



Product Catalog

Modern Cementing Technique



One Team. One Vision.

For a Healthy Future - Since 1993

TABLE OF CONTENTS

Preface	04
LOSCH healthcare Group	06
NEPTUNUS eMotion	08
Pulse Lavage System	
NEPTUN Plug	16
Cement Restrictor	
NEPTUN Mix	20
Vacuum Mixing System	
NEPTUN Fix	26
Bone Cement	
Workshops & Training	30
Sustainability	34
Further Products	36
Master Data & Digital Service	38
List of Articles	40
References	44





SHAPING. HEALTH. TOGETHER.

Join us in shaping a healthier future!

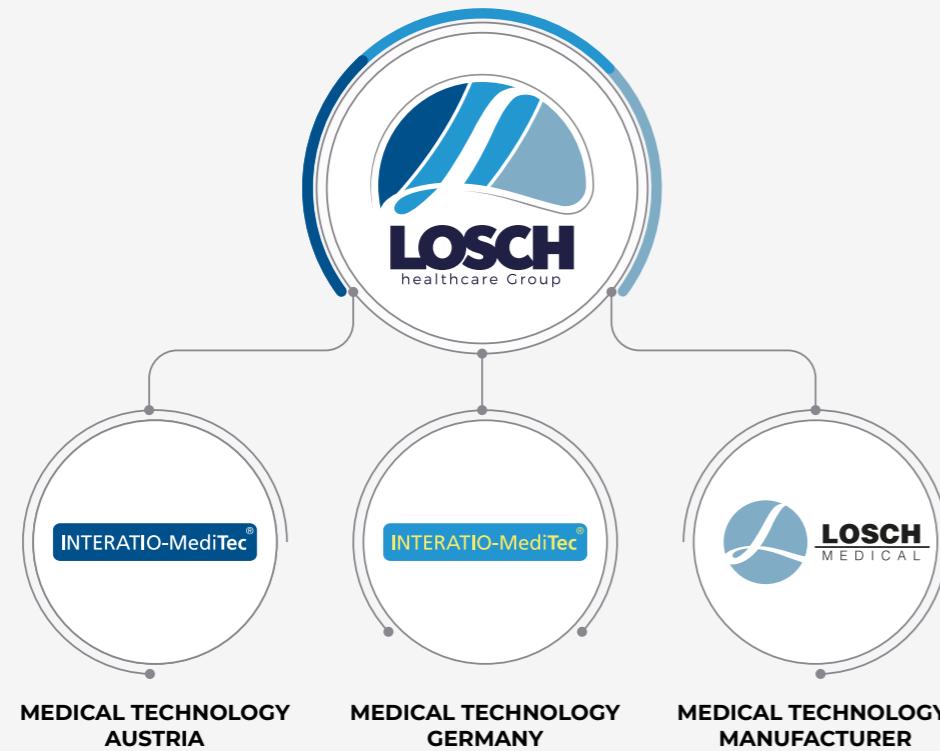
In recent years, the challenges across the healthcare sector have grown significantly - in both number and complexity. Meeting these demands effectively requires a shared vision, clear values, and a coordinated strategy.

Our goal is to drive and manage this transformation successfully in a healthy way: environmentally sustainable, economically efficient, and socially balanced. Achieving this balance calls for mutual understanding, expert communication, and respectful dialogue at every level. What it takes are strong partnerships, consistent action, and a forward-thinking approach focused on long-term impact.

Let's shape the shift towards digitalization and sustainable business together. Make the most of our 30 years of experience and the latest innovations to create a healthier tomorrow. As an agile, family-run alternative to large corporations, LOSCH Medical GmbH can be your key to fast, practical transformation.

Here's to a healthy future!

Lothar F. Schwarz



LOSCH HEALTHCARE GROUP

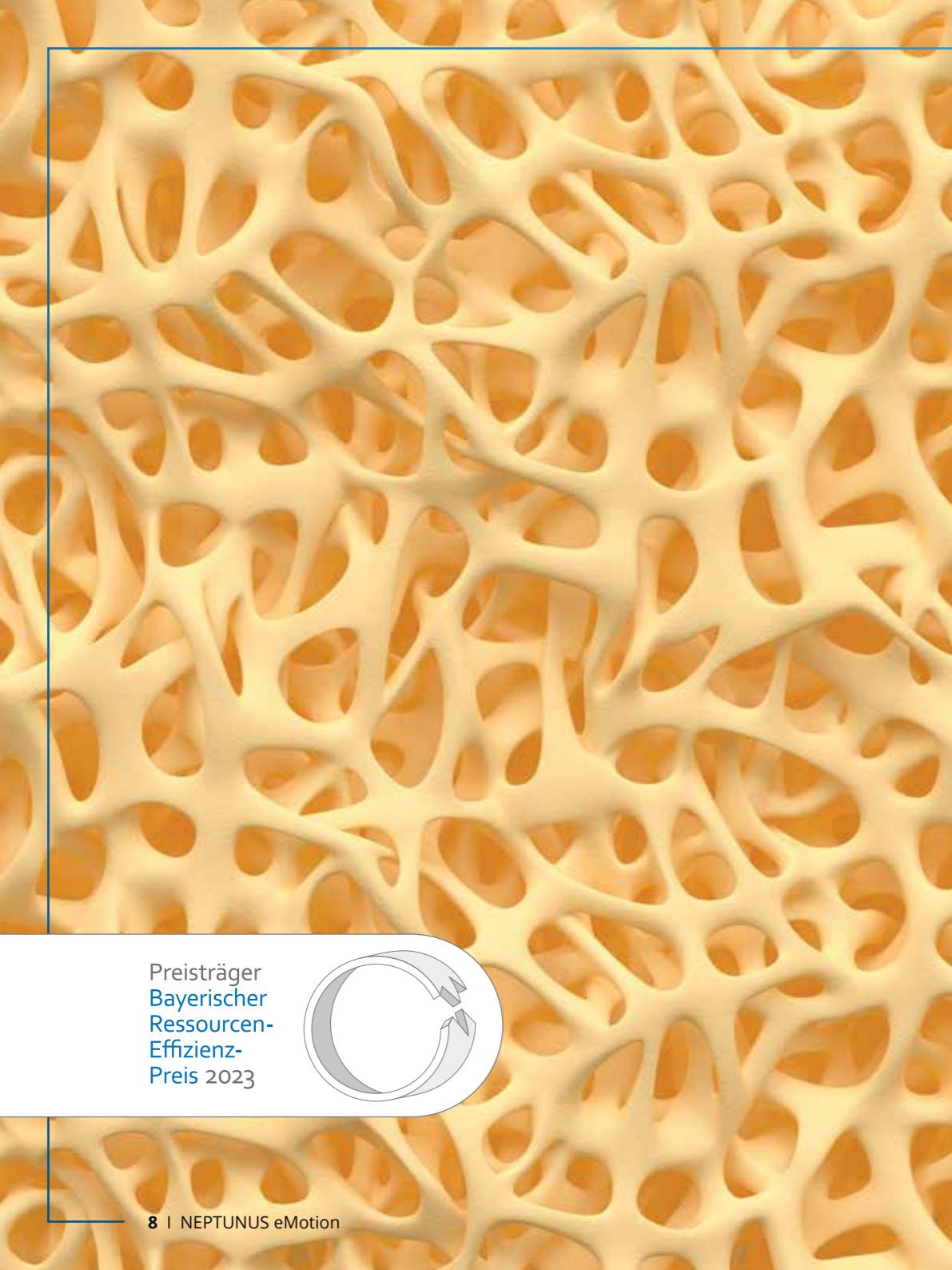
Three companies. One shared vision

The LOSCH healthcare Group combines specialized companies under a common mission: to create high-quality, sustainable solutions for modern medical care.

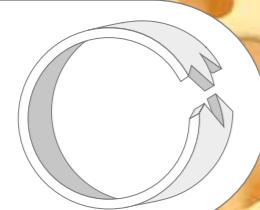
INTERATIO-MedTec GmbH was founded in 1993 by Volker A. Schwarz and has since become a recognized expert in precision instruments and advanced cementing technology. Since 2012, the family business has been led by the second generation, Lothar F. Schwarz, and is firmly rooted in Steinach, Lower Bavaria.

In 2019 LOSCH Medical GmbH was established as a manufacturing company, developing and producing its own product solutions. As of 2022 LOSCH Medical GmbH and INTERATIO-MedTec's operations in Germany and Austria are members of the LOSCH healthcare Group.

Together, the Group stands for sustainable innovations and holistic solutions in medical technology supply - always with a clear focus on the environment, consistency, quality, market proximity and value-oriented action. The vision and mission: together for a healthy future.



Preisträger
Bayerischer
Ressourcen-
Effizienz-
Preis 2023



NEPTUNUS
eMotion



NEPTUNUS EMOTION PULSE LAVAGE SYSTEM

Effective and environmentally conscious in its third generation

The NEPTUNUS eMotion system stands for powerful, sustainable pulse lavage technology. Designed for professional use in orthopedics and trauma surgery, it combines strong rinsing performance with effective suction and quiet electric drive. Two power levels enable targeted and efficient operation. The one-piece aluminum housing provides excellent ergonomics, durability, and stability. High-quality materials, repairability, and full recyclability of all components make this system especially sustainable. Produced in Germany, featuring phthalate-free irrigation kit and transparent supply chains, the system reflects a consistent commitment to quality, patient safety, and environmental responsibility across the entire product life cycle.

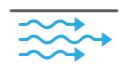
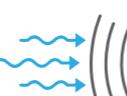
INCLUDED IN THE SET:

- electrically powered, resterilizable NEPTUNUS eMotion handpiece
- resterilizable NEPTUNUS eMotion power cable (3.5 m) with safety connector
- compact power supply unit (input: 90–240V, 50/60Hz; output: 12V, 5A) with power plug
- sterile single-use kit (tubing length 3 m)

IRRIGATION KIT

The irrigation kit combines smart design with premium materials. A removable, adjustable splash guard with built-in stop function enhances safety in the OR. The proven suction geometry ensures reliable removal of bone and tissue particles. All flexible components are free from PVC, phthalates, and latex, and carry the "Phthalate Free" label.



	Distance to Object	Neptunus eMotion	25 mm
	Single-use system		24 mm
	Pulse Frequency	Neptunus eMotion	55,6 Hz
	Single-use system		21,0 Hz
	Flow Rate	Neptunus eMotion	0,8 L/min
	Single-use system		1,9 L/min
	Impact Force	Neptunus eMotion	3,7 N
	Single-use system		1,9 N

Waterproof 12 V cable connection rated to protection class IP58



Removable, adjustable splash guard with integrated stop function



Free from PVC, Phthalates and Latex, flexible and shatter resistant



THE PULSE LAVAGE SYSTEM FOR A HEALTHY FUTURE

NEPTUNUS eMotion reduces CO₂ emissions in production, logistics, and disposal by up to 84% along with 75% less plastic and electronic waste compared to single-use systems. This makes the hybrid system a resource-efficient alternative that benefits both patients and the environment.

Annual usage figures highlight its potential: In Germany, around 252,000 single-use systems are used every year (Bleß & Kip, 2016). Switching to a sustainable system like NEPTUNUS eMotion offers significant savings.

SPACE-SAVING PACKAGING – DESIGNED WITH SUSTAINABILITY IN MIND

We consistently use paper- and cardboard-based materials for all our packaging. A direct comparison shows the difference: ten NEPTUNUS eMotion irrigation kits take up less than half the storage space of conventional single-use systems. That means: less packaging, more efficient storage, and a reduced environmental footprint.

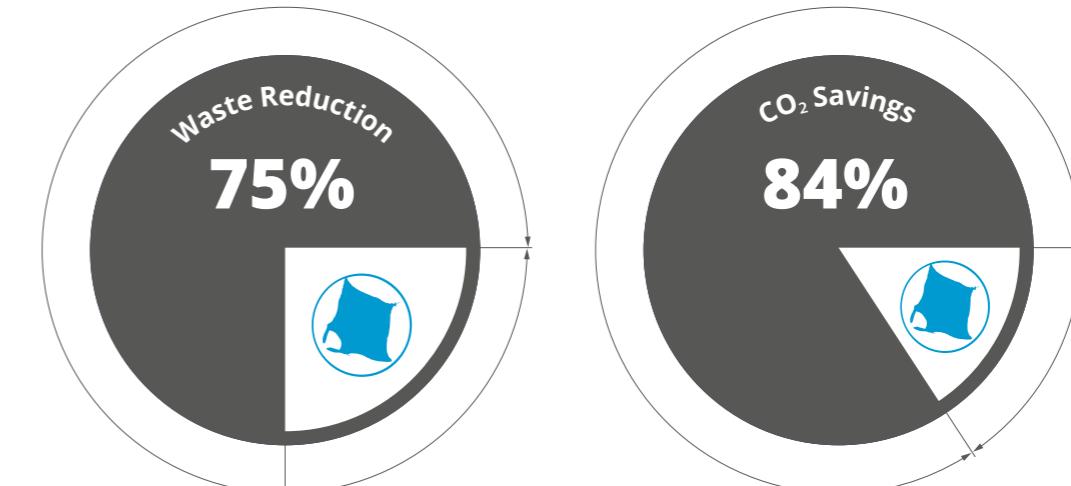
Left: Ten NEPTUNUS eMotion irrigation kits
Right: Ten conventional single-use systems



ECOLOGICAL BENEFIT ASSESSMENT

A system that impresses in the long term

Compared to traditional single-use systems, this hybrid solution reduces CO₂ emissions by up to **84%** across the entire product life cycle — from manufacturing to logistics to disposal. The difference in waste generation is equally clear: thanks to reusable components and the absence of batteries, plastic and electronic waste is reduced by up to **75%** per year.



Relevant
Details

Figure 1: Waste reduction and emission savings compared to single-use devices (Feldmeier, 2022)

CAPTAIN NEPTUN INITIATIVE

Making sustainability measurable and visible

Hospitals and clinics are increasingly pursuing sustainable strategies while also facing rising demands for transparent reporting, such as under the CSRD directive or along the supply chain.

The Captain Neptun Initiative tracks and documents the environmental savings achieved by using the NEPTUNUS eMotion system. Reductions in CO₂ emissions and plastic waste are recorded and certified. The results are made available as documentation for internal reporting and external communication.

This turns sustainability performance into something measurable, comparable, and verifiable - a real added value for modern healthcare providers.



THE CAPTAIN NEPTUN INITIATIVE COMPANIONS OF OUR MISSION

Many hospitals and clinics have already joined us on our journey.





NEPTUN
Plug®



NEPTUN PLUG CEMENT RESTRICTOR

Efficient cement sealing with a resorbable system

The NEPTUN Plug supports modern cementing techniques by enabling safe application within the medullary canal. It prevents bone cement from migrating too deep, allows for targeted intramedullary pressurization and ensures improved cement penetration into the surrounding bone structure. The application requires minimal instrumentation and is customized to meet the practical needs of the OR environment.

KEY ADVANTAGES AT A GLANCE:

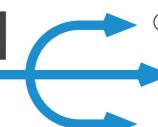
- Made from elastic, gelatin-based biomaterial
- Fully resorbable within a few days at body temperature
- Long-standing proven use in joint replacement surgeries
- Available in sizes from 8-18 mm (in 2 mm increments) for flexible application
- No removal required during revision procedures



Irrigation and suction Sizing with trial implant Insertion of the restrictor Implantation of the prosthesis





NEPTUN
mix 



NEPTUN MIX BOWL

Reliable cement mixing for endoprosthetics

The NEPTUN Mix Bowl was developed for use in orthopedics and primary knee endoprosthetics. This vacuum mixing system enables the simple, safe, and reproducible preparation of bone cement and accommodates volumes of up to 120 g.

A specialized rotating-axis mechanism ensures consistent mixing with low porosity and optimal homogeneity. The cement quality has been confirmed through both studies and clinical experience.

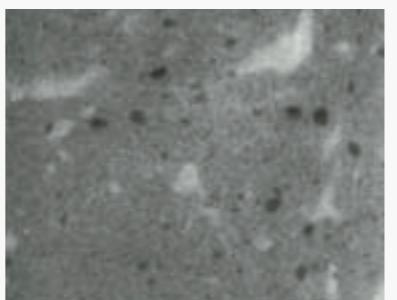
After mixing, an ergonomically shaped spatula allows for easy cement removal. A supplied curette enables precise removal of excess material. The NEPTUN Mix Bowl is suitable for all standard applications in manual cementing - from primary knee arthroplasty to complex revision procedures.

VACUUM PUMP AND TUBING SYSTEM

- Footswitch for starting/stopping the pump
- Manometer for reliable vacuum monitoring
- Activated carbon filter for vapor absorption
- Clamp for secure fixation of the vacuum hose



Bowl mixing system with rotational axis design



Manual mixing

Figure 2: X-ray images comparing manual mixing and a bowl mixing system (Kurdy, Hodgkinson, & Haynes, 1996)



NEPTUN MIX CARTRIDGE

Compact and well-designed

The NEPTUN Mix cartridge-based system is easy to handle. The transparent cartridge is connected directly to the threaded connection, the mixing system is designed for cement volumes up to 80 g.

CARTRIDGE AND APPLICATION

- Transparent cartridge for monitoring
- Ergonomic T-handle for comfortable use
- Color-coded break point for fast mixing
- Secure threaded connection
- Suitable for up to 80 g of cement
- Femoral pressurizer
- Ampoule filter
- Flat knee nozzle
- Slim nozzle with 9 mm diameter





NEPTUN FIX G40-HV

Antibiotic-loaded bone cement for endoprosthetics

NEPTUN Fix is a high-viscosity bone cement with added Gentamicin antibiotic for the secure fixation of endoprostheses in human bone. The product combines user-friendly working time with fast setting properties, enabling efficient surgical workflows.

Thanks to its combination of mechanical stability and antimicrobial action, NEPTUN Fix contributes to long-term implant fixation and infection prevention making it a reliable choice for cemented endoprosthetic procedures.

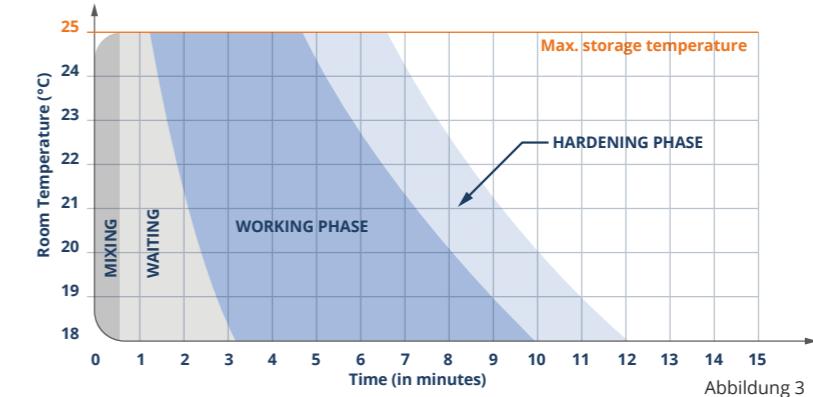
COMPOSITION

Polymer:	
Polymethylmethacrylate	84,3 %
Benzoyl peroxide	2,4 %
Barium sulfate	9,6 %
Gentamicin sulfate (corresponding to 1 g pure Gentamicin)	3,8 %

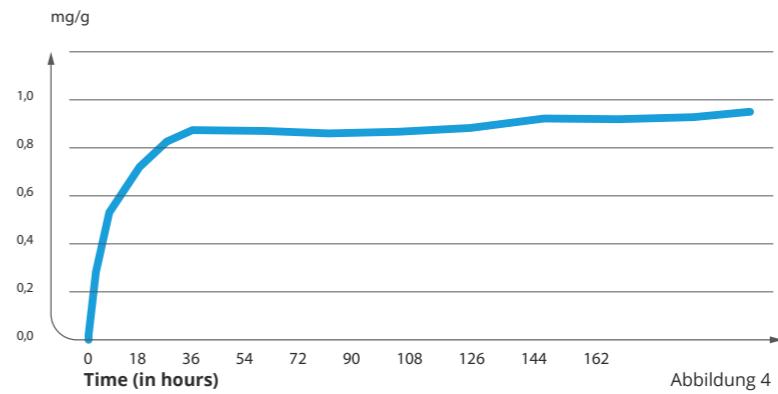
Monomer:	
Methylmethacrylate	84,4 %
Butylmethacrylate	13,2 %
N,N-Dimethyl-p-toluidine	2,4 %
Hydroquinone	20 ppm

A standard-viscosity bone cement will be available soon.

Temperature-Time-Diagram



Antibiotic release



Figures 3 and 4: Diagrams for NEPTUN Fix G40-HV (Teknimed SAS, n.d.)



WORKSHOPS & TRAINING

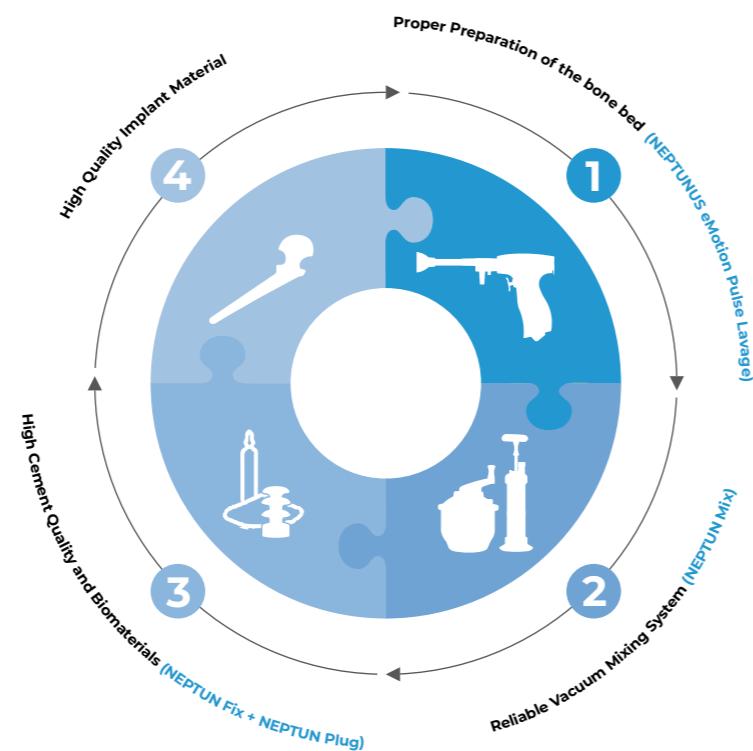
WORKSHOPS FOR MODERN CEMENTING TECHNIQUES

A successful joint replacement doesn't just depend on the surgeon's skills and the implant quality. Other key factors must come together.

Bone cement plays a crucial role in the long-term success of the implant and so does the work of surgical staff preparing the cement.

Improper cement technique is the leading cause of aseptic loosening, the most common reason for revision surgery in hip arthroplasty (Bedard, Callaghan, Stefl, & Liu, 2015).

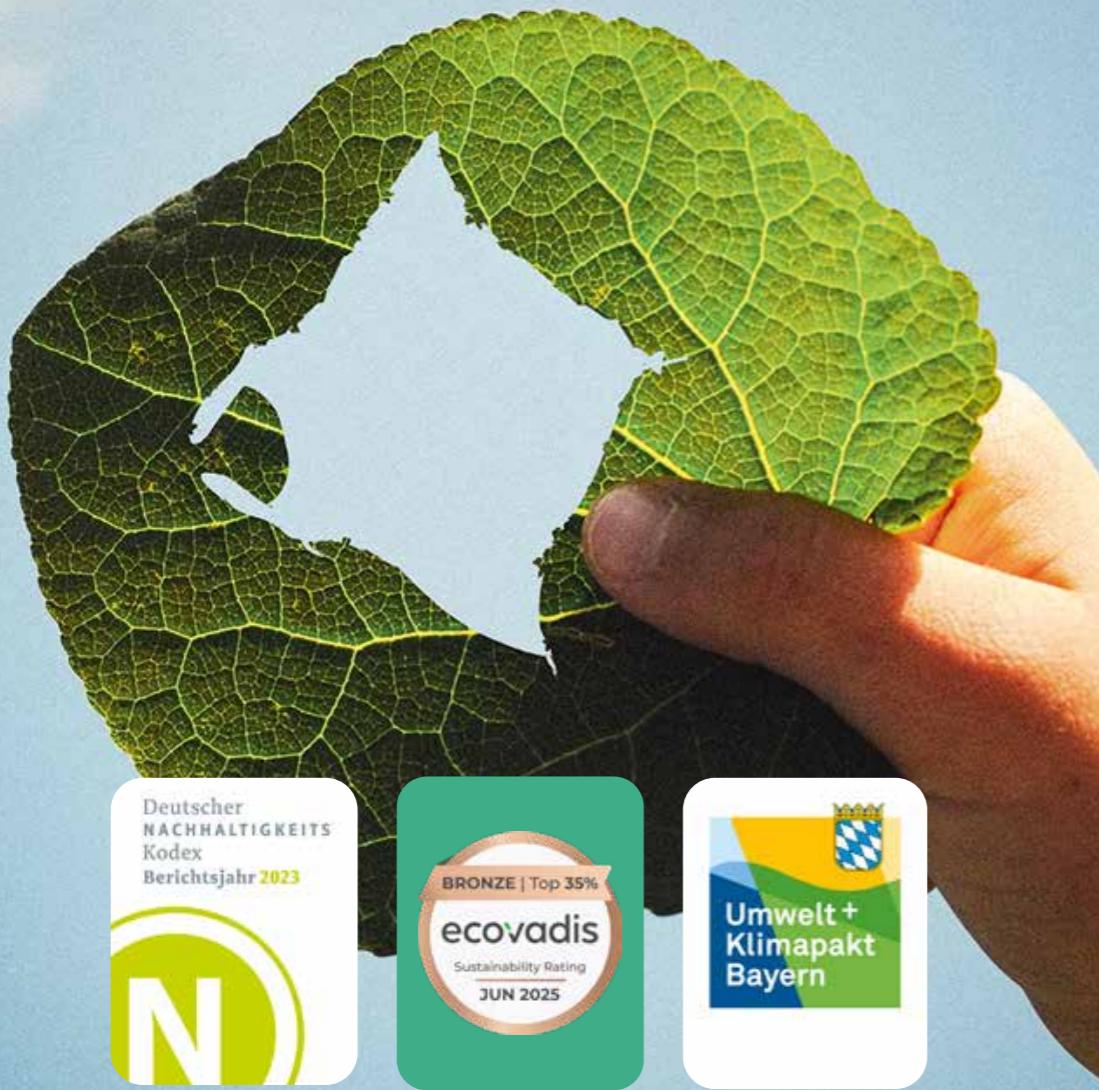
With patients living longer and remaining more active, the average service life of a hip implant is becoming more important than ever.



A key factor for sustainable results is continuous training in modern cementing techniques and the associated components. Especially in times of staffing shortages and rising regulatory demands, staying up to date and keeping knowledge accessible is more important than ever. Take advantage of our training brochures or join one of our workshops. Our product specialists actively support you in your daily clinical practice so you can focus on what truly matters: the health of your patients!

- ✓ Application videos
- ✓ Product videos
- ✓ Workshops

You'll find our complete range of services on our website.
(Customized training options available on request.)



FOR A HEALTHY FUTURE

Hospitals in Germany are responsible for a significant share of CO₂ emissions. Reducing this impact requires a change in mindset across the industry and an active approach to driving real progress.

For more than 30 years, people and the environment have been at the center of what we do. Sustainability is not just an obligation - it's part of our identity. We act with clarity, commitment and purpose.

Since 2023, we have had our sustainability initiatives evaluated by Ecovadis - voluntarily and as part of our own motivation. In 2025, we published our first sustainability report. We are also a partner in the Bavarian Environmental and Climate Pact, making our efforts both visible and measurable.

Our focus lies on sustainable products and solutions that help hospitals reduce waste and emissions. The NEPTUNUS eMotion lavage system, for example, saves up to 75 percent plastic and up to 84 percent CO₂e - a clear contribution to environmental protection.

By 2033, we will continue to improve existing products and develop new ones. To achieve this, we rely on the involvement of users who help move sustainable ideas forward.

Together, we are shaping a more environmentally friendly and future-ready healthcare system - for patients, professionals and the planet.



Relevant
Details

FURTHER PRODUCTS

Precision where it's needed most

Benefit from our many years of experience in the field of cutting instruments.

Our exclusive product range includes surgical saw blades, rotary instruments and more — precisely matched to clinical use.

Get in touch with us and take advantage of our free GAP analysis for targeted process optimization.

CUTTING & ROTARY INSTRUMENTS



[Overview of cutting and rotary instruments](#)

LOSCH LAVAGE SINGLE-USE LAVAGE SYSTEM

Our disposable lavage solution for daily surgical use

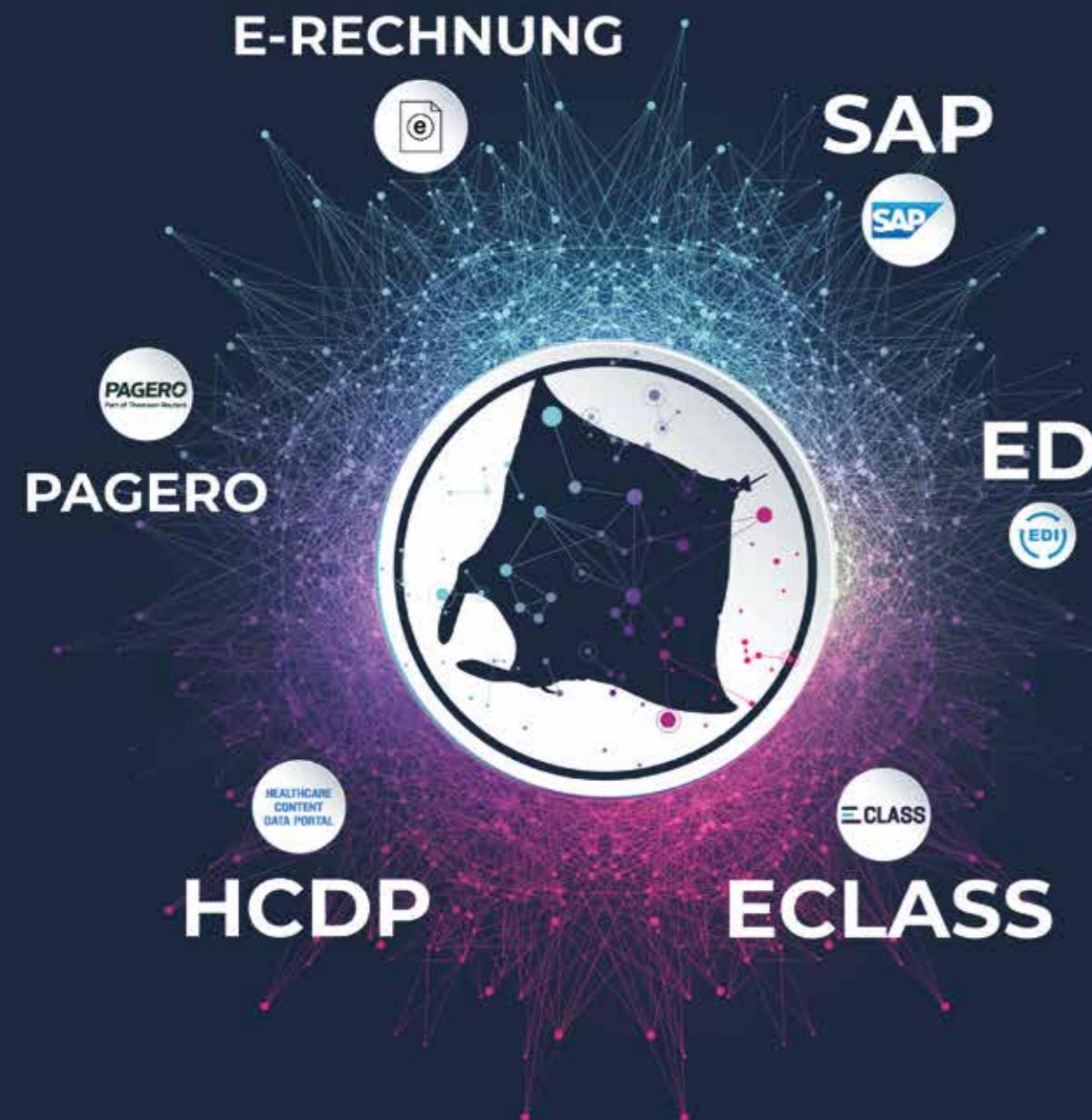
Developed as a complete single-use lavage system for orthopedic procedures as well as wound irrigation and cleaning - reliable, sterile, and ready to use.

INCLUDED IN THE SET:

- Handpiece
- Cable for AC adapter
- Hip nozzle
- Knee nozzle
- Inflow tubing (3 m)
- Suction tubing (3 m)
- For use with power supply unit LL-NT

Power supply unit sold separately





MASTER DATA & DIGITAL SERVICE

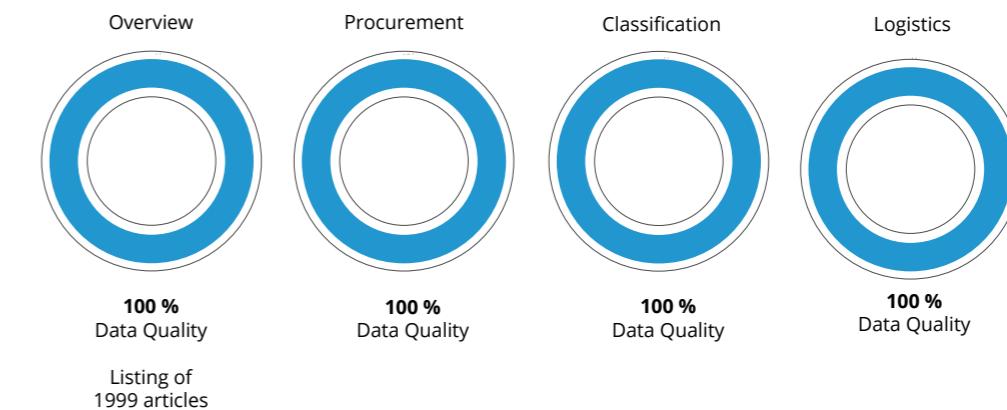
Digital standards to support efficient procurement

Our central master data system ensures up-to-date, consistent product information based on cross-industry standards such as eClass and the COVIN framework.

The product catalog is available via the HealthCareDataPortal with verified data quality of at least 97%. By connecting to Pagero, we enable seamless integration into eProcurement processes – including eInvoicing and digital document processing.

The result: a stable data foundation for efficient processes and transparent, future-proof collaboration.

Healthcare Content Data Portal



LIST OF ARTICLES

NEPTUNUS eMotion Pulse Lavage



Article Number	Product	Product Description	Packaging Unit
NES	NEPTUNUS eMotion System	includes: handpiece, power cord, power supply unit	1 set
NES-001	Handpiece	NEPTUNUS eMotion System	1 piece
NES-002	Power cord	NEPTUNUS eMotion System	1 piece
NES-003	Power supply unit	NEPTUNUS eMotion System	1 piece
OMP-9100	NEPTUNUS Hip/Knee irrigation kit with suction	Irrigation/suction set for NEPTUNUS wound irrigation – sterile	10 pieces

NEPTUN Plug - Cement Restrictor



Article Number	Product	Packaging Unit
NP-770008	Resorbable cement restrictor "NEPTUN Plug" – Size 8 mm	1 piece
NP-770010	Resorbable cement restrictor "NEPTUN Plug" – Size 10 mm	1 piece
NP-770012	Resorbable cement restrictor "NEPTUN Plug" – Size 12 mm	1 piece
NP-770014	Resorbable cement restrictor "NEPTUN Plug" – Size 14 mm	1 piece
NP-770016	Resorbable cement restrictor "NEPTUN Plug" – Size 16 mm	1 piece
NP-770018	Resorbable cement restrictor "NEPTUN Plug" – Size 18 mm	1 piece
I-NP-001	Insertion set for NEPTUN Plug incl. trial implants 8–18 mm and sieve basket	1 piece

NEPTUN Fix - Bone Cement



Article Number	Product	Product Description	Packaging Unit
NF-G4-HV	NEPTUN Fix G40-HV	Surgical bone cement with Gentamicin – 40 g – high viscosity	1 piece

NEPTUN Mix - Vacuum Mixing Systems



Article Number	Product	Product Description	Packaging Unit
NM-K1	NEPTUN Mix - Cartridge - sterile	Vacuum mixing system for surgical bone cement incl. ampoule filter, long, short and flat nozzle, as well as femoral seal – max. filling volume: 80 g	10 pieces
NM-ZP	Cementing Gun	For use with NEPTUN Mix mixing system NM-K1	1 piece
NM-B1	NEPTUN Mix - Bowl - sterile	Vacuum mixing system for surgical bone cement incl. spatula and curette – max. filling volume: 120 g	10 pieces
NM-VP	Vakuum Foot Pump	For NEPTUN Mix mixing systems NM-K1 and NM-B1 incl. compressed air tube	1 piece
NM-SD	Narrow Nozzle - sterile	Outer diameter 9 mm, inner diameter 7 mm	10 pieces

LOSCH Lavage



Article Number	Product	Product Description	Packaging Unit
LL-AC	Single-use pulse lavage system – sterile	Electric version, to be used with power supply unit	10 pieces
LL-NT	Power Supply Unit for Single-use Lavage System		1 piece

OUR CUSTOMER FEEDBACK

See how our products perform in practice and what difference they offer.



Priv.-Doz. Dr. med. Jens Anders – Department of Orthopaedics, Kliniken Dr. Erler, Nuremberg
[NEPTUNUS eMotion Pulse Lavage System](#)

We have been using the NEPTUNUS Pulse Lavage System for several years during total knee arthroplasty procedures. Why has this system proven itself? First, the effectiveness of this jet lavage is high compared to competitors, as the system allows intuitive selection between two intensity levels depending on the bone structure. Second, the well-balanced, fixed yet removable front cover allows universal application, even in hard-to-reach joint areas. The shape and material consistency of the tip enable rinsing with minimal spray and effective suction. There's no need to change the suction tubing in the OR. Environmentally speaking, the lavage stands out with its reusability and PVC/phthalate-free materials. The new NEPTUNUS eMotion model is even more ergonomic, quieter, and more efficient. We can therefore fully recommend this system.



Torsten Klepzig - Head of Department, Orthopaedics and Rheumatic Surgery | Johanniter Hospital Treuenbrietzen
[NEPTUN Plug – Cement Restrictor](#)

At Johanniter Hospital Treuenbrietzen, we have been using the NEPTUN Plug cement restrictors from LOSCH Medical for many years in orthopaedic procedures especially in endoprosthetics. The current instrumentation for applying the restrictors is easy to use, and selecting the correct size for the plug to be inserted is efficient. With sizes ranging from 8 mm to 18 mm, we have sufficient options to achieve the desired cementing result. We can therefore also highly recommend the NEPTUN Plug resorbable cement restrictors from LOSCH Medical.



Prof. Dr. med. Maximilian Rudert - Orthopedic Clinic | König-Ludwig-Haus Würzburg
[NEPTUN Mix Bowl – Vacuum Mixing System](#)

What speaks in favor of vacuum mixing and the bowl? Above all, the mixing bowl convinces us through its reproducible results when mixing cement under vacuum. The option of simply adding antibiotics during revisions is another advantage. We've been successfully using the bowl vacuum mixing systems for knee endoprostheses since 2013 and have completed over 4,000 procedures. The geometry and rotational paddle (agitator) ensure safe handling during surgery. The maximum fill volume of 120 g is particularly beneficial and speaks for the system. We were convinced by the bowl, as it consistently provides reliable mixing results with minimal effort.



Dr. med. Michael Breul - former Senior Consultant | Evangelisches Krankenhaus Oldenburg
[NEPTUN Mix Cartridge – Vacuum Mixing System](#)

The department for trauma surgery, orthopedics, and sports traumatology at Evangelisches Krankenhaus Oldenburg uses products from LOSCH Medical in its daily surgical work with cemented prostheses. The well-designed cartridge-based mixing system, including the application gun, enables us to produce high-quality bone cement. Its easy and reproducible performance gives surgeons confidence and supports reliable anchoring of cemented prosthesis components. We are completely convinced by the cartridge-based vacuum mixing system.



Dr. med. Peter Mark - Specialist in Orthopedics and Trauma Surgery/Rheumatology | Westklinik Dahlem (Berlin)
[NEPTUN Fix G40-HV](#)

Since early 2018, we at Westklinik Dahlem have been using the cementing technology of LOSCH Medical with consistent results in handling and homogeneity. One challenge in choosing products lies in aligning the different interests of all stakeholders. The easy and safe handling of the products and services offered by LOSCH Medical was convincing. As a result, it was a natural step for us to use the NEPTUN Fix G40-HV bone cement. With over 400 uses to date, we can say that the cement reliably meets our requirements in terms of handling and homogeneity. Based on our experience, we can confidently recommend NEPTUN Fix G40-HV.

Arzneimittelkommission der deutschen Ärzteschaft. (2008). „UAW – Aus Fehlern lernen“: Kardiopulmonale Zwischenfälle bei der Verwendung von Knochenzement. Deutsches Ärzteblatt, 105(50), A2524-A2526.

Bedard, N. A., Callaghan, J. J., Stefl, M. D., & Liu, S. S. (2015). Systematic review of literature of cemented femoral components: What is the durability at minimum 20 years follow up? *Clinical Orthopaedics and Related Research*, 473(2), 563-571.

Bishop, N. E., Ferguson, S., & Tepic, S. (1996). Porosity reduction in bone cement at the cement-stem interface. *The Journal of Bone and Joint Surgery – British Volume*, 78(3), 349-356.

Bleß, H.-H., & Kip, M. (Hrsg.). (2016). *Weißbuch Gelenkersatz: Versorgungssituation endoprothetischer Hüft- und Knieoperationen in Deutschland* (S. 18). Springer Berlin.

Breusch, S., Lukoschek, M., Schneider, U. & Ewerbeck, V. (2000). „State of the art“ der zementierten Hüftendoprothetik. Deutsches Ärzteblatt, 97 (30), A2030-A2033.

Bulstra, S. K., Geesink, R. G. T., Bakker, D., Bulstra, T. H., Bouwmeester, S. J. M., & van der Linden, A. J. (1996). Femoral canal occlusion in total hip replacement using a resorbable and flexible cement restrictor. *Journal of Bone and Joint Surgery – British Volume*, 78(6), 892-898.

Carter, D. R., Gates, E. I., & Harris, W. H. (1982). Strain-controlled fatigue of acrylic bone cement. *Journal of Biomedical Materials Research*, 16(5), 647-657.

Christie, J., Robinsson, C., Singer, B. & Ray, D. (1995). Medullary lavage reduces embolic phenomena and cardiopulmonary changes. *The Journal of Bone and Joint Surgery Br*, Vol 77(3): 456-459.

Dunne, N. J., Orr, J. F., Mushipe, M. T., & Eveleigh, R. J. (2003). The relationship between porosity and fatigue characteristics of bone cements. *Biomaterials*, 24(2), 239-245.

Eveleigh, R. L. (2001, März). Mixing systems and the effects of vacuum mixing on bone cement. *British Journal of Perioperative Nursing*, 11(3), 132, 135-140.

Eveleigh, R., Dunne, N., Orr, J., Mushipe, M., & Beverland, D. (2002). The fatigue life of bone cement: How it is affected by mixer design, vacuum level and user technique. *Journal of Advanced Perioperative Care*, 1(1), 12-16.

Feldmeier, S. L. (2022, Mai). Planungskonzept zur Masterthesis (Unveröffentlichtes Manuskript). IU Internationale Hochschule.

Hargrove, R., Ridgeway, S., Russell, R., Norris, M., Packham, I. & Levy, B. (2006). Does pulse lavage reduce hip hemiarthroplasty infection rates? *Journal of HospitalInfection* 62, 446-449.

Health Care Without Harm. (2003). *Strategie zur Risikominimierung für DEHP: Zusammenfassung einer KEMI-Studie für die EU*.

Heudorf, U., Mersch-Sundermann, V. & Angerer, J. (2007). Phthalates: Toxicology and exposure. *International Journal of Hygiene and Environmental Health*, 210(5), 623-634.

International Organization for Standardization (ISO). (2008, Mai 15). ISO 16402: Implants for surgery — Acrylic resin cement — Flexural fatigue testing of acrylic resin cements used in orthopaedics (1. Aufl.). ISO.

Jasty, M., Maloney, W. J. & Bragdon, C. R. (1991). The initiation of failure in cemented femoral components of hip arthroplasties. *Journal of Bone and Joint Surgery – British Volume*, 73(B), 551-558.

Kartesz D. (1992). Infected Pressure and Diabetic Ulcers. *Clinics in Geriatric Medicine*, 8(4), 835.

Kurdy, N. M. G., Hodgkinson, J. P., & Haynes, R. (1996). Acrylic bone cement: Influence of mixer design and unmixed powder. *Journal of Arthroplasty*, 11(7), 813-819.

Lewis, G., Nyman, J. S., & Trieu, H. H. (1997). Effect of mixing method on selected properties of acrylic bone cement. *Journal of Biomedical Materials Research (Applied Biomaterials)*, 38(3), 221-228.

Lidgren, L., Drar, H., & Möller, J. (1984). Strength of polymethylmethacrylate increased by vacuum mixing. *Acta Orthopaedica Scandinavica*, 55(5), 536-541.

Lidgren, L., Bodelind, B., & Möller, J. (1987). Bone cement improved by vacuum mixing and chilling. *Acta Orthopaedica Scandinavica*, 58(1), 27-32.

Lindén, U. (1988). Porosity in manually mixed bone cement. *Clinical Orthopaedics and Related Research*, 231, 110-112.

Lindén, U., & Gillquist, J. (1989). Air inclusion in bone cement: Importance of the mixing technique. *Clinical Orthopaedics and Related Research*, 247, 148-151.

Lindén, U. (1989). Fatigue properties of bone cement: Comparison of mixing techniques. *Acta Orthopaedica Scandinavica*, 60(4), 431-433.

Majokowski, R., Miles, A., Bannister, O., Perkins, J. & Taylor, G. (1993). Bone surface preparation in cemented joint replacement. *The Journal of Bone and Joint Surgery*, Vol 75-B, Nr.3.

Malchau, H., Herberts, P., Söderman, P. & Odén, A. (2000). Update from the Swedish National Hip Arthroplasty Registry 1979-1998 [Scientific exhibit March 15-19]. Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS), Orlando, FL, United States.

Meehan M. (1994). National Pressure Ulcer Prevalence Survey. *Advances in Wound Care*, 7(3), 27-30.

O'Toole, S. (2003). Microemboli identified in TKA patients. *Orthopaedics Today*.

Orishimo, K. F., Claus, A. M., Sychterz, C. J., & Engh, C. A. (2003). Relationship between polyethylene wear and osteolysis in hips with a second-generation porous-coated cementless cup after seven years of follow-up. *The Journal of Bone and Joint Surgery – American Volume*, 85(6), 1095-1099.

Prendergast, P. J., Birthistle, P., Waide, D. V., & Kumar, N. V. G. (1999). An investigation of the performance of Biostop G and Hardinge bone plugs. In *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, 213(4), 361-365.

Phthalate in Medizinprodukten: Expertengespräch im BfArM. (2005). *Umweltmedizin – Forschung – Praxis*, 10(1), 56.

Schreurs, B. W., Spierings, P. T. J., Huiskes, R., & Slooff, T. J. J. H. (1988, August). Effects of preparation techniques on the porosity of acrylic cements. *Acta Orthopaedica Scandinavica*, 59(4), 403-409.

Smeds, S., Goertzen, D., & Ivarsson, I. (1997, January). Influence of temperature and vacuum mixing on bone cement properties. *Clinical Orthopaedics and Related Research*, 334, 326-334.

Spoelhof G. (1993). Pressure Ulcers in Nursing Home Patients. *American Family Physician*, 47; 1207.

Teknimed SAS. (n.d.). Orthopedic range: Technical guide – CEMFIX®, GENTAFIX®, VACUUKIT®, CEMSTOP®. Teknimed.

Topoleski, L. D. T., Ducheyne, P. & Cuckler, J. M. (1990). A fractographic analysis of in vivo poly(methylmethacrylate) bone cement failure mechanisms. *Journal of Biomedical Materials Research*, 24, 145-154.

Wang, J. S., Toksvig Larsen, S., Müller Wille, P., & Franzén, H. (1996). Is there any difference between vacuum mixing systems in reducing bone cement porosity? *Journal of Biomedical Materials Research (Applied Biomaterials)*, 33(2), 115-119.

Wixson, R. L., Lautenschlager, E. P., & Novak, M. A. (1987). Vacuum mixing of acrylic bone cement. *Journal of Arthroplasty*, 2(2), 141-149.

Wixson, R. L. (1992). Do we need to vacuum mix or centrifuge cement? *Clinical Orthopaedics and Related Research*, 285, 84-90.

IMPRINT

LOSCH Medical
Managing Director: Lothar F. Schwarz
Hochstraß 5
94377 Steinach
Germany

Contact:
Phone: +49 9428 90190 50
Fax: +49 9428 90190 59
Email: info@losch-medical.de



LOSCH Medical
Hochstraß 5
94377 Steinach
Germany

This catalog was
printed in an
environmentally
friendly way on
recycled paper.



The mark of
responsible forestry