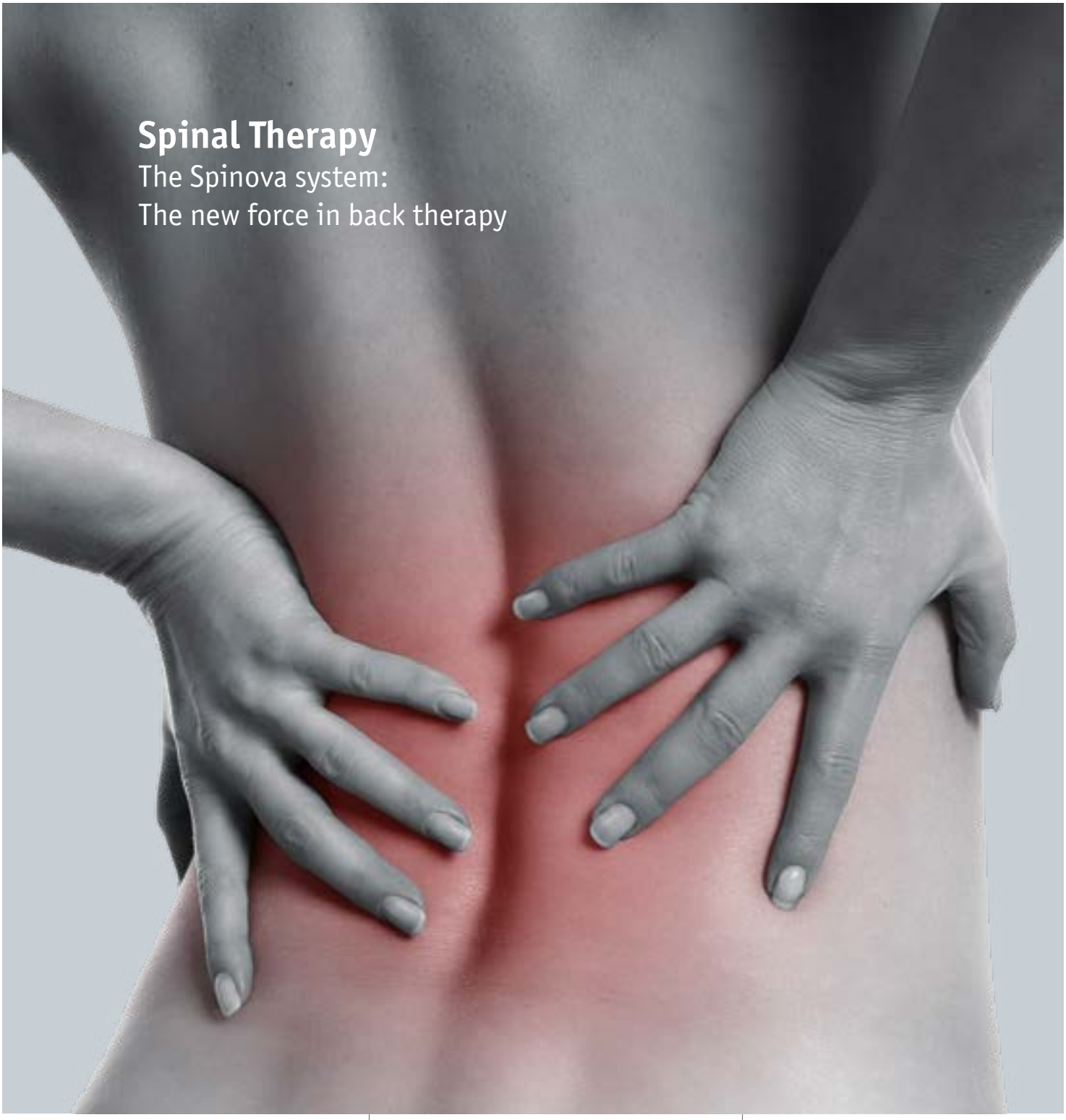
BAUERFEIND®

Issue 2013 | 2

life magazine
international



Spinal Therapy

The Spinova system:
The new force in back therapy

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Dear readers,

In this issue of *Bauerfeind life international*, I am delighted to introduce to you our new multi-stage orthoses system, Spinova. This is made up of four lumbar orthoses that follow one principle: they provide stability in the acute phase and increase the patient's mobility step-by-step as treatment progresses. Thanks to their construction, which allows components to be removed, the orthoses can be adapted to their wearers' individual needs to an unprecedented extent. Spinova is suitable for both conservative and post-operative use on the lower back and covers a wide variety of indications. Patients benefit from materials that are extremely comfortable to wear and orthoses that are particularly easy to handle. You can find out more about the development of Spinova, its areas of use and opinions from practicing physicians in our Focus section.

"Whether they are top athletes or amateurs, everyone wants to get through the season without injury. We would like to contribute towards this with our high-quality 'Made in Germany' medical aids."

We are also dealing with another major topic in this issue: in the last few weeks of the year, many people – in the northern hemisphere at least – start participating in sporting activities on the snow and ice once again. Whether they are top athletes who are competing to win a medal at the 2014 Winter Olympics in Sochi or amateurs who enjoy winter sports, the same applies to everyone: they want to get through the season without injury or receive the best possible care and treatment for health problems. We would like to contribute towards this with our high-quality "Made in Germany" medical aids.

We have also investigated a number of topics of interest from various countries around the world for you. For example, we report on treatment methods for venous diseases in a vein center in the USA and explain what a ballet barre is doing in a physician's office in the Netherlands. Let us surprise you!

I would now like to wish you a wonderful, Olympic winter and hope you enjoy reading *Bauerfeind life*!

With warm regards,

Prof. Hans B. Bauerfeind

Pictures: Bauerfeind

A platform for spinal therapy – p. 12

Focus page 12

A platform for spinal therapy

Back pain is a recurring issue in medical offices all over the world. The pain very often occurs in the lumbar spine area. With Spinova, Bauerfeind is presenting a new generation of orthoses for the lumbar area that can be adapted to the patient in stages and are highly customizable.

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Picture: Picture-alliance/Mihail Mokrushin

Sochi shines

Like a multi-faceted cut sapphire, the "Iceberg" skating palace shimmers on the Russian Black Sea coast. The shining blue arena seats 12,000 spectators, who will be able to watch the short track speed skating and figure skating events here from February 8 at the 22nd Winter Olympic Games in Sochi. Together with four other ice rinks and the Olympic stadium, the arena forms Sochi's Olympic Park, right on the Black Sea coast. The snowsports, bobsleigh, and luge competitions will take place at competition sites around Krasnaya Polyana, a location in the Caucasus Mountains about 70 kilometers away.

Swiss company ORTHO-TEAM uses Bodytronic 600

Tailor-made care

Bauerfeind's Bodytronic 600 measurement system is now used not only in Germany but also in Switzerland. The Swiss ORTHO-TEAM Group installed six of these measurement systems in one go at the end of August 2013. Body and volume measurements for tailor-made care using supports and compression stockings are now taken digitally at the Bern, Solothurn, Basel, Lucerne, Zurich and St. Gallen locations. "By using the standardized digital measurement process of the Bodytronic 600 devices, we aim to revolutionize treatment with compression stockings and improve their tired image in the field of medicine and among the general public," explains Marc Moser, a member of the management team. "With this innovative technology, we can guarantee our customers a precise and comfortable measurement process, a quick consultation and tailor-made products."

The Bauerfeind Bodytronic 600 measurement system was installed in six ORTHO-TEAM stores.

Bauerfeind Executive Board

Dirk Treiber is new Chief Commercial Officer, International

Since spring 2013, Dirk Treiber has been the new Chief Commercial Officer, International at Bauerfeind AG. In this role, he is responsible for developing and driving Bauerfeind´s international business. Within his international responsibility are all of Bauerfeind international subsidiaries and distributors, managed by International Sales Management.
Dirk Treiber has previously worked in a variety of management roles in several global pharmaceutical companies and brings more than 20 years of international commercial experience to Bauerfeind. Most recently he worked at Novartis Global Headquarters based in Switzerland.

Cooperation with Run & Fun in Brazil

Reaching your goal quickly and painlessly

"We would like to support people who want to be physically active and exercise healthily." For 20 years, this has been the motto of Run & Fun, a personal training company based in São Paulo, Brazil.

Bauerfeind Store São Paulo and Run & Fun are therefore now working together to enable athletes to achieve their goals even more quickly without pain or injuries. Run & Fun advises approximately 2,000 runners, cyclists and other athletes and supports them in reaching their goals. The trainers help them using personalized training plans, individual coaching and group training sessions, among other techniques. In turn, Bauerfeind employees train the trainers with lectures on health, nutrition and vein problems in athletes. Bauerfeind compression stockings support Run & Fun athletes on long flights to major marathons in New York, Boston, Amsterdam or Berlin. VenoTrain sport and VenoTrain micro are also used in training and competitions to ensure that the athletes can achieve their sporting goals healthily and safely.

The team of Run & Fun in São Paulo.

Pictures: Bauerfeind, ORTHO-TEAM, Run & Fun, Fotolia.com/lapas77, 2013 Vertical Run/China World Summit Wing Hotel

The Gulf of Naples.

5th Seminar "Robert Stemmer"

Compression therapy and sports

The fifth "Robert Stemmer" seminar, entitled "The Compression Therapy and Phlebolymphology", took place in Naples, Italy from November 7-9, 2013. Scientific Director Prof. Dr. Marcello Izzo was delighted with the wide range of topics that he was able to offer to participants.The prestigious list of speakers also included Dr. Mario Sica, Vice President of the French Society of Phlebology, who spoke on "Compression Therapy and Sports: The Different Aspects." In his lecture, among other topics, he talked about a study on the use of VenoTrain sport in the Marathon de Paris in 2011. The study clearly showed that wearing compression stockings when doing extremely strenuous sport protects the veins during the activity and helps to ease more quickly the usual symptoms such as fatigue, swelling and cramp. Participants were able to find out about Bauerfeind's range of compression stockings at the stand of the local Bauerfeind partner.

Vertical run in China

Over 2,000 steps to victory

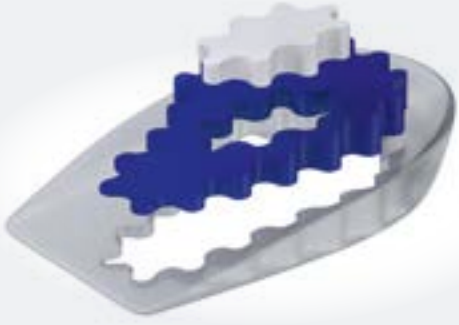
Many people prefer to use the elevator than take the stairs. This certainly does not apply to Thomas Dold, a German who came first in the vertical run up the China World Summit Wing in August 2013. He managed to climb the 2,041 stairs in only 9.55 minutes – a whole 36 seconds faster than Piotr Lobodzinski from Poland who came in second. Clement Dumont from France was third with a time of 11.45 minutes. At a height of 330 meters and with 74 floors, the China World Summit Wing is still the tallest building in Beijing. "It is a wonderful feeling to stand high above the Olympic city, completely exhausted and happy," admits Dold at the finish line. For his winning run, Thomas Dold wore VenoTrain sport compression stockings, which have been proven to stimulate circulation and protect the muscles from microtears.

Surrounded by the press: vertical run winner Thomas Dold.

The redesigned ViscoSpot heel cushion

Three zones to combat chronical heel and ankle pain

For acute heel pain and talalgia, help is needed fast. The redesigned ViscoSpot heel cushion quickly reduces pain, provides initial relief and is easy to insert into a shoe. In comparison with the old version, the new ViscoSpot has three zones instead of two. They distribute pressure evenly when you take a step and provide relief for the heel in particular. The silicone pressure relief zones also come in three different Shore hardnesses. The Shore hardness reduces as the zones get closer to the center of the heel, meaning that they get softer. The white zone provides targeted cushioning for the heel. The specially shaped blue zone is slightly firmer and relieves the connection to the plantar fascia. The outer gray zone is the firmest and provides support for the heel. The wave-shaped interlocking of the zones, inspired by PowerWave Technology, means that the transitions cannot be felt and the foot orthosis has a high level of wearing comfort.
The ViscoHeel, ViscoPed and ViscoBalance also have two new features: their colors have also been adapted and they are being presented in packaging with a new, fresh design.



The silicone pressure relief zones of the ViscoSpot heel cushion come in three different Shore hardnesses.

Universidad Autónoma de Nuevo León, Mexico

Athletes benefit from Bauerfeind products

The Universidad Autónoma de Nuevo León (UANL) in Monterrey is one of Mexico's most important universities and has an excellent reputation for sport, among other fields. The famous American football team, "Authentic Tigres", the modern sports facilities such as the Aquatic Center, which meets Olympic standards for international competition, or the "Tiger Poly-Sport Arena" for students and accomplished athletes, and, not least, the physicians and physiotherapists at UANL's sports training center have made significant contributions towards this reputation. Endocat (Bauerfeind's local partner) has recently started to supply the center with the GenuTrain, MalleoTrain, LumboTrain and other similar products. Orthopedic surgeon Dr. Alan Aguirre Gutiérrez and physiotherapist Carlos Villarreal Aranda, who has already provided physiotherapeutic treatment at several Olympic Games, are very pleased that they are now able to provide athletes with high-quality orthopedic aids quickly and easily.

Monterrey is situated at the foot of the mountain Cerro de la Silla (above). The city is famous for the UANL (below).

Youth basketball tournament in Singapore

Slam dunk with an NBA star

102 youth basketball teams showcased their skills on the court at the "NBA 3X" event in Singapore. They competed against one another at the Ngee Ann City Civic Plaza on August 30 and 31, in contests categorized by age groups. Bauerfeind was present at the event as a sponsor. Also making a guest appearance at the tournament was NBA star Brook Lopez, who plays center for the Brooklyn Nets. The 2.13 meter-tall basketball player joined the "Brooklynettes," the cheerleaders for his team, and "Go," the gorilla mascot of the Phoenix Suns, to sign autographs and have their photos taken with fans. The young basketballers received tips on their throwing technique from Lopez, who was wearing a black GenuTrain active support from Bauerfeind. The basketball event attracted several thousand visitors over the course of the two-day tournament.

NBA star Brook Lopez.

A life's work honored

Dr. Michel R. Perrin awarded the Ratschow Memorial Medal

French phlebologist Dr. Michel R. Perrin was presented with the Ratschow Memorial Medal at the 55th annual conference of the German Society of Phlebology, which took place in Hamburg in October 2013. The 80-year-old vascular surgeon has held various posts over the course of his career, including many years as President of the French Society of Phlebology and as Vice President of the International Union of Phlebology (IUP). Since 1969, the Ratschow Medal has been awarded annually by the Curatorium Angiologiae Internationalis to particularly deserving scientists from the field of vascular medicine and related disciplines. Bauerfeind has been a patron of the foundation awarding this medal for a number of years.

Dr. Michel R. Perrin.

Football team kinesiologist relies on Bauerfeind

"These orthoses retain their functionality"

Since February 2013, the Arte Vascular Boutique in Viña del Mar, Chile, a distributor of Bauerfeind's products, has been supplying patients and athletes with supports, orthoses, compression stockings and foot orthoses "Made in Germany." Its customers also include members of Chile's oldest existing football club, the Club de Deportes Santiago Wanderers S.A.D.P. *life magazine* talked to their sports kinesiologist, Mauricio Ignacio Martínez.

Mauricio Ignacio Martínez, sports kinesiologist of Chile's oldest existing football club.

In your experience, what are the benefits of Bauerfeind products?

Mr. Martínez: In my clinical experience, I have come across many different kinds and brands of orthoses, many of them lacking the quality, comfort and, in particular, the functionality that patients need. Given these practical deficiencies, patients mostly replace orthoses with compressive, functional supports. It is my opinion that Bauerfeind orthoses meet all the criteria for use by athletes and soccer players, i.e. functionality, stability and comfort. A high level of manufacturing quality means these orthoses retain their functionality during every workout, practice and game, which has given us some excellent results in preventing and reducing the frequency of injuries.

Do you believe that Bauerfeind orthoses can help players in your team?

Mr. Martínez: No doubt, one of the factors that has a negative affect on any individual or team result in sport is injuries. Prevention using protective orthoses from Bauerfeind is a big help for all of the players in the team, who are at risk of injury in each practice or game they play. An injury not only means physical damage, but also psychological and emotional damage for the player and those close to him. That is why preventing injuries is invaluable for people working in sports medicine.

What sets Bauerfeind products apart?

Mr. Martínez: Their quality, comfort and durability. Players spend many hours risking injury in workouts, practices and games, so they need a protective device that is durable and resistant to meet these requirements.

Pictures: Fotolia.com/Yakor, UANL, NBA Asia, Johannes Arlt, Club de Deportes Santiago Wanderers S.A.D.P.

TRADE FAIRS AND EVENTS

November 2013

- **November 19 – 20, 2013**
  Salon National de l'Orthopédie Orthèse, Paris, France. Further information: www.snof.eu
- **November 20 – 23, 2013**
  MEDICA, Düsseldorf, Germany. Further information: www.medica-tradefair.com

March 2014

- **March 11 – 15, 2014**
  AAOS 2014 Annual Meeting, New Orleans, USA. Further information: www.aaos.org

April 2014

- **April 10 – 12, 2014**
  IOC World Conference on Prevention of Injury & Illness in Sport, Monaco, Monaco. Further Information: www.ioc-preventionconference.org

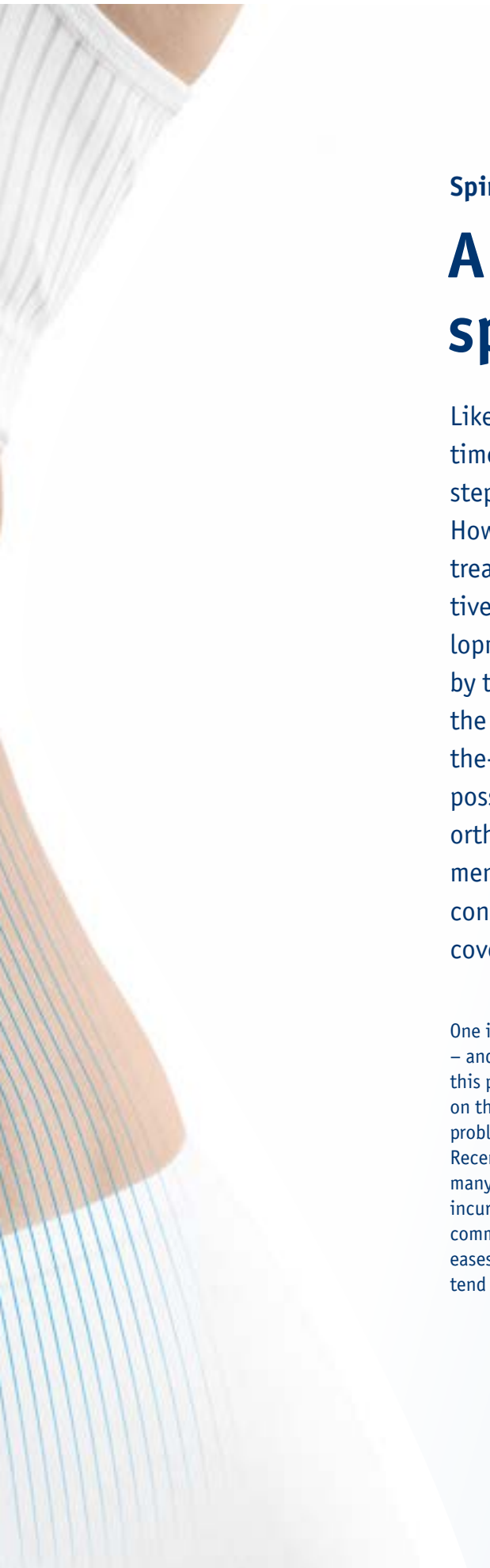
May 2014

- **May 13 – 16, 2014**
  OTworld, Leipzig, Germany. Further Information: www.ot-world.com
- **May 14 – 17, 2014**
  16th ESSKA Congress, Amsterdam, Netherlands. Further information: www.esska-congress.org

June 2014

- **June 4 – 6, 2014**
  15th EFORT Congress, London, United Kingdom. Further information: www.efort.org
- **June 25 – 28, 2014**
  15th Congress of the European Venous Forum, Paris, France. Further information: www.europeanvenousforum.org

Picture: Bauerfeind

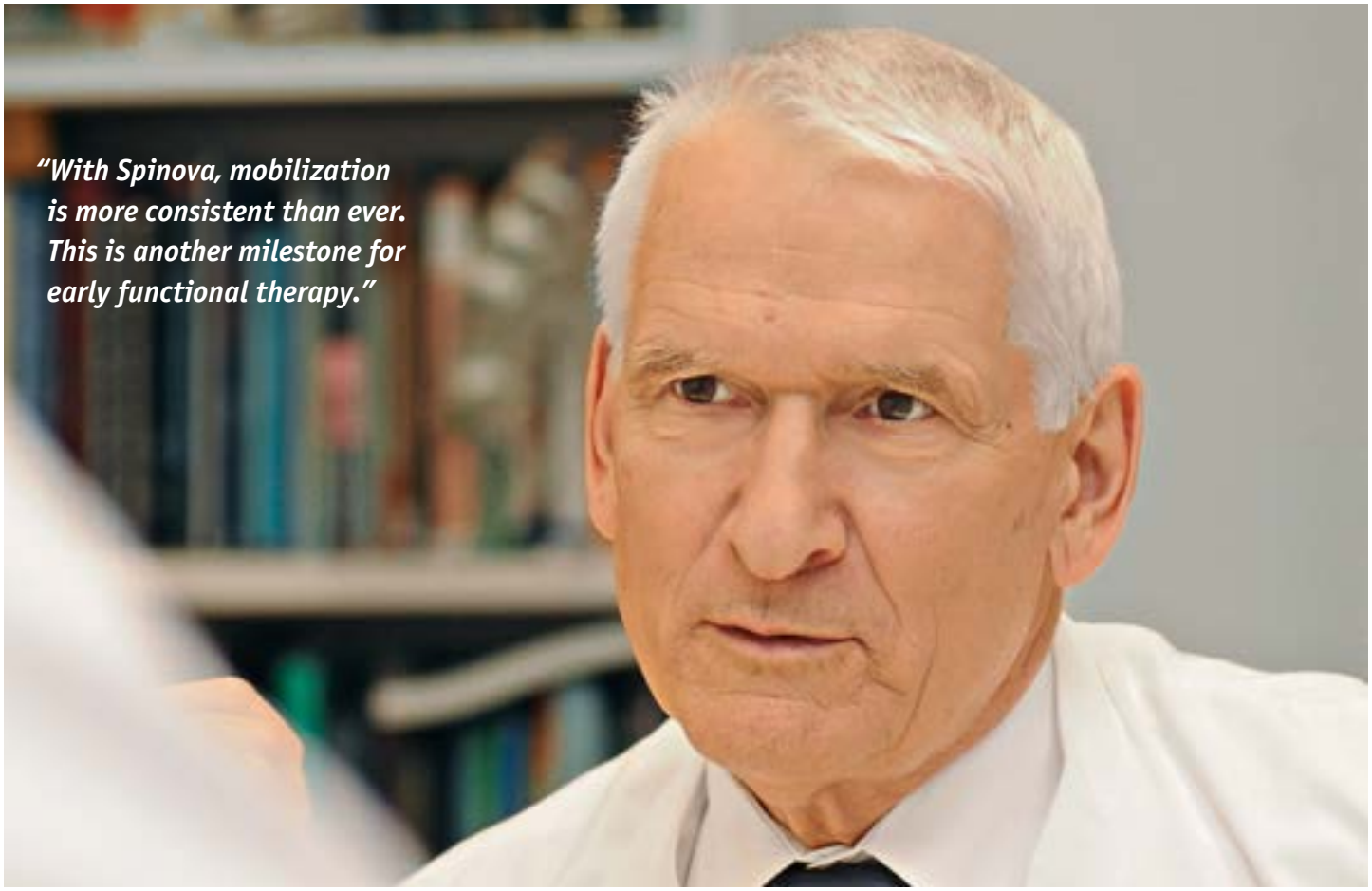


Spinova

A platform for spinal therapy

Like all medical aids, orthoses are products of their time. The development of a product usually follows a step-by-step course to prepare it for series production. However, with the introduction of its Spinova back treatment platform to the market, Bauerfeind is effectively taking a quantum leap forward in orthosis development. Four new orthoses, which are being launched by the company at the same time, are claimed to be the result of this great advancement. With its state-of-the-art materials and technologies, as well as various possibilities for customization, this new generation of orthoses for the lumbar region guarantees an improvement in spinal therapy. Since it can be used for both conservative and post-operative treatment, Spinova covers a wide range of indications.

One in three people in Germany have "back trouble." It is a perennial issue – and not just in the newspaper headlines. Those who have experienced this pain themselves sometimes suffer enormously from its negative impact on their everyday life. 70 percent of the population complain of back problems at least once a year, and they affect young people as well as old. Recent figures published by the Helmholtz Center suggest that, in Germany, treatment for back pain and working time lost due to back problems incur annual costs approaching EUR 50 billion. Back pain is the third most common cause of early retirement, after mental illness and oncological diseases. As is often the case with cautionary statistics, however, these figures tend to gloss over individual cases. >>>



Spine expert Prof. Jürgen Harms, Ethianum Klinik Heidelberg.

>>> "The figures are undoubtedly all correct," says Prof. Jürgen Harms from the Ethianum Kinik in Heidelberg, "but back pain is part of our life, as are other medical complaints." Prof. Harms, an internationally renowned spine expert, believes that many of these ailments can be brought under control over time with the help of exercise, medical products and physiotherapy. This approach has its benefits, regardless of the loaded headlines about back problems. "We simply have to take a close look at what we are talking about": the orthopedic specialist, who previously worked at the Clinic Karlsbad-Langensteinbach, knows this all too well, in several respects. In his professional capacity he has developed groundbreaking procedures for back surgery, but he has also experienced these first hand as a patient. According to Prof. Harms, around 70 percent of back complaints affect the lumbar spine area. He then goes on to say, in a rather self-critical tone, that "Surgery has been, and still is, carried out too often. We also achieve very successful therapeutic outcomes with conservative treatment, without the risks involved in surgical intervention." So how can patients with intervertebral disk problems, lumbago, vertebral displacement or fractures – to name a few of the key lumbar spine-related issues – be provided with adequate help?

The principle of multi-stage back orthoses

To obtain medical aids that can be used for both post-operative and conservative treatment, Prof. Harms personally supported the development of Bauerfeind orthoses. There was one distinct specification: these orthoses should no longer resemble suits of armor! Another requirement that the spine expert feels very strongly about is enabling the early mobilization of patients. To achieve this objective, the newly developed medical products had to perform a difficult balancing act: they had to combine stability in the acute phase with mobility over the course of treatment. This is made possible by the multi-stage construction of the orthoses, which can be dismantled bit by bit. This flexible design principle, which was pioneered by Bauerfeind in the production of its SofTec Lumbo and SofTec Dorso orthoses, can largely be attributed to Prof. Harms. However, in spite of the undisputed advantages of these modern back orthoses, neither Prof. Harms nor Bauerfeind were keen to rest on their laurels. The next generation of orthoses was already in the offing. The idea of a "platform" gradually began to take shape. The thinking behind this concept was that it would provide the basis for more individually tailored courses of treatment for lumbar spine complaints. To achieve this, the successful multi-stage formula needed to be developed further, if possible.

A tried and tested treatment concept

There is widespread agreement over the medical and economic benefits offered by multi-stage orthotic lumbar spine therapy. The positive experiences of orthopedic specialists, orthotists and health insurance companies in using these orthoses speak for themselves. In the acute phase of therapy, relief and stabilization are regarded as the primary methods of alleviating pain. The orthoses are sometimes used in combination with medication, to reduce painful mechanical stress on the affected area of the lumbar spine. Rapid pain relief and increased security during movement allow treatment to be begun at an early stage and enable gradual, unassisted patient mobilization. Stabilizing the diseased section of the spine is crucial during the acute phase, but when it comes to the therapy stage the priority is to gradually in-

Pictures: Conny Kurz, Bauerfeind

crease the patient's mobility. The stabilizing elements of the orthoses can be removed for this purpose. This is when the key advantage of the multi-stage orthosis design comes into play: the option to dismantle parts of the orthosis offers patients the freedom to move around normally in their everyday activities. The mechanical stabilization ensures that extreme loads are avoided. This is important, as otherwise patients would limit their mobility completely or as far as possible for fear of making painful impulsive movements. It is even possible to dismantle elements of the orthoses while specific segments are individually stabilized, thus reaching a new stage in the lumbar spine therapy. It took a long time to develop this back treatment platform concept. Bauerfeind involved all the relevant professional groups, as well as Prof. Harms, in the development process at a very early stage. Every single aspect had to be taken into account to ensure that the new system would be viable in the future too.

"With Spinova, mobilization is more consistent than ever"

The result of this development has now been unveiled: Spinova. The aim is that this name will become synonymous with multi-stage therapy for the lower back in years to come. "This is another milestone for early functional therapy," says Prof. Harms, summing up the situation following the release of the initial results from various observational studies (see interviews). The functional elements that form the basis of the four new orthoses can be combined in various ways (see product overview on page 16), as the same basic support, tensioning strap system, abdominal fastening, back setting device and shell are used throughout the Spinova system. Virtually every component is made of new, lightweight materials. Thanks to the new tensioning strap system, stabilization and relief can be concentrated specifically on individual segments of the spine. This possibility of individual customization is one of the key distinctive features of the platform – along with its advantages in terms of mobilization, of course. "With Spinova, mobilization is more consistent than ever," boasts the man behind the original idea. Has this concept been taken as far as it will go? Prof. Harms appears hesitant. With his vast experience in developing medical aids, he knows better than to give a hasty answer. "A platform is first and foremost a level that has been reached," he eventually says. "But platforms are also always open to new developments."

The Spinova system

Thinking outside the box

CEO Prof. Hans B. Bauerfeind talks about the development of the new back platform.

What does Spinova mean?

From a literal perspective, it's all in the name – we're talking about a completely new generation of products for the spine here. So "Spin" stands for "spine" and "nova" means "new." The meaning is not quite clearly defined by the name, however. The key factor as far as physicians, patients and medical retailers are concerned is that the four products are part of a system and can be adapted to users' individual requirements to an extent that has never been possible before, in either conservative or post-operative treatment. This system is based on versatile and variable functional units that are used in all four orthoses. As a result, Spinova can cover virtually any indication in the lumbar spine area.

What was the focus of Spinova's development?

Therapeutic success! Back pain is one of the most common ailments worldwide. Millions of people in Germany are seriously affected by it. The purpose of the development was to create an orthosis system that sets new standards in terms of effectiveness and wearing comfort. In spite of their complex construction, it was essential for the new products to be as easy to use as possible. Ultimately, it is the patients who have to approve the orthoses as medical products – and use them regularly. They will only do so if the product fits properly and if they feel it is working. We were also open to new approaches for achieving this objective. We thought outside the box more than we ever had before when it came to looking for modern materials and suitable technologies for processing them. Retail partners and back experts from clinics and medical practices were constantly involved in the development process. Only when everyone involved was satisfied with the result would we be prepared to launch the product on the market. In the case of Spinova, this took four years of intensive work.

How often did you come close to canceling the project?

Never, although of course the research and development required a lot of patience. The world is more complex than ever and offers endless opportunities. You can no longer simply sketch out new innovations on something as small as a napkin.

Prof. Hans B. Bauerfeind talks about the latest generation of lumbar orthoses.

Introducing the Spinova quartet

The new force in back therapy

Four new orthoses form the platform for a multi-stage therapy concept for the lower back. This new system is not simply a revamped version of the existing concept; it is the result of rigorous further development. Thanks to the use of new materials and patented technology, a whole new level of wearing comfort has also been achieved.

Spinova Immo

*… uses a **two-part adjustable shell** with a circular pelvic harness to stabilize and relieve the lumbar spine.*

Spinova Immo Plus (previously SofTec Lumbo)

*… uses a **two-part adjustable shell and knitted fabric** to stabilize the lumbar spine and the transition to the sacral bone, and can be gradually dismantled during the recovery process.*

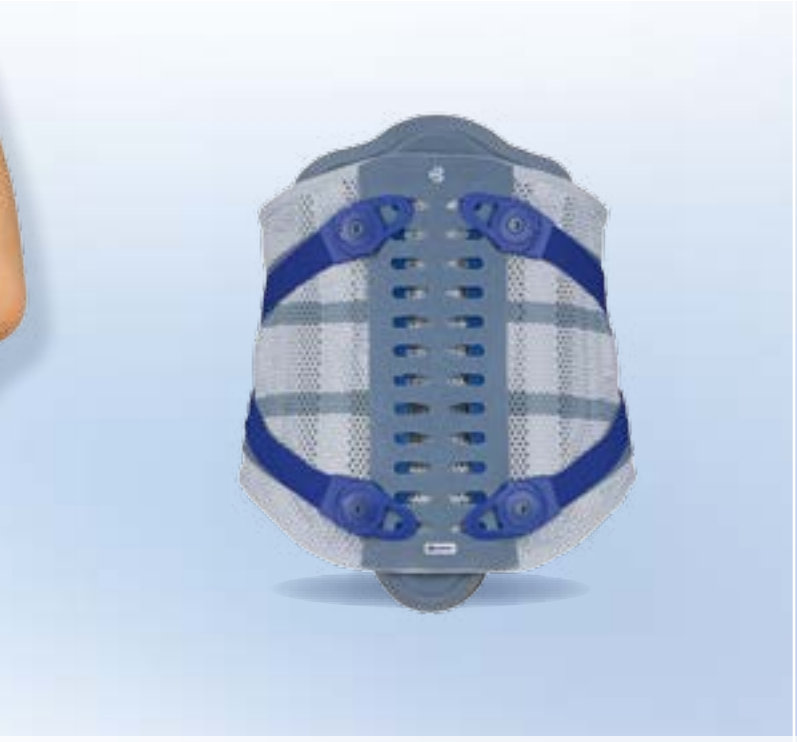
With Spinova, Bauerfeind is launching the latest generation of lumbar orthoses, following on from the SecuTec Lumbo, SecuTec Dorso and SofTec Lumbo. It paves the way for a new approach to both conservative and post-operative treatment of the lumbar spine. With the new lumbar orthoses, which are designed to stabilize, relieve and correct the posture of the lumbar spine, the focus is on treating non-physiological strain on the spine and intervertebral disks. The Spinova system offers options for lordosis, delordosing and stabilizing the spine, and is based on a set of variable, recurring functional units. These elements can be adjusted in a flexible way to suit the patient's individual physique. The system fulfills the highest standards in wearing comfort, ease of application and medical effectiveness. As the course of therapy progresses, the Spinova orthoses can be gradually dismantled to provide three stages of support: stabilization, activation and mobilization.

Exertion of force by a preset strap system

Identically designed units feature throughout the Spinova portfolio. The Spinova products are each constructed on the basis of the system's modular concept, with these units combined in various ways depending on the function and indication. The core elements of each orthosis are the lightweight basic support, the tensioning strap system, the abdominal fastening, the back setting device and the shell. The insertion points for the strap system in the back setting device, which are located right next to the spinous processes, transmit force to the affected area of the spine in specific places. This means that the therapeutic effect of the orthosis is focused directly on the affected section of the spine. There is no need for multiple strapping, as the individually preset degree of tension is maintained.

Pictures: Bauerfeind

Depending on the aim of the treatment, physicians have four lower back orthoses at their disposal:
Spinova Immo immobilizes the lumbar spine.
Spinova Immo Plus (previously known as SofTec Lumbo) supports the lumbar spine and the transition to the sacral bone. Its modular construction with a shell and stabilizing mesh material makes it possible to control the course of therapy by gradually dismantling the orthosis.
Spinova Support Plus (previously known as SecuTec Dorso) features a removable bridging pad. This multifunctional orthosis relieves and straightens the lumbar spine (modified Hohmann corset).
The large back pad distributes the forces exerted on the thoracic spine, pelvis and sacral bone. It also relieves the lumbar spine and can be removed as the patient's recovery progresses.
Spinova Unload Plus (previously known as SecuTec Lumbo) with a bridging frame reduces lumbar lordosis. The frame distributes the forces exerted on the thoracic spine, pelvis and sacral bone.
The Plus version features an abdominal pad, which exerts compression on the abdomen and helps straighten the spine.

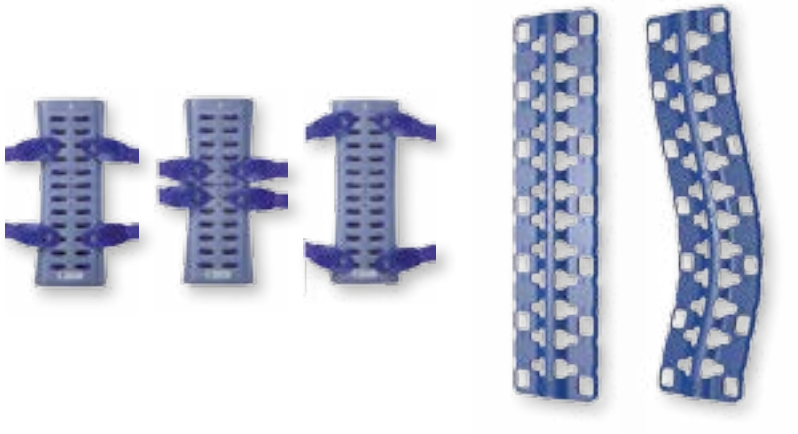


Spinova Support Plus (previously SecuTec Dorso)

*… uses **a bridging pad** to stabilize and relieve the lumbar spine in accordance with the three-point principle and can be gradually dismantled.*

Spinova Unload Plus (previously SecuTec Lumbo)

*… uses **a bridging frame** to stabilize and relieve the lumbar spine in accordance with the three-point principle and reduces lumbar lordosis.*



The scaled back setting device
is one of the main elements of the orthoses and can be shaped without heating. It can be individually adapted (right). The ends of the tensioning straps are hooked into the back setting device at the height required for therapeutic purposes (left).

Further information

Detailed information can be found online at **www.bauerfeind.com/spinova.**

Observational study – conservative treatment

"My dream is to use the orthosis as an exercise tool"

Dr. René Malzkorn used to be a physiotherapist, before working as a senior physician at the Klinikum Karlsbad-Langensteinbach with Prof. Jürgen Harms. The Nagold-based orthopedic specialist provided critical and constructive support during the wearing test for the new Spinova back orthoses.

Do you like orthoses?
Dr. Malzkorn: Admittedly I prefer torso muscle corsets to outer corsets. As a physiotherapist, I have always believed in activating my patient's back muscles rather than passively stabilizing them, so rigid corset systems were a thorn in my side. But times change, and so do technology and brands. The corset provided the basis for developing orthoses.

Has the introduction of Spinova changed your opinion at all?
Dr. Malzkorn: As a physician, Spinova offers me a whole new range of possibilities. This system is the result of a comprehensive development process, not just fine-tuning of an existing medical care product. It has always been my dream to use the orthosis as an exercise tool. Of course, there is always the question of who or what I am intending to treat. Whether to opt for orthotic treatment is a matter of individual choice. To begin with, the focus is on relief, relaxation, extension and pain therapy, then it shifts to physiotherapeutic exercise. The Spinova orthoses add a high degree of customization and flexibility to this range of therapeutic options.

How did you gather your findings?
Dr. Malzkorn: Around 40 lumbar spine patients from my practice were willing to take part in a wearing test. I and application engineers from Bauerfeind adjusted the new elements of the Spinova module system to fit the patients and optimized them over the course of the test period. Each patient was provided with an appropriate orthosis for their indication. The intention was for all patients to provide an assessment of their orthosis after wearing it for up to three months.

Dr. René Malzkorn, orthopedic specialist.

What were the results?
Dr. Malzkorn: All the patients reported that the orthoses were very comfortable to wear, and many of them also felt that their pain had been reduced. One patient in particular benefited from the experience. He underwent surgery for an intervertebral disk prolapse 20 years ago, and later went under the knife again following a relapse in the same segment. I recently treated him as he was once again experiencing severe pain. Another operation would have left him out of action for a long time, so that was not an option for him. We treated him with the Spinova Immo Plus, in combination with physiotherapy. He spent most of his time in his office lying down, and when he had appointments elsewhere he stabilized his back by wearing the orthosis, which could not be seen under his jacket. As a result, it now seems that surgical intervention is no longer needed.

Like so many patients with intervertebral disk complaints…
Dr. Malzkorn: 90 to 95 percent do not need surgery, that is true. Operations performed too early often have a lasting impact on the patient's wellbeing. Often it is not the intervertebral disk pain that is the crucial factor here, but the pseudoradicular symptoms; in other words, symptoms that manifest as nerve root pain but are controlled and supported by soft tissue systems. And it is possible to manage these symptoms effectively.

Comfortable materials make the orthoses very pleasant to wear.

How?
Dr. Malzkorn: With physiotherapy, shockwave therapy, local infiltration, osteopathy and the new orthoses. I can put together a comprehensive conservative treatment program for patients. "Red flag" symptoms such as incontinence and paralysis that require quick surgical intervention, which determines the further course of treatment, are significant here. Through treatment, the symptoms can also often be completely ascribed to muscular and fascial systems. Nowadays I can use an orthosis to actually activate the musculature, which was not possible in the past. It is essential to know how to interpret the symptoms. In an interdisciplinary team involving a physiotherapist, radiologist and neurologist, the indication must be defined based on clear algorithms.

Pictures: Conny Kurz, Stefan Durstewitz

Observational study – post-operative treatment

"The individual adjustment is unique"

Patients at the Orthopedic Clinic of St. Vincenz Hospital in Brakel, Germany, were provided with the new Spinova orthoses following spinal surgery, making them among the first to try out these aids. The Director of the clinic, Prof. Haaker, feels vindicated – both as a clinician and as a member of the Spinova development team.

Would you say Spinova has enjoyed a successful première at your clinic?

Prof. Haaker: The aim was to establish a solid basis for the new back treatment platform right from the development phase. With a great deal of effort, we have been very successful in achieving this, including in terms of determining indications. You see, in the past there was a certain amount of overlapping and lack of clarity, even in specialist medical literature. When should we opt for lordosis, or delordosing treatment? With Spinova, both of these are possible. If the product proves convincing in practice, as it has done at our clinic, we feel vindicated in our decision to pursue its development. Our efforts have paid off.

What kind of patients have you treated with Spinova over the course of the observational study?

Prof. Haaker: Thanks to our nationwide catchment area, we receive a large number of patients with spinal conditions. These range from fusion operations and the straightening of vertebral bodies in the case of osteoporotic fractures right through to patients who have undergone intervertebral disk surgery. All of them were provided with a Spinova product as part of their post-operative treatment. In around 70 percent of cases, we used Spinova Immo Plus.

Like all Spinova orthoses, Spinova Immo Plus has a modular construction and can be dismantled bit by bit. What else do the new orthoses offer that other back orthoses can't?

Prof. Haaker: In most cases, our spine patients require stabilization and delordosing. The new orthoses produce their effect with pinpoint precision thanks to a special tensioning strap system, which is attached to the back setting device in variable positions. The system is individually adjustable, which is unique. The new tensioning strapping enables a high, segment-specific exertion of force, and this can be reproduced too. Corrections are only necessary in extremely rare cases, so there is a high level of therapeutic reliability.

What is important in the case of fusion operations?

Prof. Haaker: I would not like everything to be concentrated on the metal implant in the immediate post-operative phase. After all, there are massive mechanical forces involved, which impact on the new surgical construction. Particularly in the case of aging patients, we worry whether the bones will hold. So if I have an orthosis from the Spinova range at my disposal that can prevent harmful rotating movements, offers excellent wearing comfort and is not too bulky, both the patient and I will be happy. After six weeks the orthosis can be dismantled and the patient mobilized, because the bone will have built up by then. After three months of wearing the orthosis, the patient will have reached a good level of stability.

How do you treat the large number of intervertebral disk patients?

Prof. Haaker: They, too, were and still are being treated with orthoses during post-operative therapy. However, 15 percent of our patients still receive purely conservative treatment. It is worth noting that we normally have some intervertebral disk patients, about three to five percent, for whom surgery appears to be indicated, primarily those with neurological deficits. But we only resort to surgery when all multi-modal therapeutic approaches, which include orthoses, have been exhausted. In general, however, I always opt for conservative treatment before surgical intervention, and in these cases in particular I think the Spinova orthoses are a good choice.

Prof. Rolf Haaker helped develop the Spinova range.

Winter Olympic Games 2014

"Hot. Cool. Yours."

The slogan for the XXII Winter Olympic Games is intended to describe Russia's diversity. The Winter Olympics themselves also promise to be incredibly diverse.

Picture: pixathlon

The Winter Olympic Games have never before been hosted by a sub-tropical city. Sochi, situated on the Black Sea coast, on the "Russian Riviera," is one of Russia's most popular holiday destinations in the summer months. While tourists stroll under palm trees, snow lies on the mountains inland until well into June. This winter, around 6,000 athletes and team members from 85 nations are expected. The competition program for the Winter Olympics is also more varied than ever before. 98 events are to be decided across seven sports or 15 disciplines (ice hockey, speed skating, short track speed skating, figure skating, curling, biathlon, cross country skiing, ski jumping, Nordic combined skiing, alpine skiing, freestyle skiing, snowboarding, bobsleigh, skeleton, and luge). 29 of these events are to take place in the Olympic Park in Sochi, in the "Coastal Cluster," while 69 are to take place in the Caucasus Mountains, in the "Mountain Cluster." The "newcomers" to the program include the team figure skating competition and women's ski jumping. A total of 1,300 gold, silver, and bronze medals have been produced for the Olympic and Paralympic Games.

For further information please visit

www.sochi2014.com/en

Faster skis, more people on the slopes and more often artificial snow – all these factors increase the risk of injury. Fortunately, the therapeutic options have evolved too.

Pictures: Fotolia.com/Alexander Rochau, private

Treating sports injuries in Russia

"Far more effective than it used to be"

Doctor Maxim Strakhov knows all about sports injuries. This is not surprising, because the 47-year-old doctor, who specializes in orthopedics, traumatology and neurosurgery, is responsible for treating Russian professional sportsmen and women. He will also be present at the Winter Olympics in Sochi, but, for the sake of the athletes, he very much hopes there won't be much work for the doctors to do.

Dr. Maxim Strakhov.

Doctor Strakhov, where do you work?

Dr. Strakhov: Since 2010, I have been the head of the sports injury clinic at Hospital No. 86 of the Federal Medical Biological Agency in Moscow.

There are in total about 9,000 professional sportsmen and women in Russia. Some of these are assigned to our clinic. These are the athletes who engage in single combat sports, such as wrestling and boxing, as well as track and field athletes, and representatives of winter sports, especially figure-skaters. We are entirely responsible for the medical care of these athletes in terms of allowing them to practice their sport and treating injuries and illness. However, when it comes to specific injuries, professional athletes from other sports also come to us.

Our clinic is one of the largest specialist centers in Russia for the treatment of sports injuries. Daily admission of patients is carried out by a team of five specialist traumatologists who select the most appropriate form of treatment. After this, either the injured athlete undergoes an operation, or – and this happens in about 90% of cases – conservative treatment is prescribed. In this, an important role is also played by therapeutic exercises, physiotherapy and the use of orthopedic aids.

What kinds of injuries occur frequently during winter sports?

Dr. Strakhov: As well as the figure skaters and speed skaters, other winter sports athletes also come to us from competitive skiing, biathlon, multi-discipline sports, bobsleigh and so on. Most of these athletes have problems with their knee joints, associated, for example, with instability or injury within the joint structures, or injuries to the ankle or the Achilles tendon. Often athletes come to us with injuries caused by tiredness and an excessive workload.

Have the methods of treating sports injuries changed in recent years?

Dr. Strakhov: Yes, very much so. Nowadays we can help our patients far more effectively. This is largely due to the development of orthopedic aids. These are now used not only in the treatment of injuries, for example to stabilize and limit the movement of a joint, but also to protect certain parts of the body during sports activities, whether in training or in competition. Even in Vancouver, one of our figure skaters had to perform wearing an orthosis; otherwise he could not have even set foot on the ice because of the acute pain. And that remarkable athlete went on to win a medal …

And another example: a track and field athlete was suffering from inflammation of the Achilles tendon. For this kind of patient we recommend conservative treatment with physiotherapy and massage. Now we can also recommend an appropriate ankle support.

Recently we performed an operation on one young man's Achilles tendon because of Haglund's syndrome. To guarantee success during the post-operative period, we used a Bauerfeind orthosis. Thanks to this, the athlete was able to put weight on his foot during the rehabilitation process while the injured tissues remained safe and protected.

How important is the quality of the products for you?

Dr. Strakhov: Here at the clinic we set very high standards for the pharmaceuticals and other medical products we use. For our professional sportsmen and women, we have to have first-class medical services and products. These definitely include the range of products made by Bauerfeind. They are well designed, high-tech and they help athletes to recover quickly.

Take, for example, an injury to the ligaments in the knee joint. Just a few decades ago, patients were put in plaster after the operation. Only at the end of that period of treatment, when the plaster was removed, could the patient progress to active rehabilitation. Then simple single-axis hinged orthoses began to appear, and then multi-axis ones. Now the method of treatment is entirely different. The patient is given the appropriate orthopedic aid, which at first prevents all movement in the knee joint for a certain period. Then the hinge is gradually adjusted, little by little, so as to allow more and more movement. The orthosis can, as it were, be customized to fit the specific treatment situation. This kind of rehabilitation brings many advantages because it allows the athletes to get fit again more quickly. Thanks to these new products, we can allow athletes to be more mobile and put more weight on their knees at an earlier stage and at the same time protect them from further injury.

Where will you be located during the Olympic Games?

Dr. Strakhov: Most likely in the coastal cluster, where the figure skating, speed skating and other non-mountain events will be taking place. If necessary, I will be ready to help the athletes, but, of course, I hope that we will not have to deal with very many serious injuries.

Reliable protection with Bauerfeind products

For a safe winter season

Whether beginners, experienced amateurs or professionals – the winter wonderland lures everyone out onto the piste, the cross-country skiing trail or the ice. Unaccustomed movements, a low fitness level, a willingness to take risks or carelessness quickly lead to overloading or even injuries. High-tech products from Bauerfeind help to protect the areas of the body that are at risk and help winter sports enthusiasts to recover quickly.

Skiing is, and will remain, the traditional winter sport. Increasingly complex equipment, increasingly well-prepared pistes and faster lifts all make heading out onto the piste even more fun. However, it is the modern equipment that also creates more risks. For example, carving skis enable skiers to travel even faster on the piste. This puts even more pressure on the knees, which was already the joint most at risk of injury in alpine skiing anyway.

SofTec Genu

A reliable stabilizing effect with the SofTec Genu

If winter sports enthusiasts do get injured, the SofTec Genu can be a sensible treatment option. The multifunctional orthosis stabilizes the knee after severe injuries or straight after surgery and protects it from excess strain without restricting mobility. The fixed joint splints provide stability and control. The “intelligent” side joints adjust automatically to the individual axis of rotation in the wearer’s knee joint. The breathable knit of the orthosis promotes healing with its massaging effect.

ManuTrain

ManuTrain: support for the wrist

Another weak point, particularly in snowboarders, is the wrist. The ManuTrain can become a valuable support in this sport. In the event of overloading, or following injury, the active support takes the strain off your wrist. To do this, the flexible Train active knit has incorporated pads that take the pressure off nerves and blood vessels and combat pain. Its anatomical shape and three-dimensional knit ensure that the ManuTrain sits comfortably, does not slip and boosts circulation. The material is more elastic at the edge of the support to allow the hand to move.

LordoLoc

LordoLoc: relieves pressure on the lumbar spine

Athletes who are out of practice often notice the unaccustomed strain on their back particularly quickly. With its product range for the back, Bauerfeind offers an extensive selection of support options. For example, the LordoLoc back orthosis stimulates the muscles and gently stabilizes the lumbar spine. The degree of stabilization can be adjusted to provide optimum customized support for the lower back. The soft, thin and lightweight material sits comfortably and snugly against the body, without being particularly noticeable under the clothing. LordoLoc therefore provides perceptible yet invisible relief for the lower back.

Pictures: Bauerfeind

ErgoPad ski & skate

ErgoPad ski & skate: for fit feet in stiff shoes

Whether in alpine skiing, snowboarding, or ice hockey – many winter sports force the feet into a static position. Tilting to the side and changing pressure loads also put strain on the feet and joints. To prevent fatigue and inappropriate mechanical stress, Bauerfeind has developed the ErgoPad ski & skate winter sports foot orthosis. Thanks to the weightflex technology, the foot orthosis provides targeted support and relief for the foot when doing winter sports. It prevents inappropriate mechanical stress caused by unaccustomed continuous movements and fits into almost all skiing, skating and winter footwear.

MalleoLoc

MalleoLoc stabilizes the ankle

Sports such as ice hockey, speed skating, or luge and bobsleigh put great pressure on the ankles, among other joints. Bauerfeind is also perfectly equipped for this area. An example of this is the MalleoLoc stabilizing orthosis. It is anatomically contoured to fit the outside edge of the foot and includes a strap system. The orthosis fits snugly on the foot and also provides stability for muscles in sports footwear, preventing lateral twisting. The normal heel-to-toe movement of the foot is not impeded.

Compression Sock Training

Compression Sock Training – targeted muscle stimulation

Even when there is no immediate injury, an unstable ankle joint can still spoil the enjoyment of winter sports. This is where the Compression Sock Training comes in. The sport stocking made from breathable, heat-regulating material provides noticeable stability for the ankle joint with its taping zone. The muscle tuning zone with increased compression reduces muscle vibration and improves coordination. This targeted muscle tuning shortens the regeneration phase.

For further information

on these and other Bauerfeind products, visit **www.bauerfeind.com**.

Chief physiotherapist of the Swedish Olympic Committee

Riga, Stockholm, Victoria …

Wherever in the world Swedish athletes go to set up their training camps, take part in competitions and fight for medals – Peter Drugge is already there! The indefatigable physiotherapist calls the Olympic stadium home.

Peter Drugge, Chief physiotherapist of the Swedish Olympic Committee. One of his working places is the Olympic stadion in Stockholm.

Frequent flyers know the feeling: you wake up and ask yourself, "Where am I today?" But Peter Drugge does not seem disorientated. The man dressed in gray Bermuda shorts with color-coordinated slip-on shoes, appears well rested, even though his travel itinerary over recent months would strike terror into the heart of even the busiest of foreign ministers. In March this year, Peter Drugge traveled with the Swedish national women's curling team to Riga, Latvia, and then on to Victoria, Canada, the capital of British Columbia, where he spent two weeks. And in between? Yes, between the two trips he actually spent three whole days in Stockholm. Where else would the chief physiotherapist of the Swedish Olympic Committee (SOC) stay, if not in the city in the archipelago? The place where most of the threads in this great country come together. Peter Drugge feels very much at the center of things in his workplace. In actual fact, he has two workplaces. One is the prestigious Capio Artro Clinic, a private orthopedic sports clinic which is the largest in the country and which is located not far from the center of Stockholm, while the other is the Olympic stadium. The SOC is based in one of the old brick towers of this legendary sports venue, which hosted the 1912 and 1956 Olympic Games and is still used today by the clubs in Stockholm. The physiotherapist only has to cross one street to get there. It therefore does not take Peter Drugge long to switch from a patient's knee to the telephone. At the clinic he treats the athletes directly, while at SOC he coordinates the physiotherapy support during the training and competition phases for the individual clubs.

Similar patterns of injury across different disciplines

"There are hardly any sports that I do not know," says Peter Drugge. His love of sport shines through in everything he says. Even the rules have always interested him, as they constitute the character of a discipline. "Curling, for example, is very interesting," he enthuses. "The game lasts over six hours. As a player or coach, you have to remain highly focused for a long time." In the case of curling, the casual observer immediately thinks of the extreme flexion of the knee required to position the stone on the ice. Is this movement a problem for the players in the long term? "No, no more than in other sports," says Peter Drugge. Despite the variety of disciplines, athletes often present with the same symptoms and injury patterns: "Sprains of the knee joint, twisting injuries to the ankle

Pictures: Håkan Målbäck

or complaints following general overloading are the classics," explains the expert. "The athletes involved are often surprised when I treat them using methods and medical aids picked up from my experience in treating patients from other disciplines." In addition to electrotherapy and acupuncture, he also uses supports. Peter Drugge has had positive experiences using MalleoTrain, Bauerfeind's active support for the ankle, to treat sprain injuries. "Supports and taping both have their place," he says. "But taping is expensive when carried out over a long period of time. What's more, it often irritates the skin." When treating patellofemoral problems and subluxation of the patella, the chief physiotherapist often uses the GenuTrain active knee support. "During rehabilitation, the focus is on restoring joint stability at the center," he affirms.

"Rehabilitation is one aspect, prevention is the other. Fifty percent of my work is prevention."

(Peter Drugge)

"Getting things back to the way they were before the injury." Regarding the use of stabilizing knee supports strict criteria were established at the Capio Artro Clinic , says Peter Drugge.

"Fifty percent of my work is prevention"

"Rehabilitation is one aspect, prevention is the other," says the physiotherapist on the subject of another important part of his work. "Fifty percent of my work is prevention." A look at his career shows just how important this is for Peter Drugge. As a young athlete, he suffered a second inner meniscus tear after the original tear had already healed – signaling the end of both his athletic and professional career. The teacher turned his attention to physiotherapy. In the future, he wanted to help prevent the injuries that he himself had sustained. He relies on active supports for both rehabilitation and prevention. He has a high regard for their proprioceptive properties, which are effective in preventing injuries. Supports also took up a lot of space in the bag of medical aids which the Swedish physiotherapists took to the Winter Olympics in Vancouver

Peter Drugge with one of his patients.

in 2010 and London 2012. "If there was anything we did not have, I was able to get it from the Bauerfeind employees on site," says Peter Drugge, who is still impressed by the collegial support shown during the Games. The gold medal haul in Turin is also likely to remain in his memory for a long time: athletes with the three crowns on their chest stood at the top of the podium on seven occasions. The highlight: the gold medal won by the men's ice hockey team. Blue-and-white support for the blue-and-yellow team cannot be ruled out. The Swedish bar for Sochi is high.

For further information please visit

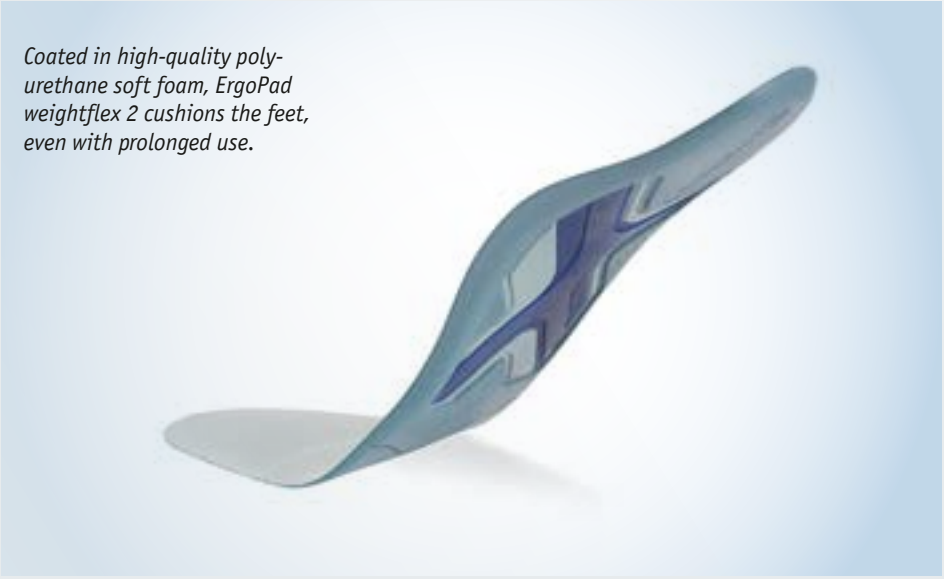
www.sok.se, **www.capioartroclinic.se**
See **page 39** for contact information for **Bauerfeind Nordic**.

ErgoPad weightflex 2 and ErgoPad redux heel 2

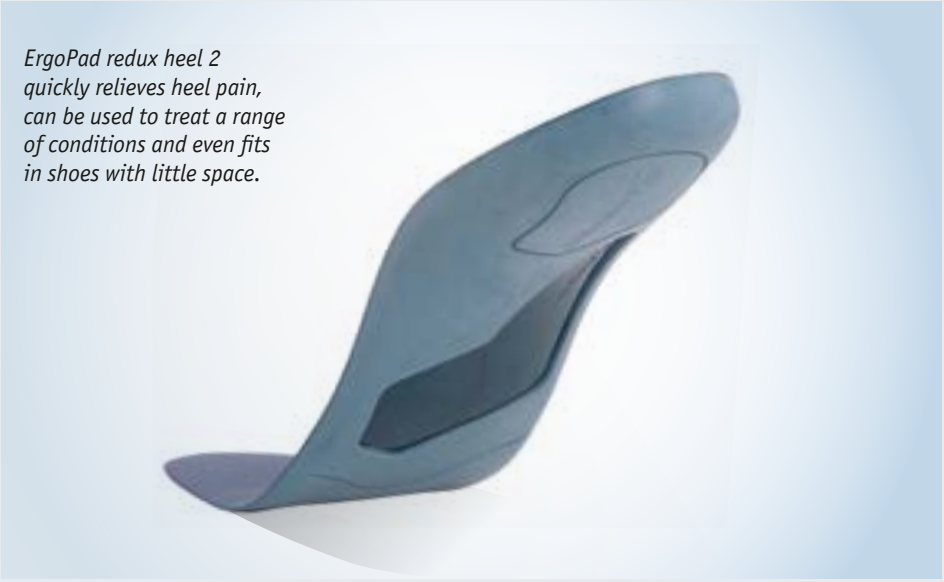
Excellent cushioning with a low construction height

With the new foot orthoses, ErgoPad weightflex 2 and ErgoPad redux heel 2, Bauerfeind is relying on an innovative production technique. The orthotic cores are partially coated in polyurethane, a high-quality soft foam.

The ErgoPad weightflex family is gaining a new member: in the second generation of the flexible foot orthosis, Bauerfeind is once again setting standards by partially coating the orthotic core using a unique technical process. The core of the ErgoPad weightflex 2 and its functionality remain exposed. Polyurethane soft foam, with its durable elasticity, is particularly suitable for coating the core because it loses very little elasticity with prolonged use, has effective cushioning properties despite its low construction height and adapts to the needs of the feet. Slight sensorimotor spots in the polyurethane surface gently stimulate the muscles. This stabilizes the hindfoot and supports the transverse arch. The polyurethane coating creates a shape that needs little modification on the foot or shoe sides.



Coated in high-quality polyurethane soft foam, ErgoPad weightflex 2 cushions the feet, even with prolonged use.



ErgoPad redux heel 2 quickly relieves heel pain, can be used to treat a range of conditions and even fits in shoes with little space.

The weightflex core – the centerpiece of the foot orthosis

As with the first weightflex version, the centerpiece of the new foot orthosis is the tried-and-tested synthetic core with variable support. According to the severity of the insufficiency of the foot arches, therapeutic goal and body weight, it offers three levels of support for the feet: soft, medium or strong. The core stabilizes the longitudinal and transverse arches and improves the free movement of the joints in the tarsus – the "weak point" of the foot's structure. The combination of firm and flexible elements in the orthotic core allows the foot to twist naturally, thus boosting active mobility. The interaction of the four side sections of the "weightflex-X" in the core assists the active resetting of the muscles and connective tissue and optimizes the gait pattern.

Variable heel height

Thanks to its low construction height and narrow shape, the foot orthoses can even be worn in a number of shoe types that were previously unsuitable for orthopedic foot orthoses. Whether in men's shoes or women's high-heeled shoes, the hinge joint in the synthetic core means that the foot orthoses can even be adjusted to different heel heights. ErgoPad weightflex 2 foot orthoses are available in two widths.

So long heel pain and talagia

It is not only feet suffering from arch decreased/splay foot with valgus rearfoot that can benefit from the advantages of polyurethane soft foam; the new version of the foot orthosis designed to treat heel pain and talagia, the ErgoPad redux heel 2, also

Pictures: Bauerfeind, KuZ

uses a polyurethane coating. In this foot orthosis, Bauerfeind has combined the special synthetic core of the professional heel with a shock-absorbing, robust polyurethane coating.
The cause of heel pain and talagia is constant irritation of the fascia and tissue structure on the sole of the foot. The point where this plantar fascia and tissue structure is attached to the heel bone is under tension with every step. Lowered foot arches increase this tension. The pressure load on the heel bone also increases. Chronic inflammation can develop from the constant irritation of the fascia and tissue structure.

Support of the longitudinal and the transverse arch

The synthetic core of the ErgoPad redux heel 2, which has been specially developed for heel pain and talalgia, is self-supporting and has a fan design on the sole side. The fan design extends to the midfoot. This means that the tension created whenever you take a step is removed from the tissue under constant irritation and the pain is instantly relieved. The core also has a notch in the heel area, which allows for additional cushioning at the attachment point of the plantar fascia and tissue and therefore ensures a particularly soft step. The longitudinal and transverse arches are supported by the foot orthosis, bringing the foot back into a natural position and thereby combating inappropriate mechanical stress on the calcaneus.
Due to the excellent cushioning properties of polyurethane, even when the material is thin, the construction height of the ErgoPad redux heel 2 is low. This makes it incredibly compact, meaning that it can be worn in a wide variety of shoes, even those with little space.

Polyurethane soft foam

"Durable and tough"

For over 20 years, the plastics center (KuZ) in Leipzig, Germany has been working on polyurethane (PUR). CEO Dr. Peter Bloss and Team Leader Dr. Axel Böhme spoke to us about the material with a wide variety of uses.

Team Leader Dr. Axel Böhme (left) and Dr. Peter Bloß, CEO of the plastics center Kunststoff-Zentrum in Leipzig gGmbH, work with plastics in all shapes and colors – these are thermoplastic pieces coated in PUR.

Where can we find PUR in our daily lives?
Dr. Bloss: PUR is all around us, it can be found almost everywhere in our daily lives. We relax on a mattress made from PUR or upholstered furniture with a PUR core. PUR hard foam serves as insulation in our refrigerators to preserve our food with reduced energy consumption. PUR is even used in the construction of trains and bridges: it cushions vibrations significantly, reducing noise emissions and saving money at the same time.

Good cushioning is also needed for some orthopedic products, such as foot orthoses. Why is PUR perfect for this?
Dr. Böhme: PUR is durable and tough. It can be made in various densities and with different properties. The foot orthosis manufacturer can therefore perfectly adapt the material to the needs of foot orthosis wearers.

How does the material benefit the end consumer?
Dr. Böhme: The vibration-absorbing properties are the main benefit of the version for shoes or foot orthoses. When the liquid PUR is foamed, the material has a pleasant, dry leather feel, while also being highly scratch-resistant. If PUR is made as an open cell foam, it lets air in, is breathable and is also biocompatible of course.

For further information please visit

www.bauerfeind.com/weightflex2-en
www.bauerfeind.com/reduxheel2-en

Treating venous disease

Patients benefit from latest techniques and VenoTrain

Varicose and spider veins are unsightly, painful, and can lead to further health problems. They develop when small valves in veins break, causing the blood to flow in the wrong direction and the veins to bulge. Fortunately, with today's technology vein disorders are treatable through safe and effective office-based procedures.

More than 80 million Americans suffer from vein disease. It is often genetic, does not go away by itself, and only gets worse over time. Dr. John R. Kingsley, one of the top vascular surgeons in the US, founder and director of the Alabama and Atlanta Vascular and Vein Centers, and internationally acclaimed pioneer in the surgical treatment of venous disease, speaks to *life* about treatment techniques and how the use of Bauerfeind's VenoTrain compression therapy plays a vital role in managing his patients' leg health.

Who are your patients?
Dr. Kingsley: Our typical patient is the 30 to 60 female with leg pain and swelling and a burden of unsightly varicosities. Venous insufficiency diagnosis is very high in this population. Overall, three-quarters of my patients are women aged 20 to 90, one quarter of our patients are men. Aside from the ill effects caused by varicose and spider veins, patients come to us primarily because of our credentialing.

Tell us about your practice.
Dr. Kingsley: We have a home base office, including a vein and cosmetic center that occupies 14,000 square feet in Birmingham, Alabama. We also have a state-of-the-art satellite office in Tuscaloosa, Alabama, and are building a similar facility in Prattville, Alabama, to be completed by August 1, 2013. In addition, clinics are held in Oxford and Cullman, Alabama, and we also use a surgery center and office in Atlanta, Georgia, where we operate every other week.

What are your key procedures?
Dr. Kingsley: Vascular ultrasound is the foundation for everything we do. Zeke Eldridge , Registered Vascular Technologist (RVT), is a full-time employee and we also employ three additional part-time sonographers. I am RVT-certified myself, and perform my own ultrasound during the operations. I frequently perform diagnostic studies as well. We perform endovenous laser ablation/ treatment (EVLT) of the incompetent great and sometimes small saphenous veins, to correct venous insufficiency. I use a 1320 mn pulse wave laser, giving our patients nearly 99.7% success of treatment long term with minimal post-operative discomfort. We usually do micro-phlebectectomy during the same setting as well as sclerotherapy on more than 90 percent of our patients. Sclerotherapy is often therapeutic but sometimes cosmetic, and it gives our patients the best outcomes with very short recovery time.

Vascular surgeon Dr. John R. Kingsley.

How many procedures do you perform each month?
Dr. Kingsley: I evaluate 40 to 50 new patients each week and we perform 150 to 200 endovenous ablation procedures each month. In addition, we perform a large number of simultaneous micro-phlebectomy and sclerotherapy procedures. We also have a large practice of cosmetic sclerotherapy, serving an additional 200 patients each month.

> ***"After the evaluation I found VenoTrain to be the very best in terms of comfort, fit and overall quality."***
>
> *(Dr. John R. Kingsley)*

What compression protocols do you use after the procedures?
Dr. Kingsley: After EVLT, ace wraps are used for two days. We do this as the compressed vein is more likely to remain closed long term. This is followed by 20-30 mmHg thigh-high graduated compression for two weeks. We highly recommend them for nearly all of our patients. After cosmetic spider vein treatments, the same compression treatment is used for at least five days, sometimes a little longer, depending upon the extent of veins and treatment. Bruising and discomfort are minimized with compression. In addition, we usually recommend 20-30 mmHg knee-high compression while traveling long distance in a car or airplane, and while standing or sitting for prolonged intervals especially while working. Patients frequently

Pictures: Bauerfeind

find less pain after treatment while wearing the hosiery, and often wear them longer than the recommended time intervals.

What is it about compression stockings that help the patient cope with issues with his/her veins?

Dr. Kingsley: Compression stockings minimize bruising and pain post procedure and are described by patients as making their legs feel much better, particularly after two weeks of healing time. These benefits alone are worth the use of a high quality compression stocking which provide good patient compliance.

Why do you prefer using Bauerfeind's VenoTrain compression therapy?

Dr. Kingsley: Because of previous issues with poor patient compliance, I was determined to find the best compression hosiery available. To do so, I obtained samples from every known manufacturer. I then took three months to wear different pairs of compression hose every day while I worked.
After the evaluation I found VenoTrain to be the very best in terms of comfort, fit and overall quality. I also think they are easier to take on and off which is important for our patients. I contacted the company to learn more about the their manufacturing and product range and eventually had the opportunity to visit the headquarters in Zeulenroda, Germany where I learned about the products, the owner, and the physician advisory panel. I was most impressed, especially regarding the manufacturing process and the overall design and workmanship of the products. I have used Bauerfeind products ever since, with a tremendous improvement in compliance and patient satisfaction.

Dr. Kingsley uses VenoTrain compression stockings after his surgical treatment.

Dr. John R. Kingsley

Dr. Kingsley is board certified by the American Board of Phlebology. He is one of the first surgeons in the U.S. to include vascular ultrasound in his daily practice, and he is among only a few physicians to achieve the designation of Registered Vascular Technologist (RVT). He has written and lectured at medical and surgical societies, and has been a professor to surgical residents in teaching hospitals.

For further information please visit

www.alabamavascular.com

See **page 39** for contact information for **Bauerfeind USA**.

A ballet barre in the examination room

Behind the scenes with the dancers

The audience enjoys watching the dancers perform on stage, but they do not see the pain behind it. Dancing professionally takes its toll. An orthopedic specialist based in The Hague, Netherlands, only treats dancers and musicians. His greatest service is empathy.

Movements that appear to be smooth and fluid are the result of intense training. Tendons and muscles have to work hard while fleet-footed figures enchant spectators with a performance of Tchaikovsky's Swan Lake. Sometimes the surface is solid and other times it is a soft sprung floor that puts significant strain on ligaments and joints. Dancers and their bodies run on tight schedules that leave little time to adapt to the changing conditions. However, the actual stresses are caused by the typical ballet movements such as the countless relevés, the raising of the body on the balls of the feet or on the tips of the toes, a position unique to dance. Ordinary people would find it impossible, and it is not without long-term consequences for ballet dancers either. "Around 40 percent of my patients complain of foot and ankle pain," says Dr. Boni Rietveld. The Dutch orthopedic specialist collects his own statistics. This is particularly significant, as he is one of the few doctors in his country, and in the world, to treat only dancers and musicians. "Chronic tendonitis, especially in the flexor hallucis longus tendon, near - and often mistaken for- the Achilles tendon, is extremely common in dancers. In particular, relevés and leaps place heavy strain on this tendon. Taking off and landing requires a lot of power."

Dr. Boni Rietveld studied music (trumpet and harp) as well as medicine.

Medial meniscus limits knee flexion

Dr. Rietveld, who studied music (trumpet and harp) as well as medicine, looks after his exclusive group of patients at practices in Amsterdam and Haarlem, as well as at the Medical Centre of the Hague. There, on the 9th floor of the Dutch city's largest hospital, he sits opposite Bryan. A ballet barre with a mirror attached and a sprung floor beneath is fixed to the wall of the doctor's room, behind the young dancer. This equipment puts dancer-patients at ease and makes it easier to demonstrate their symptoms. Bryan's problems affect his knee. It started to hurt a year ago when he performed certain exercises. Now it makes it difficult for him to flex his left knee and he is no longer able to carry out movements that are essential for a dancer. Complete flexion pushes the limits of his loading capacity. "To protect the left knee, I'm putting more strain on the right knee. That may cause problems in the future," he says. Dr. Rietveld looks at the MRI scans of the knee displayed on his

Pictures: Stefan Dunstewitz

screen. "Unfortunately, this confirms what I had feared: the posterior horn of the medial meniscus is affected," is his diagnosis. "A typical injury among dancers," says the orthopedic specialist. "Although the pain is perceived to be greater on the lateral meniscus, it is often the wide posterior horn of the medial meniscus that is the actual cause of the symptoms. This part of the meniscus is often a factor that limits flexion of the knee." Bryan's eyebrows knit together. The doctor's voice has also become more serious. The atmosphere is one of compassion.

"I can't say 'Stop dancing!'"

What distinguishes the Dutch doctor from his colleagues is the understanding he has for the professional situation of the dancers and musicians who are his patients. Bryan will have to take a break, that's for sure. However, the question of when the best time for this would be is discussed sensitively by Dr. Rietveld with the injured dancer. Bryan's current training and performance schedule is taken into account as far as possible. "I cannot tell a dancer to stop dancing! It is his job, his passion, his identity" explains Dr. Rietveld, with feeling. "These people expect me to respond to their needs. I have to acknowledge the personal conflict between the capabilities of the patient, his drive, and the expectations of the choreographer. And, of course, I have to treat the patient adequately."

RhizoLoc supports the thumb

In principle, the orthopedic surgeon, who is also the chairman of the Dutch Performing Arts Medicine Association (Nederlandse Vereniging voor Dans- en Muziek Geneeskunde – NVDMG), tries to avoid surgery. This usually involves a long period of rehabilitation for his patients. Dr. Rietveld uses Bauerfeind products to support his conservative strategy. "Oh yes, that could work," says the doctor, when asked about the new active support MalleoTrain S open heel. "It provides dancers suffering from ankle injuries with the essential floor contact." Dr. Rietveld's first impression is that although dancers do not usually require much external stabilization due to their good muscular condition, the new MalleoTrain S open heel would nonetheless offer support for many. The active support is too new to give a more detailed assessment. He has more experience with other products. When treating musicians, for example, the stabilizing orthosis RhizoLoc helps to stabilize the thumb saddle and first metacarpophalangeal joint. The corresponding indications are irritation of the thumb joints, due to hypermobility or osteoarthritis. Musicians more than anybody fear arthrosis of the first carpometacarpal joint. The most common osteoarthritic condition among the population causes existential fear among trumpeters, violinists, cellists and pianists: none of them can produce clean sounds without a fully functioning thumb. Like them, Dr. Rietveld elicits from his ubiquitous trumpet a melodious example of how art and medical work complement each other. Stabilizing orthoses and supports also play a part. They have proved their effectiveness in helping dancers behind the scenes – a mundane but important contribution to keeping the fine arts going.

The ballet barre and a sprung floor put dancer-patients at ease and makes it easier to demonstrate their symptoms.

For further information please visit

www.mchaaglanden.nl/MCDM (Medical Centre for Dancers & Musicians) and **www.nvdmg.org** (Dutch Performing Arts Medicine Association (Nederlandse Vereniging voor Dans- en Muziek Geneeskunde)).
See **page 39** for contact information for **Bauerfeind Benelux**.

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- Relieves the kneecap and reduces pain in the meniscus
- Encourages quicker mobilization

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Knee therapy

"It's all about pain management and fit"

Dr. Greg Jasey, Orthopedic Surgeon at the TMC Medical facility, in Windsor (Ontario), attaches importance to a multi disciplinary approach to treatment. Physiotherapy and orthopedically effective supports such as the GenuTrain are often part of the treatment package.

Dr. Jasey treats many knee conditions – some operatively, some conservatively, and sometimes a combination of surgical treatment and post operative bracing. The goal is to return patients to an active, healthy lifestyle whenever possible. In several cases he prescribes the Bauerfeind GenuTrain knee support.

"If a brace or support doesn't fit properly, many patients just won't wear it."

(Dr. Greg Jasey)

"After total knee joint replacement, I find the GenuTrain reduces post-operative swelling, and helps the patient return to full range of motion much faster than letting nature take its course", Dr. Jasey tells *life*.
When asked how the patient responds to wearing the support, he says, "Compared to other braces, my patients find a higher degree of comfort and overall pain reduction. The class 1 graduated medical compression, and the breathable knit really help to reduce edema, and improve patient wearing compliance."

Dr. Greg Jasey, Orthopedic Surgeon at the TMC Medical facility, Windsor, with a patient.

Proper fit, good results

A growing diagnosis within the Canadian population is Osteoarthritis (OA) in the knee joint. "Looking back over the past ten years we tend to see more OA cases, proportionately now, than we used to", he says. "We see patients from age 30 through to 80, and older, with OA at varying stages. For some patients surgery is not an option, and I have to consider what type of conservative pain management would be best for their lifestyle. The shape of the leg may also affect which type of brace I prescribe – patients with a larger thigh may find the brace doesn't stay in place – it migrates, resulting in a poor fit. For these cases I turn to the GenuTrain (made to measure) custom program." Dr. Jasey uses the GenuTrain custom program for a precise fit, claiming, "If a brace or support doesn't fit properly, many patients just won't wear it."
What other patient diagnosis would he prescribe the support for? "With its wide range of indications I will use it for any mild ligament, meniscul, and general anterior knee pain conditions I see, especially within the early stages of OA", he says. "Overall we have had good results. The patients respond well, and notice an improved confidence and a decrease in pain. Having a support that fits well can make a big difference in overall outcomes."

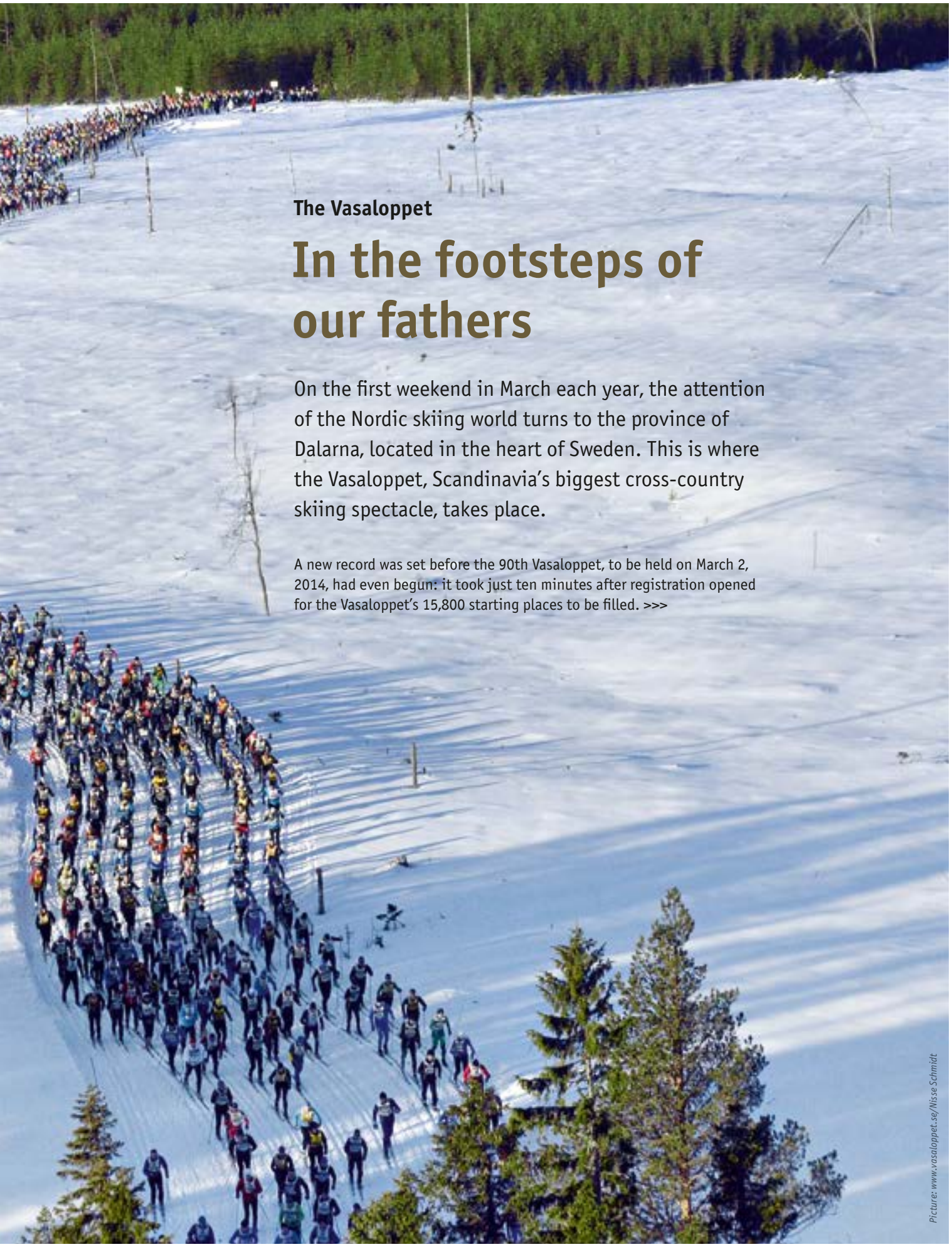
GenuTrain

was developed by Hans B. Bauerfeind in cooperation with two medical experts. One of them was a physician working with the national soccer team in Germany. It has undergone continuous further development since it was launched onto the market in 1981. In the 7th generation (2011), the Omega pad, a new functional cushion around the kneecap was added targeting the i nfra-patellar fat pads, to improve overall pain management. The support is offered in eight pre-made to measure sizes.

Further information

Bauerfeind products can be found in Canada through our exclusive distributor, GALIEN Group, located in Laval, Quebec. For further information contact **1-877-629-9889**.

Picture: Dan Reaume Photo



The Vasaloppet

In the footsteps of our fathers

On the first weekend in March each year, the attention of the Nordic skiing world turns to the province of Dalarna, located in the heart of Sweden. This is where the Vasaloppet, Scandinavia's biggest cross-country skiing spectacle, takes place.

A new record was set before the 90th Vasaloppet, to be held on March 2, 2014, had even begun: it took just ten minutes after registration opened for the Vasaloppet's 15,800 starting places to be filled. >>>

Picture: www.vasaloppet.se/Nisse Schmidt

A victory wreath awaits the winner at the finish line in Mora.

Time for the final push!

>>> The world's oldest, longest and biggest cross-country ski race is held in the traditional style over 90 km between the villages of Sälen and Mora. The ski marathon has long been part of Swedish folklore – this is due in part to the history of the race, which bears the motto, "In the footsteps of our fathers for the victories of the future."

Historic escape on skis

Newspaper editor Anders Pers initiated the first Vasaloppet in 1922, to commemorate the escape and fight for freedom of Sweden's future King Gustav I Vasa. One version of the story is as follows: 1520 saw an increase in Sweden's dissatisfaction with the Kalmar Union with Denmark under the leadership of the Danish king. The nobleman Gustav Vasa incited open resistance among his countrymen and was forced to flee. On the way to Norway, he passed through Mora in the province of Dalarna. He found no support there either and continued his escape on skis. When news of the "Stockholm Bloodbath" broke shortly after, in which his father and around 100 other followers were killed, the inhabitants of Mora reconsidered and sent their two best cross-country skiers after him. They caught up with Gustav Vasa in Sälen and persuaded him to return and lead the War of Liberation, which was ultimately successful in 1523. The first modern Vasaloppet was held on March 19, 1922, albeit in the opposite direction – the direction in which it is still held today. The entire route thus has only relatively minor contours and is mostly downhill, with the exception of the initial gradient. Different reports suggest that 119 or 136 participants started the race in 1922, with the winner reaching the finish in around seven and a half hours. The current course record is held by Sweden's Jörgen Brink, who completed the course in 3 hours, 38 minutes and 41 seconds in 2012.

Magic potion by the liter

However, most of those taking part in the race aim to complete the 90 km within the time limit of 12 hours. Intermediate times are taken at seven official refreshment stations along the route. Anyone who fails to reach his or her respective intermediate target time is forced to continue the journey to Mora by bus. However, the number of passengers on the bus remains low, possibly thanks to the traditional Vasaloppet magic potion of blueberry soup, which is served warm and with a lot of sugar at the refreshment stations. Only 3.2 percent of those who started the race in 2012 were unable to complete it.

Although 2013 was a record year which saw racers from 42 countries take part in the traditional ski marathon, it remains largely a Swedish event. This is also reflected in the list of winners. To date, only 13 cross-country skiers from outside Sweden have made it to the top of the podium. The first ever non-Scandinavian winner was Gerd-Dietmar Klause in 1975, a member of the national cross-country skiing team of the German Democratic Republic. However, the most famous participant is Sweden's Nils Karlsson ("Mora Nisse"), who won the race nine times between 1943 and 1953.

From its beginnings as a cult event, the Vasaloppet has now become a major occasion. A number of other events are now held in the week before the 90 km classic. For example, there is the "half Vasaloppet" (HalvVasan) over 45 km, the "short Vasaloppet" (KortVasan) over 30 km, a relay race (StafettVasan) and a "ladies' Vasaloppet" (TjejVasan) over 30 km that is open only to women.

Speaking of women: the first woman took part in the Vasaloppet in 1923, but women were banned from taking part by the organizers for a long time. Only in 1981 were women allowed to take part in the race again.

What is more, the event has only had to be canceled once in its long history. In 1990, there was just too little snow. However, the event was also aborted in 1932 and 1934 due to a lack of snow. The organizers are hoping for better conditions to coincide with the event's 90th anniversary in 2014. This time, a total of 68,400 starting places will be available for the entire Vasaloppet week.

Pictures: www.vasaloppet.se

Further information

about the Vasaloppet can be found at **www.vasaloppet.se**.

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