopedteknik under 100 år (100 years of Swedish Orthopaedic Technology) writes that it was at the end of the 70s that the temperature maintaining properties of neoprene were discovered and used for orthoses. This was at about the same time as knee sleeves were developed and athletic medicine became its own specialised

In general, the discovery of new materials has been what drives ortho-

paedic technology forward. Skipping forwards a few decades to 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 8os, the first carbon fibre foot was launched by Flex-Foot, and in his book Allard writes that it was to have many more successors, and that the Paralympics especially contributes to the technology constantly being pushed to its limits. It was also during the 8os that serious development of prosthetics for children began.

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

The nineties also saw the first threedimensional gait analyses, allowing the objective measurement of patients' gaits, which Allard describes as a significant breakthrough for further development.

Another revolutionising innovation that arrived during the 90s was the Swedish invention Total Knee. In difference to 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 worked an entirely different type of job, but who was determined to create a better prosthetic solution for his daughter, Lisa Gramnäs.



"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.

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 sleeve directly onto the prepared residual limb being one of the first examples. OttoBock'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.

In 2006 the next breakthrough came: Researcher Todd Kuiken manufactured the first mind controlled arm prosthesis. With the help of electrodes and muscle nerves in the limb, the arm prothesis reacts just like a "regular" arm. In 2013, Max Ortiz Catalan and Rickard Brånemark managed to connect a hand prothesis directly to the brain's nervous system, allowing the patient to now control both his 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 been able to do 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 already now researchers have been able to print cartilage using 3D-printing. ••



# Iceross

#### laid the foundation for Össur

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.

Text: Karolina Arenhäll | Photo: Össur





hese days it can be hard to imagine prostheses without liners, but the fact is that the first patent for Össur's silicone liners was recorded as recently as 1986. The technique of using silicone for prosthesis liners was developed in Iceland and came to Sweden 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 orthopaedic technician Össur Krisinsson, himself a prosthesis user and thoroughly dissatisfied with the contact between his residual limb and the prosthetic sleeve. One challenge of using a prosthesis without a liner is to get the residual limb all the way into the prosthetic sleeve. And 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 Icelandic native Kristinsson had worked in Sweden previously, including alongside Yvonne's father, Gunnar Holmgren, who also was an orthopaedic technician.

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. Bo Klasson, at the time working as operational manager of Norrbackainstitutet, a rehab centre, then made the theoretical description so that Iceross could be patented.

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.

"This wasn't just a new product, it was a new technology. We had to turn to the select few orthopaedic technicians 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 production despite many defects causing returns of 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 both made 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.

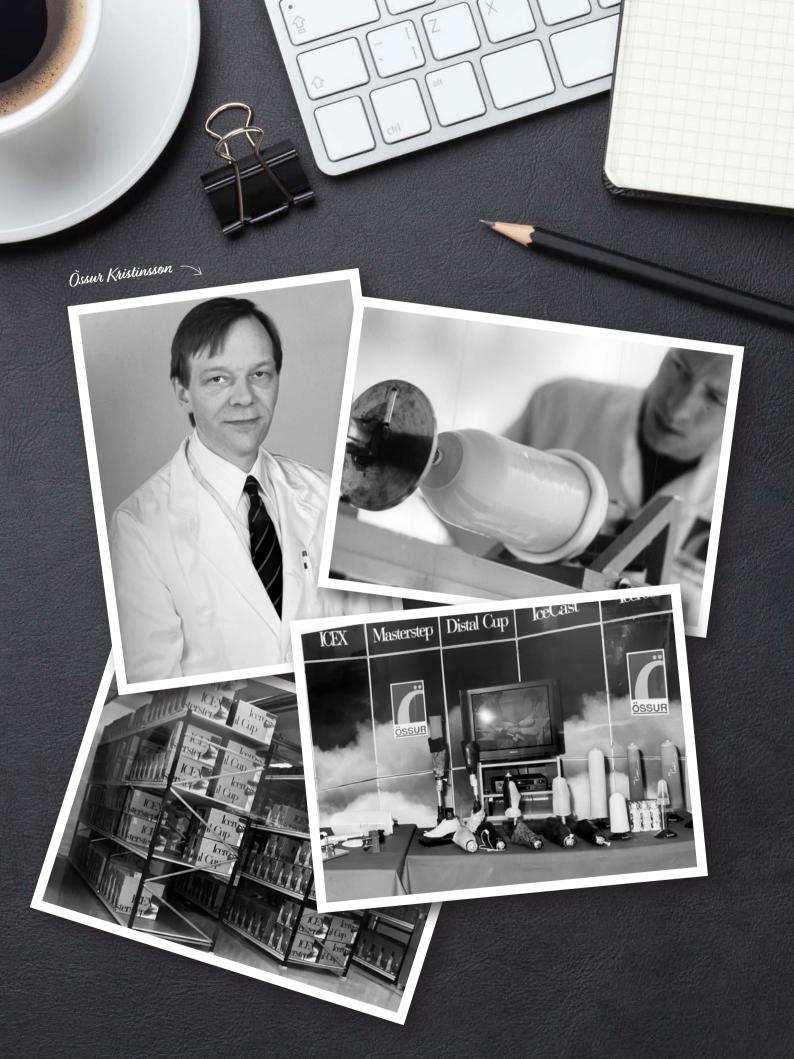
Iceross was the most revolutionising orthopaedic product of the 90s. Comparable to the artificial and intelligent technology solutions of the electronics industry in recent times. And because Össur didn't just focus on sales, but also taught the technique to others while launching the product, it built up a reputation of quality for the Össur brand. This paved the way for all that was to come.

"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.

#### ICEROSS

When Iceross was first introduced 30 years ago, it signified an important breakthrough for prosthetic technology. Silicone became the keyword for prosthetic innovations and lead to the development of suspension systems and hydrostatic sleeve technology. Today, Ossur 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 orthopaedic technician and a prosthesis user.





## Core values

#### the key to success

24 years – that's how long Jón Sigurðsson has shouldered the mantle of CEO at Össur. 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.

**Text:** Jessica Widing De Los Santos | **Photo:** Össur



n 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.

"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 24 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 more different products while also create a means of distribution that allowed us to survive and prosper."

Said and done. 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

# "The way we worked changed fundamentally."

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."

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.

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 in 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 out 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."

# **Syears**without limitations



#### 197

Össur was founded in Reykjavik by the orthopaedic technician Össur Kristinsson in collaboration with several Icelandic organisations for people with disabilities.

#### 1986

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

#### 1999

Össur is listed on the Icelandic stock exchange.

#### 2000

Össur acquires the companies Flex-Foot Inc, Pi Medical AB, Karlsson & Bergström AB and Century XXII Innovations Inc 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 company also launches the revolutionary liner Iceross Seal-In and the foot orthosis AFO Dynamic – a product that marks the starting point for the company's entry into the orthoses market.

#### 2004

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

#### 2005

Strategic acquisitions of, among others, the American company Royce Medical, strengthening Össur's position and product portfolio further in the orthoses market.



#### 2006

Össur enters Asia via the opening of its offices in Shanghai in China. The same year sees the acquisition of Gibaud, a french company specialising in design, manufacture and distribution of products for non-invasive orthopaedics. The company also launches two groundbreaking bionic products. ProPrio Foot, the world's first smart foot prothesis, and Power Knee, the world's first motor powered knee prosthesis. As the finishing touch, Össur is named as one of the year's technology pioneers by the World Economic Forum.



#### 2007

Össur's vice president for research and innovation, Dr. Hilmar Janusson, is named by Business Week as one of the world's top ten designers of the future. This year also sees Jón Sigurðsson och Hjörleifur Pálsson being awarded a prize for best IR-support. Studies from the Mayo clinic shoes that the products Miami J and Philadelphia are superior in terms of immobilisation and pressure relief.

#### 2008

The athletes of Team Össur take part in the Paralympics in Bejing — with great success! The same year Össur is awarded the Charles D. Siegal President's Award by the Disability Rights Legal Center.



#### 2009

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

#### 201

The second generation of the Power Knee is launched. Össur also take home two prestigious product design awards, as both ProPrio Foot and Rebound Air Walker are highlighted at the Red Dot Design Awards.

#### 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 compete at the Olympic games. Team Össur takes home a total of 21 medals in the subsequent Paralympics.



#### 2013

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

#### 2014

Rebound Cartilage becomes the first Functional Healing product introduced to the market. Össur signs the UN's convention on women's empowerment and the company updates its logo. The same year also sees the launching of the third generation of Rheo Knee. The world record holders Alan Oliveira, Richard Browne Jr and Markus Rehm join Team Össur.



#### 2015

The Unloader family receives a new member in the Unloader FIT, and the world's first dynamic knee brace, the Rebound PCL, is launched. A mind controlled prosthesis is introduced at Össur Capital Markets Day and Össur ambassador Jami Marseilles becomes the first female amputee to complete a marathon.

#### 2016

British Touch Bionics and German Medi Prosthetics become a part of Össur. The knee brace Rebound PCL wins an award for innovation in rehabilitation. At the Paralympics in Rio, Team Össur takes home 26 medals, three world and six Paralympic records. Össur also launches #MyWinningMoment – the company's first online competition focusing on mobility among amputees.



#### 2019

Over 25 products are launched and many more receive updates. Rheo Knee XC wins two design awards and Össur's global campaign "Life Without Limitations" is introduced. The company also signs an agreement with the Alfred Mann Foundation on expanded research on mind controlled prosthesis and also become a partner of the Danish Paralympics committee.

#### 2020

Össur donates equipment and work to the Icelandic healthcare authorities during the Covid crisis. Össur Mexico is named as one of the safest worksites during the pandemic. The company signs a new development agreement with Nike for a new generation of running blades for Cheetah. The ambassadors Andrea Lanfri sumits Mont Blanc.



# Carro Djupsjö

on dreams, ligament injuries, and equality

Caroline Djupsjö is one of the top wakeboarders in the world, and has competed for the Swedish national team since 2008. She has a long list of accomplishments, but the road has been lined with ACL-injuries and long rehabilitation periods, as well as a never-ending struggle for the right to practice her sport on the same terms as her male colleagues.

Text: Mimmi Bladini | Photo: Constanza Scaglia & Ricardo Cabrera

hen we talk to Caroline, or Carro as she's usually known, she has just come back from her morning practise round in North Carolina. Tanned and smiling she waves at us from the screen. But what does the life of a professional wakeboarder look like in the middle of a pandemic?

"We've had many cancelled events. But since wakeboarding is a sport where competitions can be held digitally, we've had video-based competitions. This means competing from your home arena and then sending in a video of your best tricks. It become a very different form of competition as you have several tries and don't need to worry about having an off day."

Carro has been wakeboarding for 16 years. It started out as a hobby alongside her father, but quickly became much more than that. After graduating from highschool she moved to Florida and began working towards becoming a professional wakeboarder. Since then she's lived in many parts of the world, often with the weather as the determining factors.

"I've lived in Florida, Spain, Thailand, and currently I'm in North Carolina. I love Sweden, but unfortunately the water is a bit too cold, even in the summers, which makes it hard if you want to go far with it."

Despite the success, her path has been far from straightforward. In June 2019 Carro tore her ACL and injured her meniscus. A heavy blow, especially as this was the second time in her career she'd suffered an ACL-injury. After a long and intense

""It became a confidence booster for me. When I wear it, I don't need to be afraid of going all out as usual."

rehabilitation period she is now back at it, but it was no easy feat.

"It took ten months in a gym and rehab before I could get back on the board again. It was a tough period, both physically and mentally, but with the help of the people around me – coaches, physiotherapists, and my sports psychologists – I got the help I needed to focus on the present and not the dark thoughts. The rehabilitation period is so long you have time to go through several stages. It's a mix of doubt, hope, and total hopelessness. For me, it helped to take it one step at a time and not to worry too much about the future."

Wakeboarding was Carro's entire identity, at least prior to her first injury. Who was she without her sport? An identity crisis that was harder to tackle than she would have guessed.

"I felt incredibly bad. But now, with it all behind me, I'm actually grateful for my injuries. I was forced to develop my identity outside of my sport. I started studying and thinking about other things in life that bring me joy. If I could have heard myself saying this back then, I'd think I was crazy, but in hindsight it was an important part of my life journey." >>>



To regain her confidence and ability to trust her body, Carro has had great help from her first CTi, a carbon fibre knee brace that is so light you barely feel it's there. The brace stabilises the knee and protects it from twists that could cause injuries.

"It became a confidence booster for me. When I wear it, I don't need to be afraid of going all out as usual. And for me, practising an extreme sport, it's such a relief to have it on whenever I practise or compete."

Despite ligament injuries and an ongoing pandemic, 2020 has been a successful year for Carro. At the World Cup in the US earlier this year, she took home two medals. Additionally, the first

professional women's tournament kicked off during the year, and not a moment too soon, if you ask Carro.

"As in most sports, women's wakeboarding has had to take a backseat and be considered less worthwhile. It becomes apparent when discussing sponsorships. If I ask for the same salaries as my male colleagues, some companies dismiss the question, arguing that, 'it's not the same thing.'"

Carro describes how many sponsors still feel differences in salaries between genders is only natural. But the past five years have seen some positive change – equal prize money being an especially positive indicator.

"It looked kind of silly before, when the male winner received a cheque for ten times the amount the female winner did. It sends the wrong signals to everyone, especially children and young girls. It's a sign that men's performances are ranked higher. But two years ago, surfing introduced equal prize money, and I think that rubbed off on wakeboarding as well. I think women's sports receiving more media time in general has also been crucial. It shows there is a clear interest in our side of it as well."

To keep making the industry more equal, Carro believes it's important to dare to challenge norms and to make your voice heard on the platforms available to you.

"I'd like to think that at least a part of the reason

we now have a professional women's tournament is because women have pushed for it on social media. Things are changing now, and we appreciate everything that's going on, but we mustn't get complacent. For me, it isn't just about competitions and prizes, it's about driving the sport further by challenging myself to try tricks that no other woman has cleared before, and thereby becoming a source of inspiration for others."

#### FACTS ABOUT CARRO

Name: Caroline Djupsjö Born: 1991 From: Stockholm Living in: North Carolina Profession: Wakeboard pro

#### Career highlights First European woman to clear a double flip (2015).

Silver & bronze at the World Championships

A total of 6 European Championship golds.

(2020).

A slew of Swedish Championship golds.

#### What do you have ty say to girls struggling in male-dominated sports?

"Show them what's what. It's not about you as a girl having to change to fit your sport, it's about the sport changing to fit everyone. The field is yours too, no two ways about it." ••

## Doctor

#### in orthopaedic technology

Nerrolyn Ramstrand recently became Europe's first professor in orthopaedic technology. Magnus Lilja however became one of the first doctors in the field after successfully completing his thesis back in 1998. It opened the field of orthopaedic technology in a way that's noticeable even today.

Text: Niklas Simonsson | Photo: Privat



## Team Össur

#### Spearheading Para-athletics

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 are partly involved in testing new Össur prototypes and inspire people around the world.

Text: Niklas Simonsson | Photo: Össur

he 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 "A 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.

"From 2004-2008 we made great progress. Both for para-athletics in general, and also for Team Össur. In those years we added more athletes from other sports than athletics. Swimmers and cyclists, for example. 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 in 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 more and more of these athletes in the public eye. But according to Edda Geirsdottir 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. Even if his life story later wasn't as positive, he became a symbol for para-athletics' ability to assert itself, and has contributed to prostheses being developed into first-class aids. And since 2012, the world is open 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 paraathletes 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 Geirsdottir, 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 heart-breaking and can bring on tears of both sorrow and joy.

"Take Femita Ayanbeku, for example, who lost her right leg in a car accident when she was 14. We met her at a Challenge Athletes Foundation in Boston. At the time she worked at a nail salon, and after receiving her Flex-Foot prosthetic foot, she started training for running track again. Six races later and she was running at the Olympics in Rio. Today she's a global star with big-name sponsors. Getting to be just a small part of her journey... The feeling is almost indescribable," says Edda Heidrun Geirsdottir.





# The Pandemic Phenomena

Pandemic. It's been the word on everyone's lips in 2020 as the world has been forced to adapt itself to Covid-19 and its global impact. But what are the characteristics of a pandemic? How does it differ from an epidemic? And what is Covid-19 like in comparison?

Text: Niklas Simonsson | Illustration: Love Eneroth

ike many similar words, pandemic is borrowed from the Greek language. Pandemias means "all people" and refers to an epidemic which has spread and impacted most of the continents of the world, leaving many sick and dead in its wake. As is the case with Covid-19, pandemics generally are generally caused by a new type of influenza virus which hits hard against society at large. Everything from economies and labour markets to international stock exchanges and trade is affected, and healthcare is stretched to its limits. An epidemic is a similar type of disease outbreak, but is not as continuous and doesn't spread on a global level to paralyse the whole world for a longer period. Put simply: the epidemic is local, the pandemic is global.

The 20th century saw three major pandemics spread across the world: The Spanish flu, the Asian flu and the Hongkong flu. The first of these broke out in 1918 in the wake of World War I and was caused by the influenza virus A(H1N1). The Spanish flu is probably the worst pandemic of the modern era, causing the deaths of nearly 50 million people in a relatively short span of time. It even killed more people than WWI itself. Approximately 35,000 Swedes died to the Spanish flu.

In 1957 the Asian flu struck, caused by the influenza virus A(H2N2). As with every new pandemic virus, it generally outcompetes the old one, which was also the case with the Asian flu. During the course of this pandemic, some five million people died, mainly striking younger ages.

Similarly, the influenza virus A(H<sub>3</sub>N<sub>2</sub>) phased out its predecessor in 1968, when the Hongkong influenza struck. A million people died during its first year, this time mainly killing the elderly. The influenza is still spread as a seasonal flu, and a couple of thousand elderly Swedes die every year after contracting it.

On 11th of March 2020, WHO declared Covid-19 a pandemic. By November 2020, the disease had taken approximately 6000 lives in Sweden, out of a total of 166,000 infected. Across the world at the same time, the numbers were at 51 million infected, and nearly 1.3 million dead.

As of the time of writing, it is nearly impossible to assess the impact of Covid-19 on society today. The autumn's second wave put additional pressure on already struggling industries such as hotels, restaurants, retailers and travel companies, among many others. The central bank of Sweden released a report in November that stated that the future economic situation is still shaky, and far from stable.

# Adapting to a pandemic

Running an orthopaedic technology service during a pandemic presents a multitude of challenges. Just like for everyone else, the key is to communicate, adjust and adapt. But patient health and waiting times in healthcare are growing worse. So, what do you do? Heléne Seerbe Assarsson from TeamOlmed gives her view on the matter.



eamOlmed is one of Sweden's largest orthopaedic technology companies, with offices in over 20 locations around Sweden. Heléne Seerbe Assarsson has been Head of Operations at TeamOlmed on Torsplan in Stockholm since 2017. This has been a different sort of year, to put it mildly. Being a manager and running an operation in the middle of a pandemic is not exactly business as usual.

"What a year it's been. Stockholm was hardest hit during the spring. We had lots of cancellations and had to furlough our staff at the same time as many of our company's other locations hardly experiencing any changes. Now, during the second wave, it looks about the same all across the country."

Just like all businesses, TeamOlmed had to adapt. Better hygiene procedures, digital meetings, scheduling lunch breaks to keep staff spread out, as well as using masks and visors. The company also created a central team to continuously discuss challenges and address issues.

"The team consists of CEO, HR and managing clinicians. It has been incredibly helpful during this time. For me, as a manager, the hardest thing has been assessing business operations and staffing in way to make it all work out financially. Our advantage is being in an industry that will be able to recover. There will always be a need for orthoses, prostheses and other aids.

Just because there's a pandemic going on doesn't mean all other illnesses go away. Cancellations and missed appointments don't mean patients are becoming healthier, rather it's the opposite." This is something Heléne and her colleagues have become acutely aware of.

"The majority of our patients are over 70 years old. Many have diabetes or other illnesses that make them a risk group, forcing them to stay at home. This has lead to our patients being in a worse condition when they finally do make it in to us, which is troubling."

Heléne feels that precautionary measures are

obviously necessary, but that the current situation is frustrating for both staff and patients.

"A virus wreaking havoc doesn't mean toenails stop growing. Removing basic healthcare from the picture leads to worse conditions for patients. Sores take longer to heal, patients have worse chances of being able to walk independently with prostheses and require more pain relieving medication and rehabilitation. A few months without healthcare can be catastrophic."

At the time of writing, things are looking good for potentially having a vaccine against Covid-19 ready soon. According to Sweden's vaccine coordinator, Richard Bergström, Swedish healthcare providers are on stand-by to begin vaccinations in January

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"I think the careful hygiene procedures are here to stay, both for those of us working in healthcare, but also in society at large. Digital environments have also

become better, and I'm sure we'll continue having digital meetings in the future as well."

These days, Heléne bikes to and from work everyday. That's a two hour roundtrip, which at the start was a tough change to make, but which now has become part of everyday life. Biking instead of taking public transport, staying home when you're ill, and minimising social contact are things Heléne feels everyone should take very seriously. She is still worried about many people's attitude towards the virus.

"We've had several cases where patients have come in to us even with symptoms. Which is strange, seeing as recommendations have been so clear on that point. Everyone must take responsibility and do their part. People are dying from this virus. Even if you or I don't, we can transmit the virus on to others who do. There will come a time when we can live, travel and socialise as we used to, but we're not there yet. Take a moment to consider what you have to lose. And hold on."

2021. This is for doses that primarily will be given to risk groups and health and social care workers. It does mean there's hope that soon enough things might return to normal. But what will be the new norm?



# Training with room to grow

Orthopaedic practitioner is an exciting profession where you get a chance to make use of your technical skills while also getting to meet and help people. But how do you actually become an orthopaedic practitioner, and what can one expect from the job market? We've talked to Jessica Crafoord and Sara Kallin at Jönköping University.

Text: Jessica Widing De Los Santos | Photo: Patrik Svedberg

ou can become an orthopaedic practitioner through a three-year university degree at Hälsohögskolan, (School of Health and Welfare) in Jönköping. The name of the programme is Prosthetics and Orthotics and is a bachelors degree requiring special eligibility. But even if you don't have that, there is still hope. A small number of spots are reserved for select applicants considered specially suited to the programme. Jönköping offers the only orthopaedics practitioner course in Sweden, but in the Nordics you can also study the subject in Oslo or Helsinki.

"The course is probably most well-known locally, which is probably why that's where most applicants are from," says Jessica Crafoord and Sara Kallin, programme managers of the orthopaedic practitioner programme. But Jönköping has grown, and its student life has developed — these days there are great opportunities to meet and establish contact with people from all over the world. Since it's a smaller school, there is a great sense of community, and the university is located very centrally in Jönköping, making it easy to take part in local activities as well.

The course mixes theory and practical studies, all to ensure students are as well prepared for profession as possible. The university has a workshop where many of the practical aspects of the course are taught, and students take part in practical components in the field during their studies.

After completing the degree, you can apply for certification as an orthopaedic practitioner from Socialstyrelsen, (The Swedish National Board of Health and Welfare) in order to be able to work in Sweden. The job market looks good – there is great demand for trained and certified orthopaedic practitioners and there are plenty of jobs for those completing the degree – as long as you're willing

to move to where the jobs are. Orthopaedic technology businesses servicing hospitals vary depending on location, but there is usually one employer per region in Sweden.

In addition to hospitals, there are opportunities with suppliers and industrial enterprises offering orthopaedic and medical technical devices, working as, for example, clinical specialists, product developers or in sales.

"With this new course taught in English, the job market also expands geographically. At the same time we hope foreign students choose to stay here in Sweden as well, contributing to our local industry," says Jessica and Sara.

With the special skillset you acquire by studying to be an orthopaedic practitioner you can contribute to other industries as well, such as biomechanics, ergonomics, the development of products that interface with the human body, sports equipment, and more. Running your own business is naturally also a possibility – that may be a bit tougher though, as the mandate for supplying orthopaedic services to the healthcare authorities in each region must go through a public procurement processes.

Everyday work tasks for orthopaedic practitioners include working in clinics centre on helping people improve their mobility or to stabilise parts of the body in order to perform certain activities. The best way to help someone is through interviews, examinations and needs analyses. Often you will be collaborating with a number of different groups of professionals when helping an individual, such as doctors, physical therapists, or nurses.

"On any given day, an orthopaedic practitioner may find themselves making shoe inserts adapted to a person's feet and gait, making a leg prosthesis for someone with an amputated leg, or taking measurements for a corset for a child with scoliosis."

#### ORTHOPAEDIC COURSES IN THE NORDIC COUNTRIES

Prosthetics and Orthotics 3-year bachelor's taught in English at Hälsohögskolan, (School of Health and Welfare) in Jönköping.

#### MASTECH

2-year master's programme as a continuation of the Prosthetics and Orthotics or the Mechanical engineer programmes, School of Engineering/School of Health and Welfare, lönköping.

Orthopaedic practitioner 2-year vocational training, School of Health and Welfare, Jönköping.

#### Ortopediingeniør 3-year bachelor's taught in Norwegian/English at

in Norwegian/English at OsloMet, Oslo.

Prosthetics and Orthotics 3.5-year bachelor's taught in Finish, Metropolia, Helsinki.

# With staff safety at the core Össur's production facility in Mexico manufactures some of the most advanced products on the market. Come along to OMX, which has made headlines for its work in prioritising staff safety. Text: Jessica Widing De Los Santos | Photos: Shutterstock

ust south of the US-Mexico border, in the city of Tijuana. lies a cluster of medical device manufacturers. One of these is Össur's production facility, which opened it's doors in 2010. At first, only some 40 employees worked here, manufacturing a handful of simpler plastic injection components. Since then, the facility has grown rapidly, and currently represents 70-74% of Össur's total production. The number of employees has grown to 800 and the complexity of its operations has grown to match it. Today some of the most advanced medical devices on the market, including prosthesis components, are made in Tijuana.

OMX, as the facility is referred to internally, differs from many other similar operations in Mexico. For one, they have developed operations over the years so that both manufacturing, distribution and sales to all of Latin America is based in the same location. The facility has the environmental certification

ISO 14000 and has been noted by both national media and government for its efforts regarding staff safety. During the pandemic, it has among other things made use of thermographic cameras to detect if anyone has a fever and introduced special lunch scheduling to avoid overcrowding in the cafeteria.

"We have also extended a general invitation to other companies in Tijuana regarding a collaboration where safety measures can be shared between factories," says Eduardo Salcedo, CEO of Össur Mexico.

That OMX is such a popular workplace is something Eduardo believes is down to the advanced technology they work with, but also the humanitarian aspect of the work. In vehicle or electronic production you won't be creating products that let people regain their mobility.

"Being a part of the process that lets, for example, a child who has been in an accident regain mobility in their legs is something I think draws people to our workplace," says Eduardo. ••



The food!

Mexico is ranked as the third most gastronomically varied country in the world – here you'll find something for everyone.



Forget Cancun!
Instead go to Huatulco in the state of
Oaxaca or La PAZ in Baja California if you
want to experience top beaches that are
not overcrowded.



Culture
If you're looking for a bit of an Indiana Jones
experience, a visit to Chichen Itzá is a must.
Otherwise the cities of Guanajuato or San
Miguel de Allende are worth a visit for those
with an interest in history or architecture.



Wineries
Valle de Guadalupe – here you can sample som of Mexico's best wines in one of the 50 different vineyards – all within walking distance of one another.

# THE CHOICE OF A PROPERTY OF A

Össur Formfit® Pro Wrist is a wrist sleeve constructed using our superior signature 3D Motion Tech knit, and ideal for injuries that may benefit from compression. With proven superior moisture wicking and breathability, it keeps the wearer cool during use.





