

# B. Braun: A Day in the Life

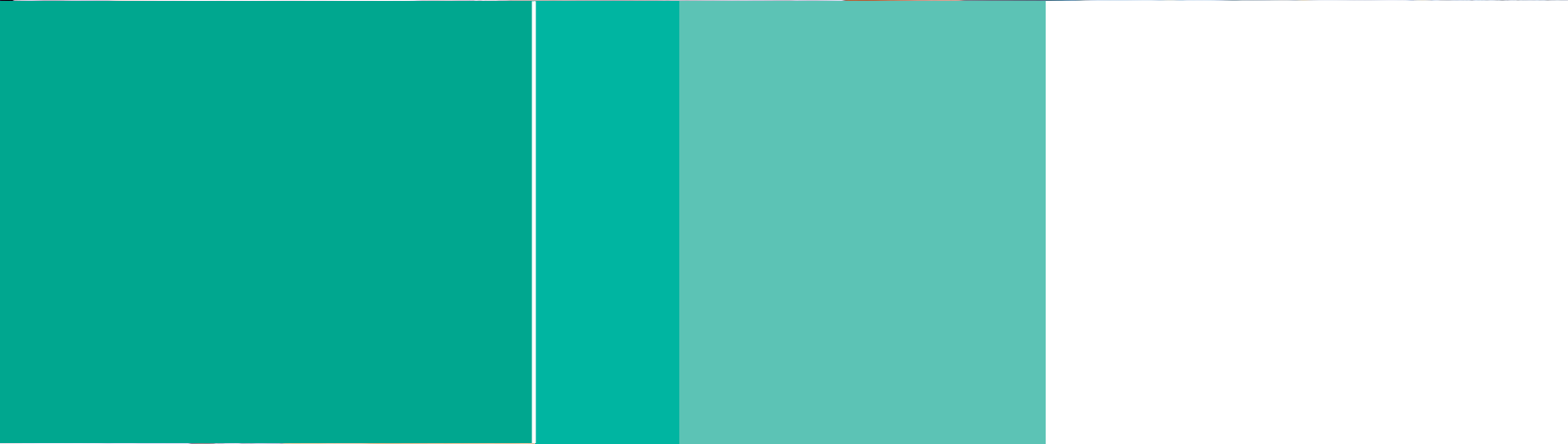
Sharing Expertise Around the World



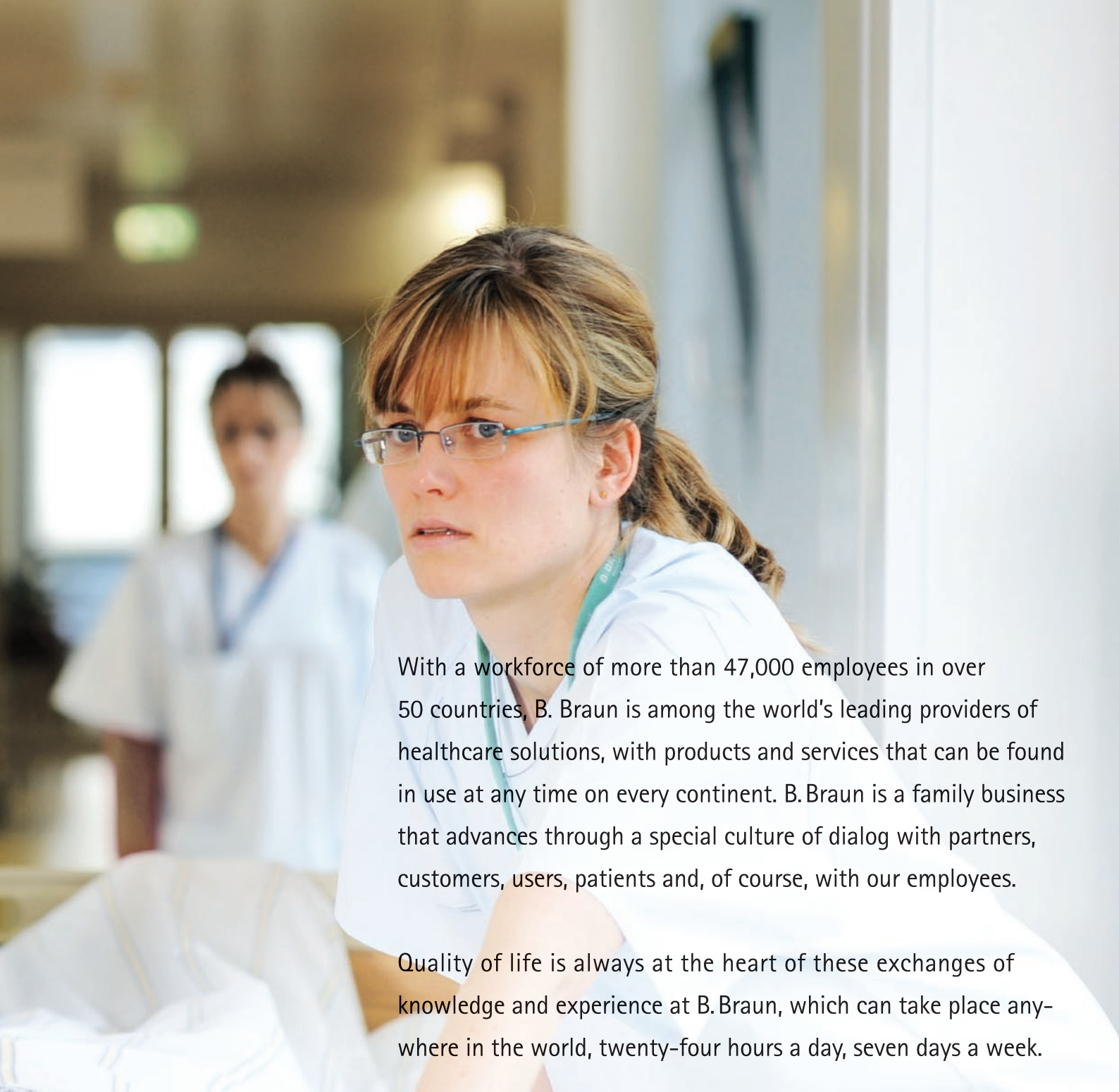


# B. Braun: A Day in the Life

Sharing Expertise Around the World







With a workforce of more than 47,000 employees in over 50 countries, B. Braun is among the world's leading providers of healthcare solutions, with products and services that can be found in use at any time on every continent. B. Braun is a family business that advances through a special culture of dialog with partners, customers, users, patients and, of course, with our employees.

Quality of life is always at the heart of these exchanges of knowledge and experience at B. Braun, which can take place anywhere in the world, twenty-four hours a day, seven days a week.

# Sharing Expertise

by B. Braun





37° 47' N, 122° 25' W



01:25 A.M. | PST

SAN FRANCISCO | Emergency Room

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**Providing Safety**

22° 54' 30" S, 43° 11' 47" W



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10:45 A.M. | CET

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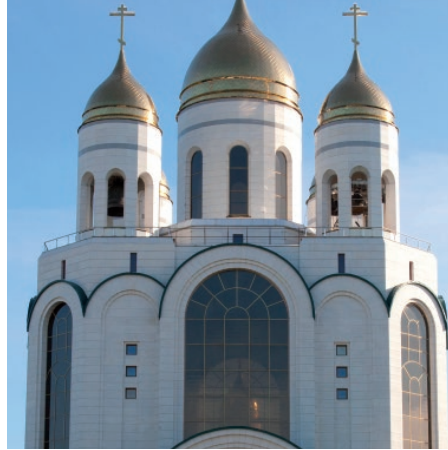
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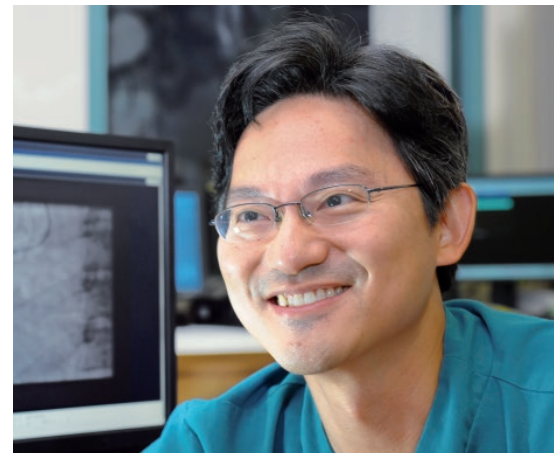
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01:25

A.M. | PST



SAN FRANCISCO | Emergency Room | 37° 47' N, 122° 25' W

# Providing Safety





An ambulance reaches the hospital and an obviously pregnant woman is rushed to the emergency room. For hours, she has been experiencing headaches, flickering vision, and she is experiencing severe abdominal pain. Her blood tests show elevated liver enzyme levels. The situation is life threatening and there's no time to lose.

The pregnant woman had HELLP syndrome, a life-threatening complication in which the red blood cells start breaking down during the last trimester of pregnancy, which can result in severe damage to the internal organs. After the diagnosis, she was sent to the intensive care unit and was closely monitored. An emergency C-section was necessary to save both mother and child. At birth, her new son Evan was 36 cm long and weighed 1,050 g. He was a tiny little boy, weakened further by his mother's illness. He was sent straight to the neonatal intensive care unit (NICU), where physicians and the nursing staff gave him the care that would save his life.

Unable to be fed orally for the first few weeks of his life, Evan's nutritional support came from a specialized mixture called TrophAmine® which was infused directly into his bloodstream. This parenteral nutrition prescription included a formula of amino acids for premature babies tailored to meet Evan's specific needs. It was compounded by B. Braun's Central Admixture Pharmacy Services (CAPS). In the United States, CAPS is a trusted leader, delivering compounds and IV solutions to more than 1,200 healthcare providers daily. CAPS admixtures are produced in a fully automated and sterile environment that sets the industry's highest standards for quality and safety. The preparations are perfectly attuned to B. Braun infusion technology. Parenteral nutrition is available in a range of sizes and

versions, including a miniature one for neonates. Everything fits together. Working with B. Braun, patients are treated with tailored systems that significantly help physicians and nurses focus on patient care. It is the kind of focus that will allow Evan to celebrate the first of many birthdays with his mother.

### **B. Braun favors the holistic approach**

The best care for patients, preserving life, and restoring good health are at the heart of the B. Braun philosophy. This philosophy has been embraced throughout the company's global culture. With decades of experience, the Hospital Care division delivers the highest quality equipment and solutions, disposable products, capital equipment, drugs and services for anesthesiology, intensive care medicine and hospital pharmacies. The focus is on reliability in critical situations, equipment and accessories are easy to operate, even when the medical practitioner is under pressure to act quickly. System solutions are designed down to the very last detail, keeping the typical processes in hospitals and the treatment chain in mind. Worldwide, B. Braun offers consistent quality that ensures products and services in Asia and Africa meet the same stringent criteria as in America and Europe – to the benefit of both patients and caregivers.

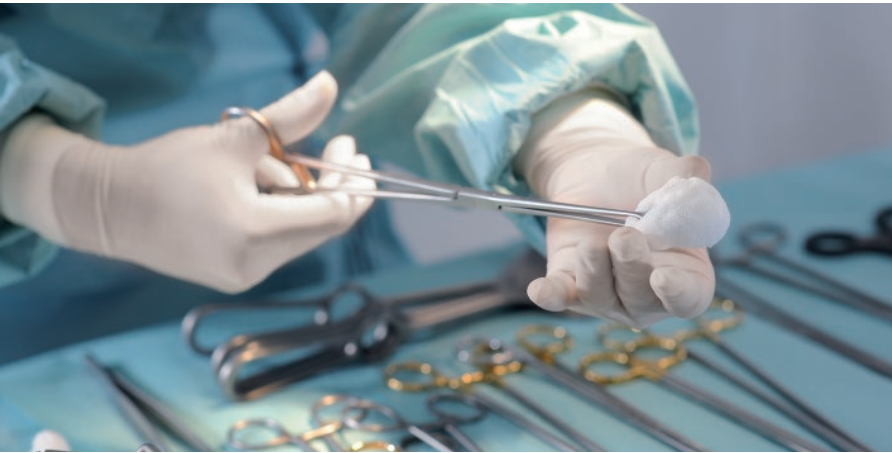


Tailored system solutions are created for the entire medical process and help to make everyday practice even better and safer.

The B. Braun Aesculap division has been synonymous with competence in the operating room for more than 145 years. With all their skills, expertise and experience, surgeons still depend upon Aesculap for a wide range of instruments, equipment and tools. They know they can count on our precision, care and reliability, especially when it comes to the critical small details. Communicating with our customers drives the development of new products that support the latest scientific advances in virtually every surgical field. From suture materials to spinal implants, Aesculap's reputation is built from a tradition of manufacturing high quality instruments that keep in step with modern surgical techniques. They supply tools that support minimally invasive approaches such as laparoscopy and endoscopy, which benefit patients because they can significantly accelerate the healing process. Aesculap supplies complex computer-aided navigation and robotic systems for complex joint surgery, providing excellent support for the surgeon in the operating room. With a painstaking attention to detail, we always keep the overall surgical process, as well as cost effectiveness, in mind.

### **B. Braun allows a seamless transition from inpatient to outpatient care**

Being discharged from the hospital does not always mean that the patient is cured. Some patients may need weeks, months or years of continued intensive treatment. In many cases, chronic illness may even color the rest of the patient's life. Some patients may need help in their day-to-day activities and are dependent on medical care, whether they are at home or in outpatient care facilities. The Out Patient Market (OPM) division is involved in ensuring optimum outpatient care so that treatments started in a hospital can be seamlessly continued in a home environment. The holistic approach to advice and care is aimed at treating patients with high quality and value. Our employees advise and support the attending physicians and nursing staff, or family caregivers, and often follow the patient for many weeks and months. We strive to ensure the best possible care for patients, especially those with chronic or life-limiting diseases, so they can enjoy the best quality of life possible.



Precision, care and reliability are essential in the operating room; often, when push comes to shove, it is the smallest details that can make a difference.



Optimum care is also important when a patient leaves the hospital. B. Braun supports patients in their home environment with its products and services.

The OPM division also supports GPs and outpatient nursing services with a wide range of products, including modern skin and wound management, tailored nutritional concepts and incontinence and diabetes supplies.

### **B. Braun sets standards with its dialysis center**

Providing the best possible care for patients with renal and metabolic diseases is the focus at B. Braun Avitum, the youngest branch of the company. Treatments range from traditional dialysis for chronic kidney failure to special procedures to clean blood. For example, B. Braun Avitum can often help patients with lipid metabolism disorders or sudden hearing loss.

B. Braun Avitum by no means stops at producing dialysis machines and dialyzers or programming the necessary software. We recognize that dialysis patients are not treated with the latest medical standards in all countries; we now operate some two hundred dialysis centers across the globe. Experience comes from direct discussion with patients and then makes its way back into the development and continued enhancement of our products and medical applications.



### By sharing expertise between our divisions, we are able to develop holistic medical solutions

- Hospital Care – reliable, intelligent and safe solutions for the best possible patient care in the hospital:** large and small volume solutions, injection solutions, anesthetics, special drugs and generics, products for clinical nutrition, volume replacement solutions, infusion devices and accessories, products for drug preparation, in-dwelling venous catheters and central venous catheters, systems for infusion technology, control and surveillance software, disposable injections and cannulas, products for local anesthesia and pain therapy, elastomeric disposable pumps, support services for hospitals.
- Aesculap – products and services for all surgical and interventional core processes:** surgical instruments for open and minimally invasive approaches, sterile container systems, surgical suture material, implants for orthopedics, neurosurgery and spinal surgery, patient storage, motor and navigation systems, products for interventional cardiology and vascular surgery, sterile services and computerized instrument management systems.
- Out Patient Market (OPM) – supply the ambulatory medical devices market, as well as pharmaceutical products and service partners outside the hospital for chronically ill and long-term patients:** ambulatory infusion therapy, clinical nutrition, patient-specific parenteral nutrition, enteral nutrition, home care, StomaCare, incontinence, skin and wound management, MRSA (multi-resistant pathogens) management, disinfection and hygiene, diabetes care, palliative care, patient discharge management.
- B. Braun Avitum – a full-service system provider for extracorporeal blood treatment:** Products and Services for blood purification hemodialysis, acute dialysis and apheresis. Dialysis machines, dialyzers, blood lines for hemodialysis UltraPureFluid system, dialysis and online filters, fistula needles, dialysis catheters, hemofiltration, infusion and irrigation solutions, dialysis concentrates, disinfectants and equipment as well as software solutions for optimized and efficient dialysis services, technical services, process consulting, planning, installation and training opportunities. In addition to manufacturing dialysis systems, B. Braun Avitum is also an experienced operator of more than 200 dialysis centers in Europe, Asia Pacific and Africa.





08:30

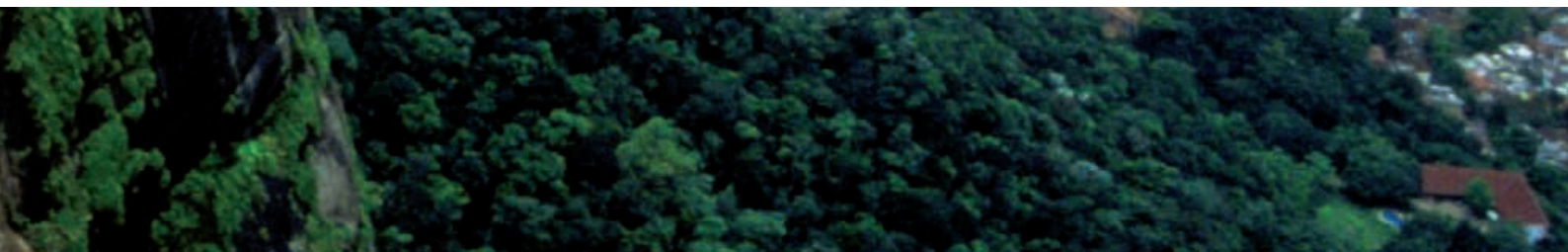
A.M. | BRT

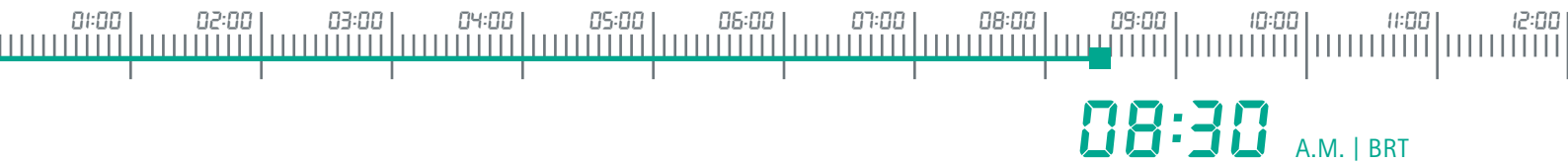




RIO DE JANEIRO | Auditorium |  $22^{\circ} 54' 30''$  S,  $43^{\circ} 11' 47''$  W

# Sharing Expertise





Deep in discussion, the physicians and nurses from all over Brazil return to their room in the morning of the second day of the seminar. Can optimum wound management be a question of costs? Why is it so difficult to apply new expertise in day-to-day clinical practices? Everyone agrees that it is time for a new approach.

The first part of the seminar leaves a lasting impression. The discussion does not die down until the course trainer continues delivering his program to the 49 practitioners and nurses. Today, practical training on models is on the agenda. The course trainer is an expert in modern wound management. He uses examples to explain how to approach different wound management therapies, and their advantages and disadvantages. The course participants then have to put their knowledge and skills to the test.

The wound management course is run by the Aesculap Academy in Brazil. In five-block sessions, an external Specialist shares his expertise with practitioners and nursing staff. Anesthesia workshops, courses for clinical nutrition, a dialysis forum and a safety symposium as part of medical congresses round off the Aesculap Academy portfolio at this relatively new location. In Brazil, a Safety Symposium is organized once a year, gathering physicians, students, nurses and specialists together from all over the country to discuss safety issues in hospitals, debating topics such as safety in pediatric units, new technologies and much more.

### **B. Braun sets standards in basic and advanced medical training worldwide**

The Aesculap Academy has established itself as a permanent institution in the B. Braun Group for the advanced training of medical staff. It stretches across more than 40 locations in Europe, Asia, Australia and America, and sets training standards worldwide. Aesculap Academy workshops provide indication-based training. The Academy teaches management subjects for physicians, nursing staff and purchasers and finally encourages the scientific dialog. The seminars cover aspects of neurosurgery, spinal surgery and vascular surgery, endoprosthetics, arthroscopy, laparoscopy, gynecology, urology, cardiology, anesthesia and intensive care treatment. The Aesculap Academy also offers courses in wound management, as well as in veterinary medicine and dentistry. Close cooperation with scientific societies, hospitals and practices supports its claim as an international seat of learning for medicine.

The Aesculap Academy also caters to hospital management and specialists. With seminars on material management, instrument management, hygiene, diabetes treatment, quality assurance and management skills, the participants are coached in the various challenges faced by healthcare providers. Worldwide, the range of courses addresses the specific requirements of the local healthcare markets. For



The headquarters of the Aesculap Academy are based in Tuttlingen, Germany.

## Global Education Network – Aesculap Academy

### Worldwide:

- 75,000 participants in a course
- 1,800 courses
- represented in more than 40 countries
- another center for seminars is planned in Malaysia in 2013

### Germany:

- 6,000 participants in a course
- 220 events
- average evaluation of the events: 1.45
- three locations: Tuttlingen, Berlin, Bochum

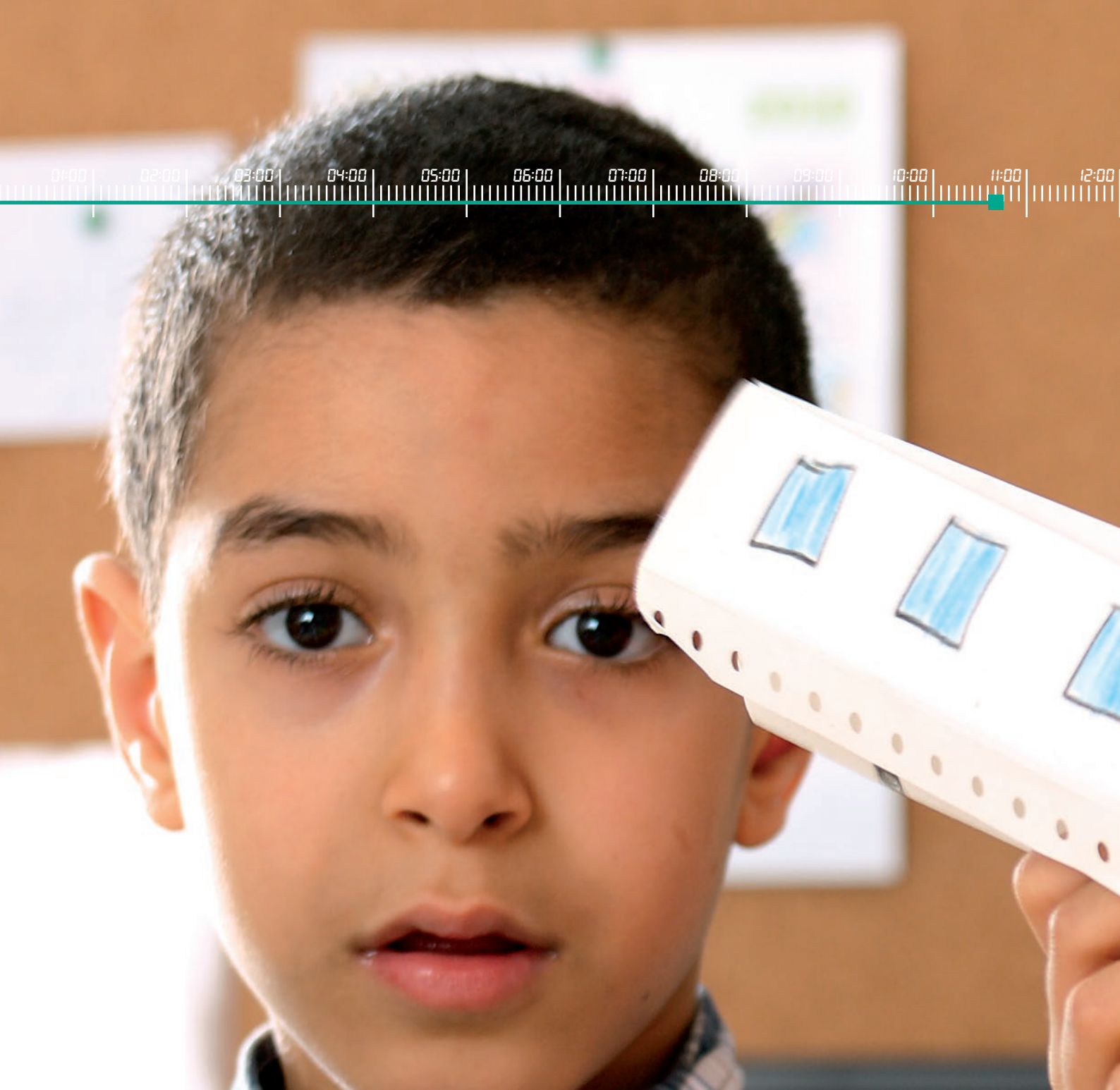
instance, B. Braun in the Philippines focuses on training nursing staff, the Aesculap Academy works closely with nursing organizations and acts as a partner in issuing and renewing licenses.

### **B. Braun values direct feedback from users to drive the continuous improvement of products and treatments**

The courses available in the Aesculap Academy are only part of the overall basic and advanced training approach. We train and advise physicians and nursing staff on the safe and effective use of the B. Braun products and therapy concepts in individual user training sessions – both in an inpatient and outpatient setting. The advanced training program covers the proper use of infusion therapy equipment for healthcare practitioners, medical device law, MRSA, enteral and parenteral nutrition, palliative care and sensitive communication. In the field of dialysis and apheresis, professional users of extracorporeal blood treatment and experienced practitioners teach the medical and

scientific basics of nephrology and also the specific use of the B. Braun product systems and therapy fields. In keeping with its company philosophy “Sharing Expertise”, B. Braun promises to share medical knowledge and health expertise with its customers and partners and to effectively apply and consistently expand this knowledge and expertise. This is particularly evident in the company’s promotion of basic and advanced medical training.





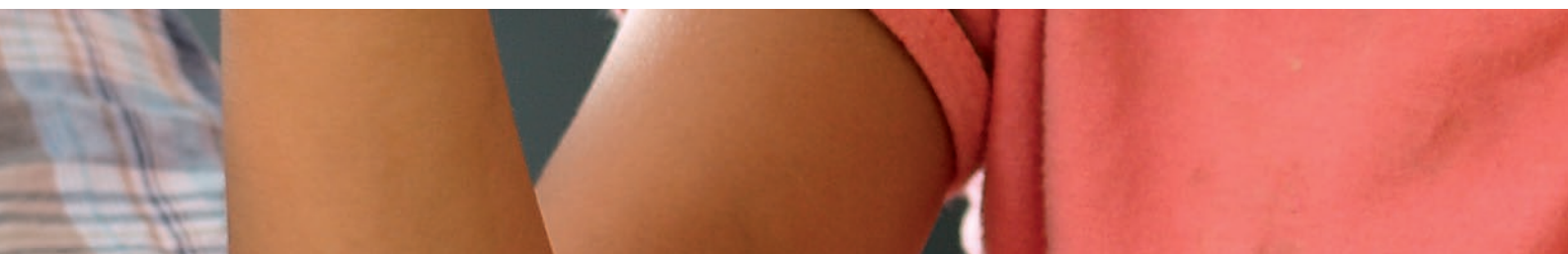
**10:45** A.M. | CET





RUBI | Youth Center | 41° 29' 33" N, 2° 1' 53" E

# Practising Responsibility







10:45 A.M. | CET



Local B. Braun staff are helping to give these migrant children in Rubí a real chance of social integration and future prospects.

Like every afternoon after school, the doors of the small youth center in Rubí will open. Inside the center, Pep Prats and his team prepare for the day ahead. They reflect on yesterday's homework supervision. Pep pauses for a moment when he thinks of Ahmed. The eight-year old son of Moroccan immigrants often comes here for help with his homework.



In co-hosted projects, the children from other cultures learn to speak the local language through play – and gain self-confidence in the process.

Ahmed finds school work a struggle. His parents came to Rubí from Morocco, finding work in an electrical technology company. Like many other immigrants, they live in the district of El Pinar. At home, Ahmed's parents speak Arabic with his brothers, sisters and friends. Ahmed comes to the center so one of the two primary school monitors can help him with his schoolwork. Today, he was helped by an educator who looked at the books and discussed the task with him – a lot of patience and gestures helped him to understand the language.

Pedro is another young boy who comes to the "Compartir El Pinar" center almost every day. The small youth center is almost a second home to him. The son of Bolivian immigrants, Pedro has found friends here with whom he plays and learns.

"Compartir" means to share, and the name of the center is what it's all about. It is important that the children who meet here are able to share in the social life of the city, and share the opportunities and education in their

new country. Most of them were born in Spain, but their parents come from Ecuador, Bolivia, Morocco, Romania or China. El Pinar is considered a difficult neighborhood in Rubí. The immigrant children are disadvantaged in two ways. They are growing up in a culture that is often foreign to them and, because they do not have sufficient mastery of the local language, their prospects of getting a good education are limited. Pep Prats and his staff of eight, plus several volunteers, at "Compartir El Pinar" work day after day to change this. The center acts to complement the schools and institutes. The strong relationships that are forged between the staff and the young visitors to the center are critically important. They chat, discuss projects that they work on together, and develop important social skills for life. Public funds for the work with the children and adolescents are not plentiful. The staff is happy that they have been able to depend on support from B. Braun since 2005. This support has also taken the form of B. Braun staff helping with regular donations for the children from El Pinar and offering toys for Christmas.



10:45 A.M. | CET



Topsy provides Aids orphans in South Africa with a home and schooling; B. Braun South Africa supports this local aid organization.

### Locals know best where practical help is most needed in their country or town

Like in B. Braun Spain, most of our 50 local companies throughout the world support social projects. The program "B. Braun for Children" actively encourages them to put the company principle "Sharing Expertise" into practice in this area. It is always about reliable help. While practical financial support is granted for a specified period of time, it is not just a question of money. The staff at B. Braun are actively encouraged to become involved personally.

This is reinforced by the company's commitment to corporate citizenship: "Social involvement has its greatest effect if delivered directly and personally." Locals know best where help is most needed in their country or town. For example, B. Braun employees in India support an organization that is working to provide an education for street children in Mumbai, India, a city with a population of thirteen million. "Rag Picker" is what the poorest of the poor are called, fishing rags and anything that may be

useful to sell out of the rubbish of those who are richer. Six-year olds often have to help support themselves in this way. Parents are often illiterate and do not understand the benefit of school for their children. The education project is easily accessible to the street children and attracts them with learning that is fun.

In South Africa, the aid organization Topsy has been supported by the local B. Braun subsidiary for many years. Topsy is an organization that supports AIDS victims, and has already provided new homes, schooling and vocational training to hundreds of AIDS orphans, giving them a chance to live a normal life. B. Braun in Brazil has chosen to support a large pediatric hospital in the south Brazilian city of Curitiba, a city with over a million inhabitants. While Brazil is currently establishing a tax-funded health system that will be accessible to all citizens, the health care provided by this system hardly stretches beyond the most basic needs. The Little Prince Hospital is a pioneer in the expert care of sick children and adolescents, as adult medicine often fails to meet their requirements.





Every year,  
B. Braun supports  
some 30 projects  
for children and  
adolescents.

For many, education is an important step toward escaping poverty; This is why B. Braun is supporting the teaching project for street children in Mumbai.

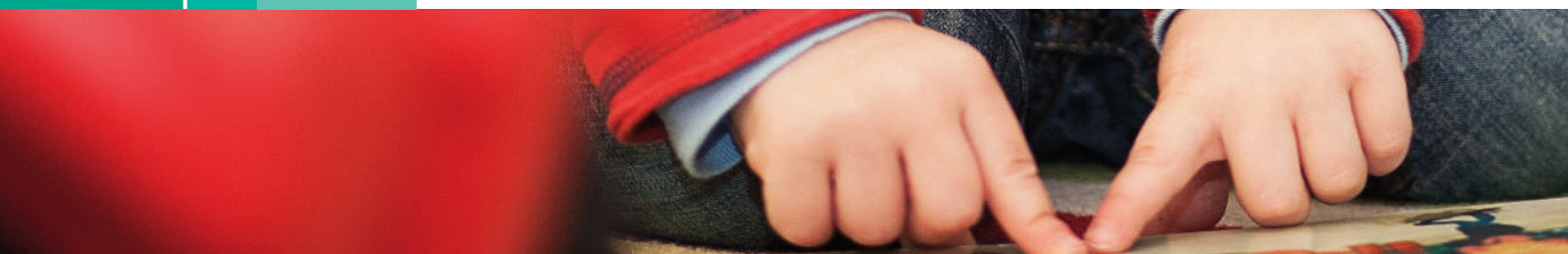
**For B. Braun, corporate citizenship is a local commitment and means offering prospects and practical opportunities for local people**

Supporting children and adolescents is a special concern at B. Braun. We would like to show the next generation human kindness and give them prospects for the future. This enables B. Braun to meet its goals of sustainability and social responsibility in the community. Our involvement was acknowledged in a very special way in 2007, when the "B. Braun for Children" program was honored with the Deutsche Kinderpreis (the German Children's Prize), by the World Vision aid organization.



11:56

A.M. | CET







TUTTLINGEN | Family home | 47° 59' 4" N, 8° 49' 7" E

# Attracting People





Simone Bühler works as a Training Manager in Endoscopic Technology at the B. Braun Aesculap division in Tuttlingen for three days a week. While the young woman runs academic courses for physicians from all over the globe and fulfills her duties as a works council representative, the "Family Home" nursery school looks after her son Tom.

In the slumber room of the "Sunbeam Group", things are calming down as the parents gradually collect their children. Tom happily runs to his mom. He is happy at the nursery school, which opened in 2007. He quickly settled down in its family atmosphere and enjoys spending the morning with the seven other Sunbeam children – playing, singing and laughing. Aesculap employee Simone Bühler came back to work after maternity leave on the condition that her son would be looked after by someone she trusts.

This was important to her because she was not able to rely on support from the grandparents, who live several hundred miles away. Her employer supported her in this endeavor: B. Braun has created spaces in the "Family Home" nursery school for its employees, based on a cooperative agreement – and one of these spaces was reserved for Tom. After the first half of the year has passed, the training manager praises the enthusiastic nursery school teachers and the modern, child-friendly building. Her high expectations have been fully met, allowing her to return to part-time work early. This is exactly the kind of success the B. Braun "Career and Family" program was created for. The program makes it easier for employees to return to work after the birth of their children.

### **The flexible options offered make it easier for employees to plan their future with the company**

The paths our lives follow are not all the same. With this in mind, B. Braun has been working for more than three decades on solutions that allow employees to achieve a good work-life balance. As a global company, solutions are tailored to suit the various situations of employees at their local site. Programs that allow returning to work after maternity leave are considered very important in B. Braun Germany, where more than 11,000 are employed. A vital goal of our sustainable personal development is ensuring that employees are only away from work for a short time in order to help them keep up-to-date with the constant advances, to maintain a high level of expertise in the complex production of medical devices, and to develop and supply innovative products.

Family-friendly rules for working time are also part of the concept, with 250 different part-time models and 70 shift models in production, job-sharing and teleworking, just some of the options available to B. Braun employees. As a result, employees are given the utmost flexibility in combining work and family life in accordance with their changing requirements.





11:56 A.M. | CET



More than 3,000 people work at the facility in Tuttlingen – many of them take advantage of flexible working hours.

## B. Braun helps employees to achieve a healthy work-life balance

Family-friendly HR policies at B. Braun are not only aimed at the needs of young parents. The family part-time rules, including compassionate leave, are also applicable if for example, a family member needs to be cared for at home. This option is an important element at B. Braun that ensures employees stay with the company long term. A framework agreement with the Group Works Council guarantees that this form of part-time arrangement

- Every day, more than 47,000 employees worldwide set standards in medical care.
- There are around 500 different models of working aligned to the requirements of employees and their families.
- In the last 5 years, the number of employees has increased by 28 percent.





From country to country, the parameters for combining work and family differ; working time arrangements, therefore, are developed individually for each location.



11:56 A.M. | CET



## Employees in the spotlight

Independent institutes confirm that employee satisfaction at our company has an important role to play in our sustained success. In the "Top employers" study conducted by the CRF institute, B. Braun has repeatedly achieved first place in the categories "Work-Life Balance", "Job Security" and "Company Culture" for the past few years. The company has also been named the best employer in Germany several times.

remains a stable part of the program. Working fewer hours or temporarily taking a break from work is not always the right solution for everyone. For this reason, we give our employees a degree of flexibility, depending on their role, as to when and where they are going to do their work.

We have taken a pioneering step toward the working environment of the future with our Open Office Concept. At the Group headquarters in Melsungen, like many other locations, the employees choose where they are going to work that day, giving them the opportunity to work with different coworkers on a daily basis, depending on their role. This open and transparent working environment promotes communication, creates intentionally flat hierarchies and is a unique way of living the company culture of "Sharing Expertise". Nobody at B. Braun, not even members of the board, has their very own desk or office.



01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00

01:34

P.M. | CET



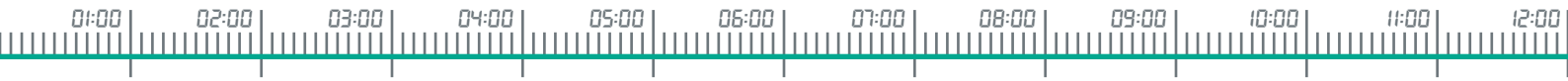


MELSUNGEN | Medical Plant | 51° 8' 0" N, 9° 33' 0" E

# Building Networks







The system supervisors such as Frank Gaag have the entire production process under control at all times.

A UV light is turned on. A computer-controlled camera checks to confirm that the infusion tube is exactly engaged in the connection piece. The drip chamber is then fitted. It is a precise process that does not tolerate any deviation during the assembly of infusion systems. Every step in the D.I.V.A. is fully automated and exactly replicated, 150,000 times a day, 43.5 million times a year.



At 01:34 p.m. Frank Gaag goes through the double hygiene doors at the medical plant in Melsungen. His hair is covered by a protective cap and he has changed his shoes. The 46 year-old puts on white lab trousers and his lab coat before entering the low contamination zone of the plant. 630,000 infusion systems are produced here every day. The plant operates three shifts daily to oversee production twenty-four hours a day, seven days a week. Demand is high. The specialist worker crosses the hall to his D.I.V.A. The abbreviation stands for Double IV-Set Assembly Machine, the next generation production machine for infusion systems. Every step is automated. From securing the roller clamps on the tubes to packaging the finished infusion devices, the error rate is 0.001%. Frank Gaag focuses on the control monitor for the system. Within his view is a panoramic window through which he can see the B. Braun gardens and the modern Europe Building. Obermelsungen can be seen on the horizon. He was born there, he lives there with his family, and this is his home. The system supervisor has been working in the main production facility for 25 years. He has gained valuable knowledge, which he passes on to his colleagues worldwide. His expertise has led to interesting assignments, such as going to Malaysia for four weeks, almost 15 years ago, to support local coworkers.

### Exchanging knowledge across borders is one of the things that makes B. Braun successful

B. Braun is established in more than 300 locations in more than 50 countries around the world. The headquarters in Melsungen, Germany, sets global standards for success that inspire excellent cooperation across the countries and cultures, and across the various divisions and functions within the company. The modern and functional plant in PfiEFFwiesen, the central administration in the "Europe Building" and the "Leading Infusion Factory Europe" (the

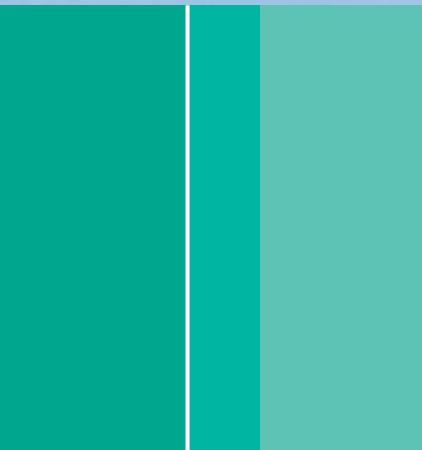
## Center of Excellence

### Research and development, production and logistics under one roof:

B. Braun runs 20 Centers of Excellence in over 40 locations in Europe, Asia and America. This is where innovative technologies for selected product segments are tracked down and implemented. This means that ideas are more quickly put into action.

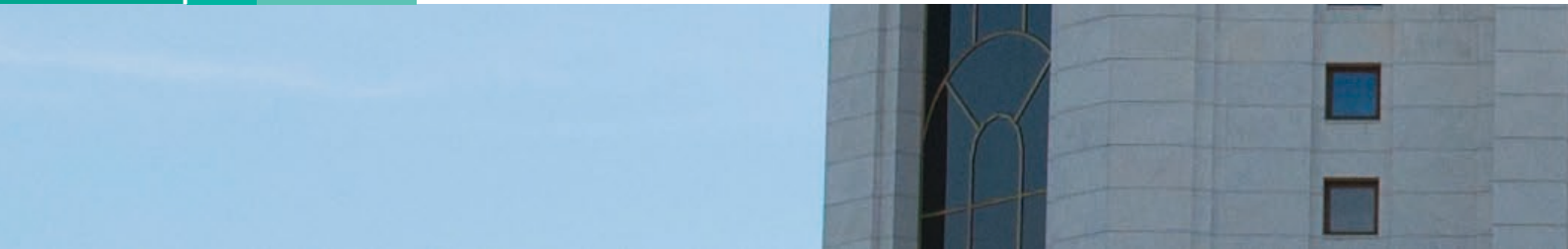
most innovative infusion solution production plant in Europe) embody this philosophy through their futuristic company architecture. At the B. Braun headquarters these buildings reflect our image as an open, transparent company, striving toward innovation and efficiency as well as maintaining a sustainable approach to employees and the region. Investing in the expansion of our locations is always in harmony with nature and respects the local culture. The building materials are durable, timeless and, wherever possible, locally sourced. Using local companies to build these facilities, we have a globally harmonized understanding of quality, optimized processes and innovation.





03:28

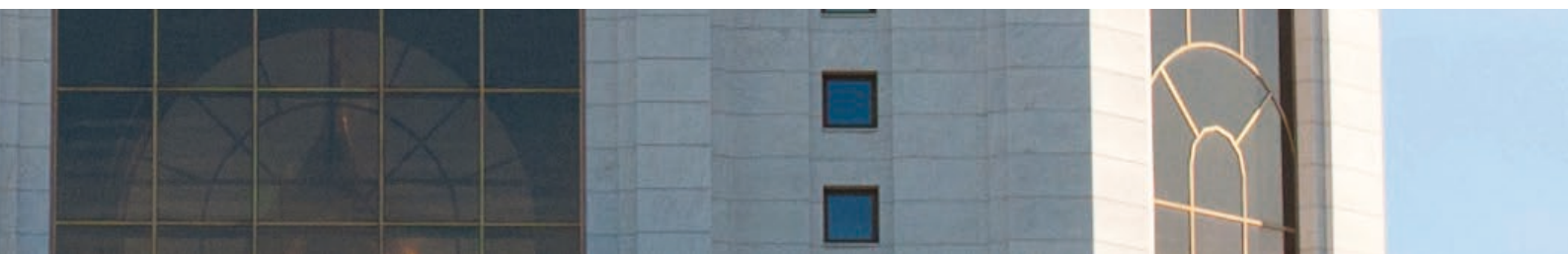
P.M. | EET





KALININGRAD | Dialysis Center | 54° 44' N, 20° 29' 0

# Assuring Quality





Kaliningrad, 03:28 p.m. The patient leans back, relaxes, and reaches for his magazine. Over the next four hours, his blood will flow out of his right upper arm, through the dialysis machine, where it will be cleaned and then returned to his body.

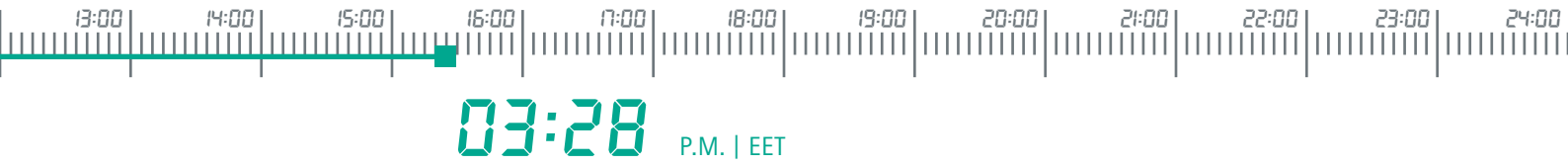
Tuesday, Thursday and Saturday: These are Sergey's dialysis days. The 61 year-old has been coming to the B. Braun dialysis center in Kaliningrad three times a week for the last two years. The dialysis nurse gives him a friendly welcome. After a quick health check, which includes recording his weight and measuring his blood pressure, Sergey settles down at one of the eleven stations. Everything is ready at the Dialog+ dialysis machine. For the next four hours, his blood will take a detour through the "external kidney". The sophisticated system of pumps and filters removes excess water and harmful substances from his bloodstream. Sergey's own kidneys are no longer able to do this; he is one of the two million or so people with chronic kidney failure worldwide. As a kidney transplant is often not a medical option, B. Braun technology takes on the important role of this essential organ for Sergey, twelve to 15 hours a week. Our modern dialysis systems can allow people with kidney disease to live a largely normal life for many years.

The B. Braun dialysis center is one of the most modern in Kaliningrad. It is one of approximately 200 dialysis units that are equipped and operated by B. Braun worldwide. This service network is not just limited to patient treatment. The B. Braun Avitum division supports the practitioners and employees with advanced training, and is involved in sharing expertise among nephrologists at an

international level. B. Braun is one of the few system suppliers for dialysis and apheresis that operates on a global scale. We are particularly focused on safety and comfort for users and patients. We set the standards for user-friendly functions and automated control elements. Developments grow from an intense sharing of expertise with specialists and constant direct contact with patients.

Our products and services range from anesthesia to wound closure, from hygiene management to neurosurgery. For decades, innovations from B. Braun have shaped medicine on a day-to-day basis. For instance, the introduction of the Braunüle in 1962 was considered to be a milestone. The first one-piece cannula for continuous infusion brought significant improvements in infusion therapy. This was also the first step in the use of plastic in medicine. New developments are always made with real improvements for patients and users in mind. To prevent needle injuries and the associated risk of exposure to blood borne pathogens for medical workers, a special protection mechanism was developed for peripheral IV catheters. When the needle is pulled out of the catheter, a safety shield is automatically drawn over the sharp tip to prevent injury. Intelligent infusion pumps communicate directly with the hospital's patient data management system and the unit control center. This technology ensures that the staff is always informed about the





A core element in the dialysis process is the high-performance, intelligent filter technology.

- B. Braun has more than 30,000 products, supporting healthcare professionals and patients on every continent.
- B. Braun makes 95 percent of the products it supplies.
- The rate of innovation is high, one in every four products was launched less than five years ago.



The portfolio also includes pharmaceuticals, such as those needed in anesthesia and intensive care.



Aesculap's modern implant systems combine insights from the fields of materials research, biomedicine and orthopedics.

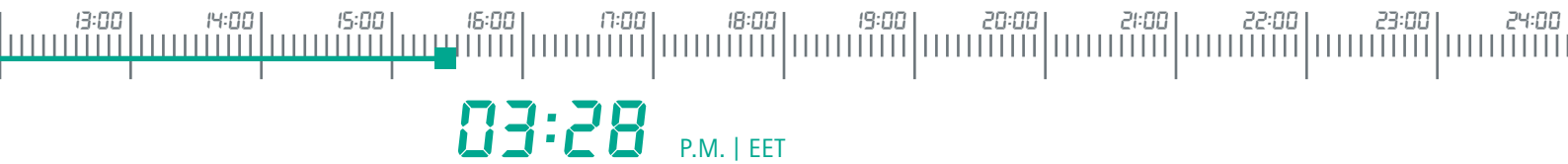


Consistent disinfection and exemplary hygiene are among the most important weapons in the fight against dangerous bacteria.

current status of the infusion therapy and can take prompt action if required. As well as innovative device technology, the Hospital Care division also has a wide range of pharmacological products. Sterile infusion solutions are available for a wide range of applications and patient groups – from volume replacement to anesthesia to clinical nutrition.

### The aim of product developments is always to achieve measureable improvements for users and patients

The Aesculap division has thousands of different products for surgery and its associated fields– from basic tweezers to precision instruments, from motor systems to computer-aided navigation systems, to precision implantation of prosthetic joints. Modern instrument designs from Aesculap allow surgeons to take a less invasive approach to neurosurgery, spinal surgery and other surgical specialties. Neuroendoscopic procedures now allow surgeons to operate on the brain using natural orifices in the skull. Implant developments are supported by biotechnology. For example, cartilage defects can be treated with replacement tissue cultured within a few days from a patient's own cells and then easily grown in the body for a precision fit. The latest implants for disc damage are based on innovative plastics. Plastics used in the



## B. Braun supplies products and services for the following areas:

- Anesthesia
- Surgical instruments and devices
- Hygiene management
- Diabetic supplies
- Extracorporeal blood treatment
- Vascular therapy
- Skin and wound management
- Infusion therapy
- Incontinence/urology
- Clinical nutrition
- Neurosurgery
- Orthopedics
- Stoma supplies
- Spinal surgery
- Wound closure

Developers at B. Braun take the patient and the entire treatment process as the starting point – this results in flexible applications and networked system solutions. Infusion technology is shown here as an example.

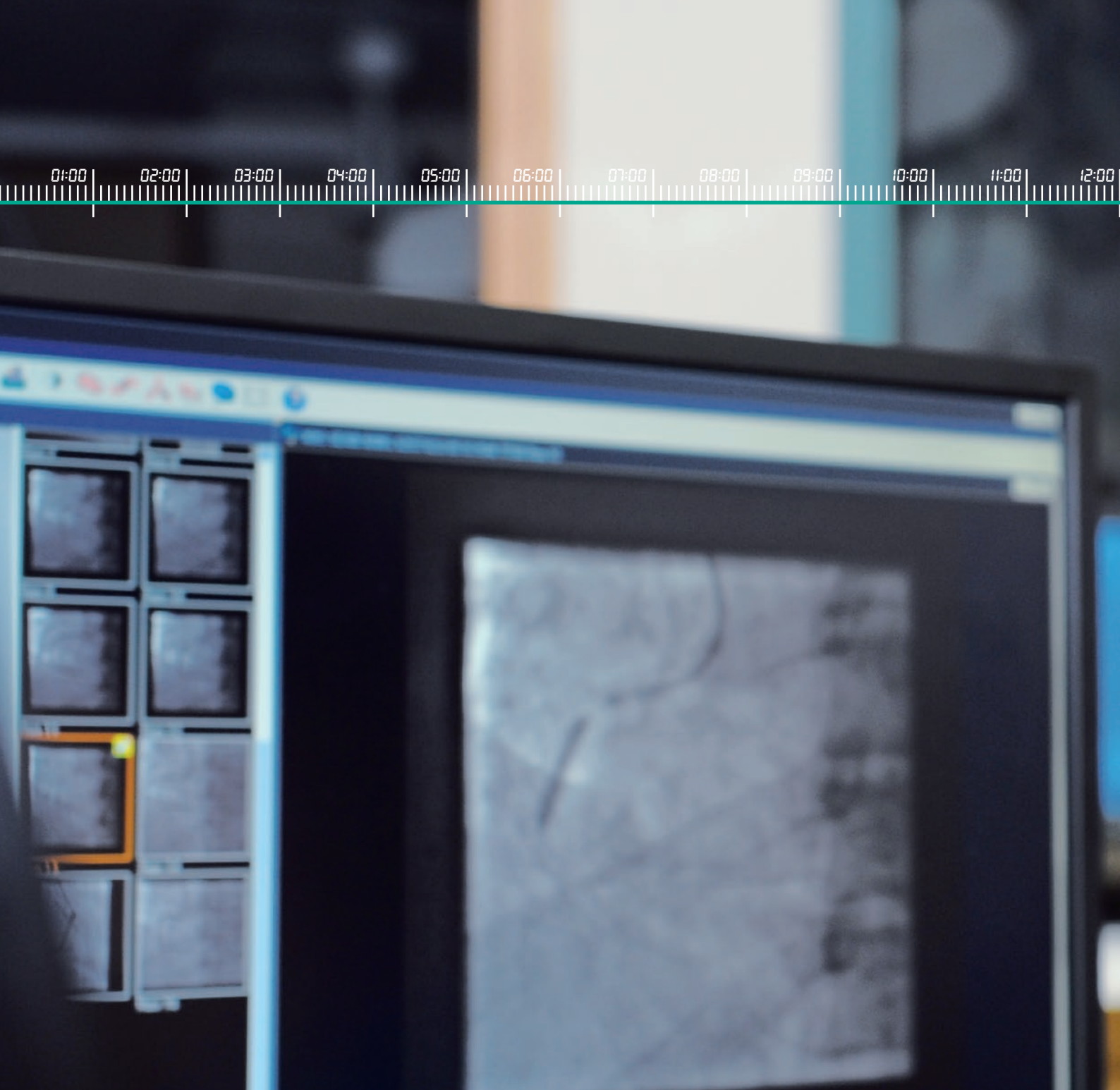
development of high-precision disposable instruments have proven to be economical and environmentally friendly, particularly in emergency medicine. Instruments made from these materials complement the sophisticated range of multiple use metal instruments.

### Often, expertise from basic research makes its way into product development

The impulse behind the development of new products and services often comes from the users, who are searching for efficient solutions for genuine problems themselves.

In the area of wound healing, however, it was basic research that prompted the development. While it used to be believed that it was best to expose the wound to the air, now we know that skin heals better in a moist environment. The OPM division now supplies a full range of innovative wound dressings, which can be used to treat even seriously infected wounds. Special foams and coatings help new skin tissue to form and stabilize. Another important field is disinfection and hygiene: antibacterial, fungicide and virucide wash lotions and disinfectants help to prevent the spread of dangerous microorganisms effectively.

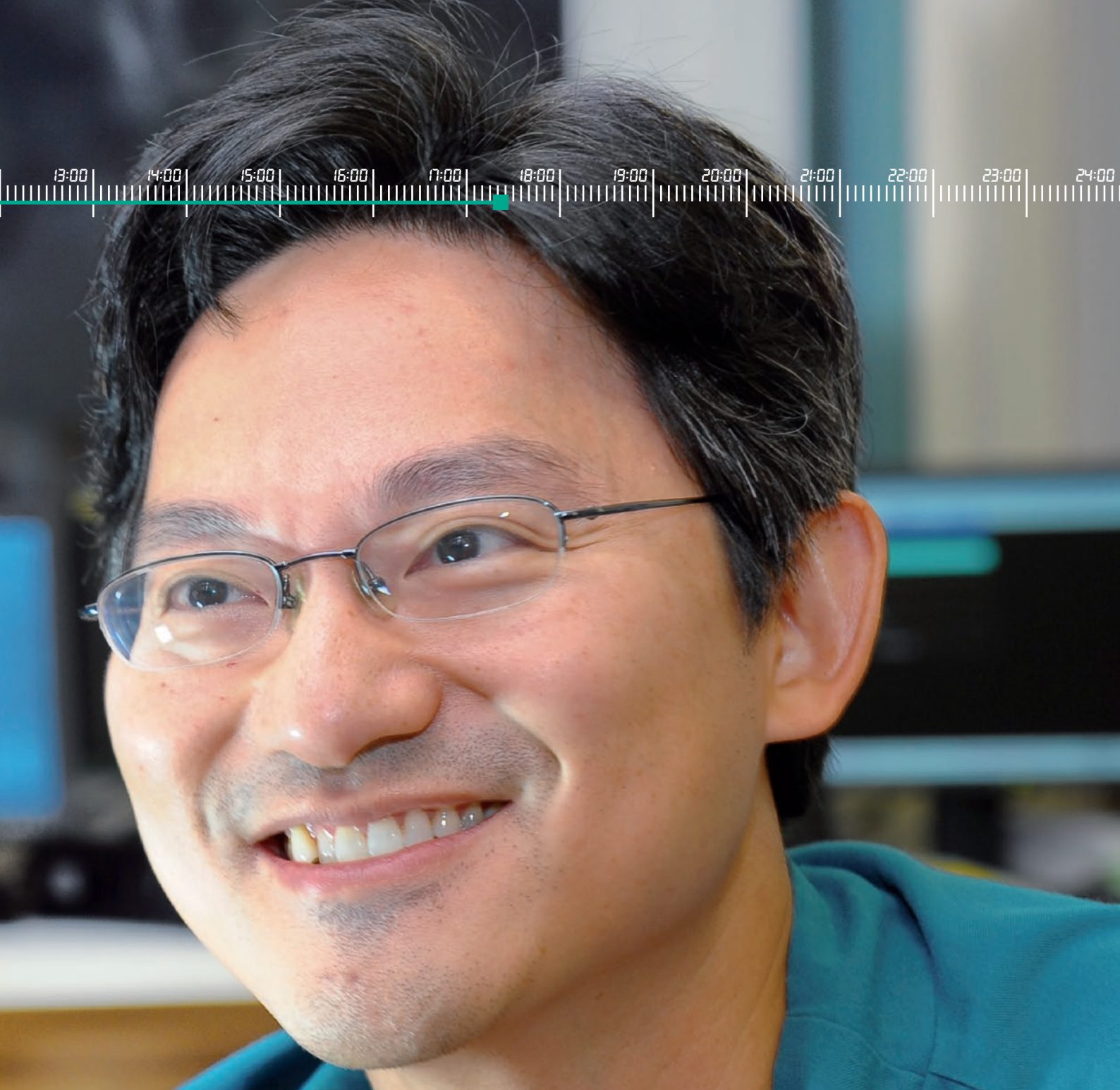




05:26

P.M. | SGT





SINGAPORE | Tan Tock Seng Hospital | 1° 17' N, 103° 50' E

# New Ways



Dr. Paul Ong listens carefully as the 58 year-old man describes his symptoms. The diagnosis is heart disease, caused by a narrowing of the coronary arteries. The cardiologist sees his patient into the cath lab. Dr. Ong is Senior Consultant at the Cardiology department of the Tan Tock Seng Hospital, Singapore.

The efficacy of the drug-eluting balloon catheter was successfully tried and tested thousands of times in studies before it was approved for routine medical use. Dr. Ong injects a local anesthetic into the patient's hand and inserts a catheter into his wrist artery. The heart Catheter – a long, slim tube, one meter long – permits a detailed examination of the blood vessels of the heart and allows any blockage to be treated right away. He carefully advances the catheter through the blood vessels toward the heart. A contrast agent ensures that the arteries can be seen on X-ray and the physician can assess the findings in real-time on the high-definition monitor. Within minutes, the catheter has found the cause of the blockage. A medium sized vessel is extensively congested with plaque, which is starving the heart of oxygen. Dr. Ong discusses the options with the patient. Treatment is to take the form of the SeQuent® Please from B. Braun.

What distinguishes this balloon catheter from others is that it is coated with the drug Paclitaxel, which inhibits cell division. As it expands, the balloon widens the narrowed artery and pushes the drug directly into the affected wall of the vessel. This effectively prevents the artery from narrowing again in the future. This advancement in treatment means

that the implantation of a coated stent – a metal vascular support – can be avoided. Because no foreign material remains in the patient's body, in many cases he is able to leave the hospital the following morning.

### Commercially viable innovations are developed in open dialog and in cooperative teamwork

Dr. Ong has already used the drug-eluting balloon catheter in dozens of patients. He brought the practice with him from Great Britain, where he worked for many years. The cardiologist praises the reliability and intuitive handling of SeQuent® Please.

The SeQuent® Please is a perfect example of how our company strives to promote forward-looking technologies in medical diagnosis and therapy, and how these innovations are developed until they can be launched.

The cradle of this innovative technology is in Berlin. This was where the Drug Eluting Balloon was developed at the Center of Excellence for Vascular Systems, until it was finally ready for serial production. Almost a decade





Clinical studies on innovative treatment procedures are coordinated worldwide. Cardiologists from Singapore were involved in the SeQuent® Please studies.



The efficacy of the drug-eluting balloon catheter was successfully tried and tested thousands of times in studies before it was approved for routine medical use.

passed from design to authorization. Like many of the B. Braun innovations, the original idea came from medical practice. Prof. Ulrich Speck from the Charité Berlin and Prof. Bruno Scheller from Saarland University Clinic started with the basic research in 1999, and in 2003 they were looking for an experienced industrial partner, which they found in the Berlin B. Braun team.

Today, the SeQuent® Please is an advancement in the area of vascular systems and is helping us to grow our market position for the catheter-supported treatment of constricted coronary arteries worldwide. Market-driven innovations do not mature in a bubble, but develop as a result of an on-going sharing of knowledge, ideas and experience. This is why our philosophy is to focus on

open dialog and cooperative teamwork. Beyond the confines of teams or divisions, we discuss ideas and suggestions with users and patients – as well as within the company itself. Through reflection and open discussion, the creative minds of our development teams develop innovative concepts into new products, services and processes. Every year, the best developments in all divisions and locations worldwide are awarded the B. Braun innovation prize.

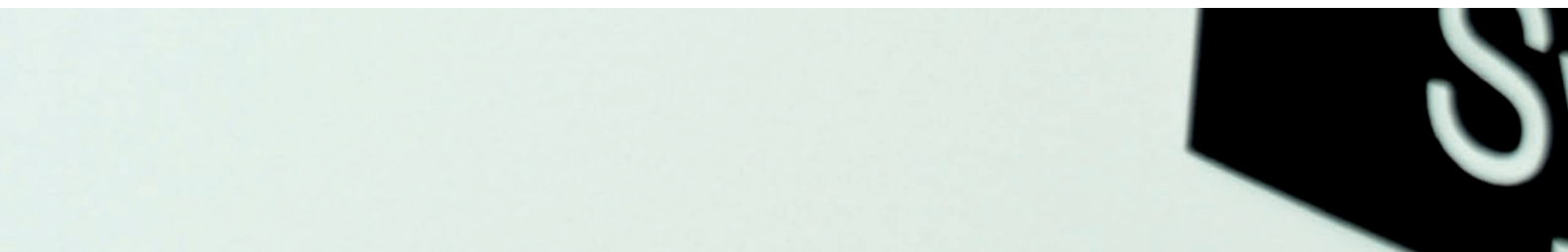


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Please scan the QR-Code with your smart phone.

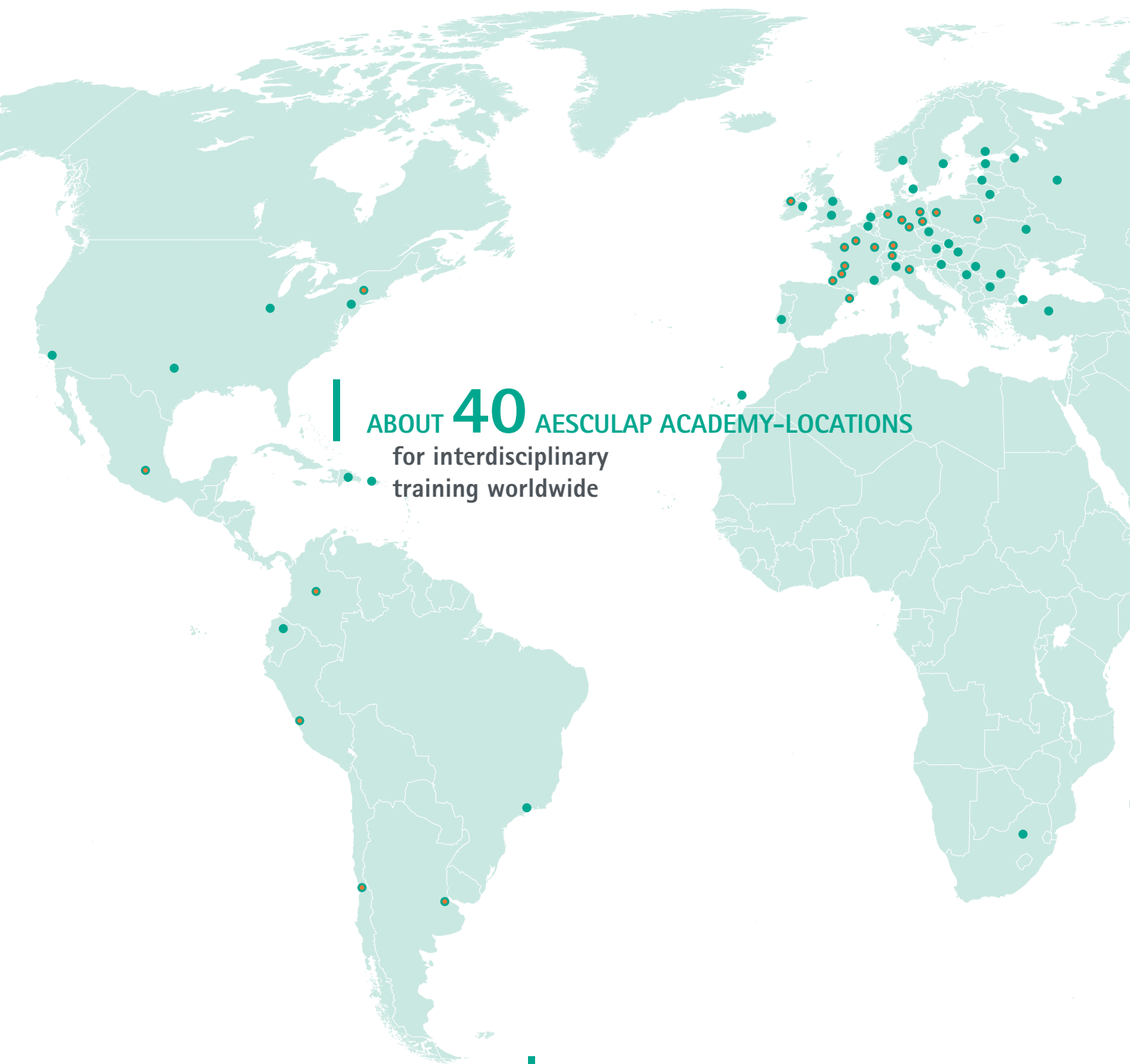


## B. Braun at a Glance





# B. Braun at a Glance



ABOUT **40** AESCULAP ACADEMY-LOCATIONS  
for interdisciplinary  
training worldwide

- Key locations
- Center of Excellence locations

MORE THAN **47,000** EMPLOYEES  
working toward improving quality of life

IN **20** CENTERS OF EXCELLENCE

at over 40 locations, multi-disciplinary and multi-site teams develop tomorrow's technologies and products

OVER **30,000** PRODUCTS  
for all fields of medicine

OVER **300** LOCATIONS  
provide a tight global network of optimum care

MORE THAN **50** NATIONAL SUBSIDIARIES

with a sound understanding of local requirements



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