

A close-up, profile view of a female surgeon wearing a blue surgical cap and a white face mask. She is looking intently to the right. The background is a blurred operating room with bright lights.

**BONESUPPORT**  
**Capital Markets Day 2023**  
November 28<sup>th</sup>

**Introduction**

**Emil Billbäck, CEO**

# BONESUPPORT Capital Markets Day, November 28<sup>th</sup> , 2023

## Focus: Innovation

Moderator: Charlotte Stjerngren, CORD

- |                      |  |
|----------------------|--|
| <b>13:30 – 14:10</b> | Strategic update - Emil Billbäck   |
| <b>14:10 – 14:45</b> | Clinical update – Dr Michael Diefenbeck  |
| <b>14:45 – 15:00</b> | Q&A  |
| <b>15:00 – 15:20</b> | Coffee break   |
| <b>15:20 – 16:00</b> | Clinical experience (incl Q&A) – Dr Stephen Quinnan<br>Moderated by: Charlotte S and Michael D |
| <b>16:00 – 16:30</b> | Financial status and outlook – Emil Billbäck and Håkan Johansson                               |

## Speaker list:

Emil Billbäck, CEO BONESUPPORT

Håkan Johansson, CFO BONESUPPORT

Dr Michael Diefenbeck, Chief Medical Officer, EVP Medical & Clinical Affairs

## Digital:

Dr Stephen Quinnan, Orthopedic Surgeon, Paley Orthopedics & Spine institute

## Addition Bonesupport on-site:

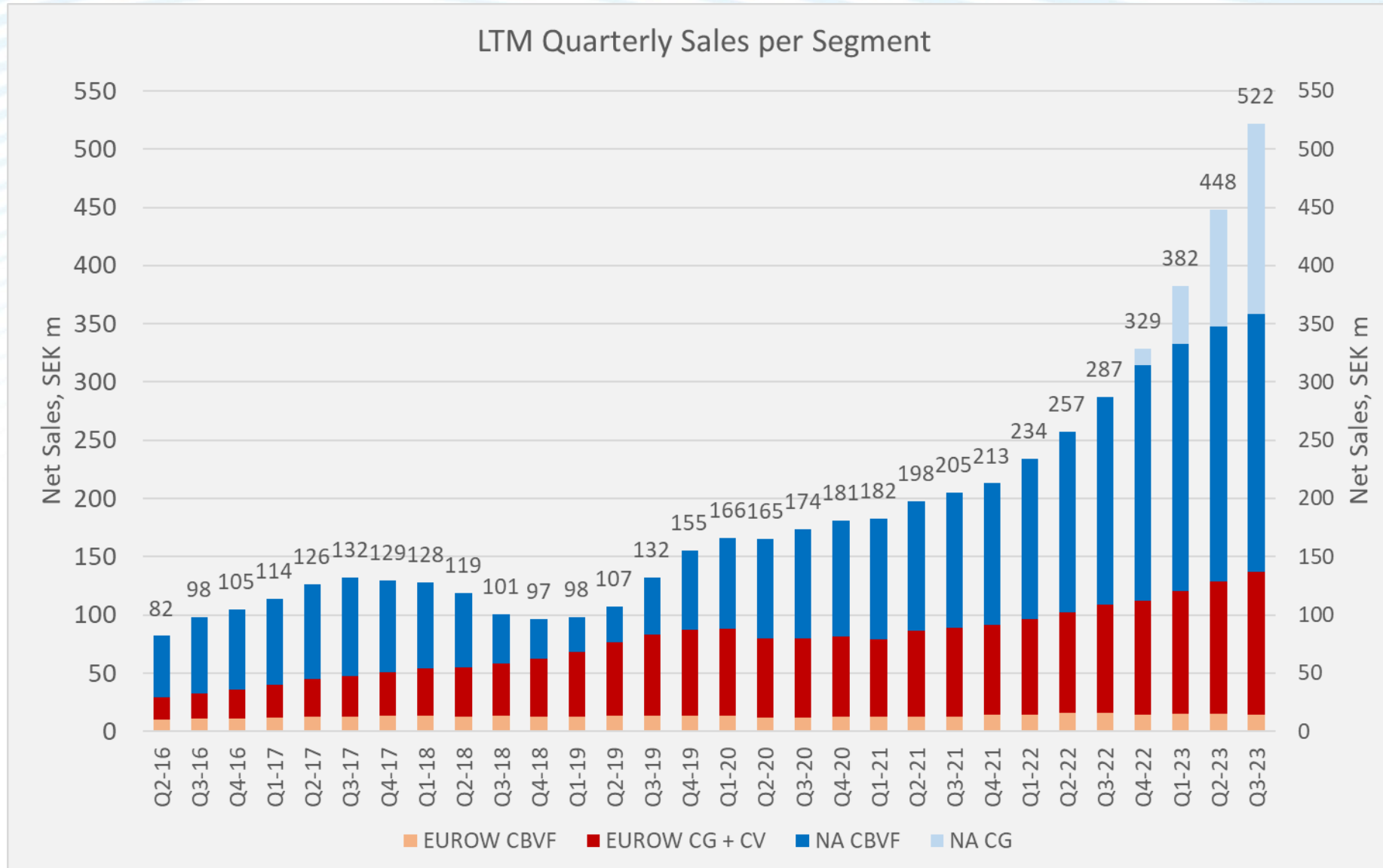
Annelie Aava-Vikner, EVP Global Marketing

Dr. Michael Wrang- Mortensen, EVP R&D and Operations

# BONESUPPORT Capital Markets Day, November 28<sup>th</sup> 2023

- **Capital Markets Day in Sept 2019 focused on:**
  - New strategy
  - Reorganized European sales team
  - Regulatory pathways
- **Capital Markets Day in Sept 2022 focused on CERAMENT G roll-out in US:**
  - Medical Education
  - Booster program
  - CPO and IDN contracts
- **Focus for today's Capital Markets Day is innovation and business development:**
  - New indication: Spinal fusions
    - Market description and clinical relevance
  - Introduction of CERAMENT V in the US
  - Experience from CERAMENT G in the US
  - Clinical update

# Accelerated market penetration. Biggest Q-over-Q net growth

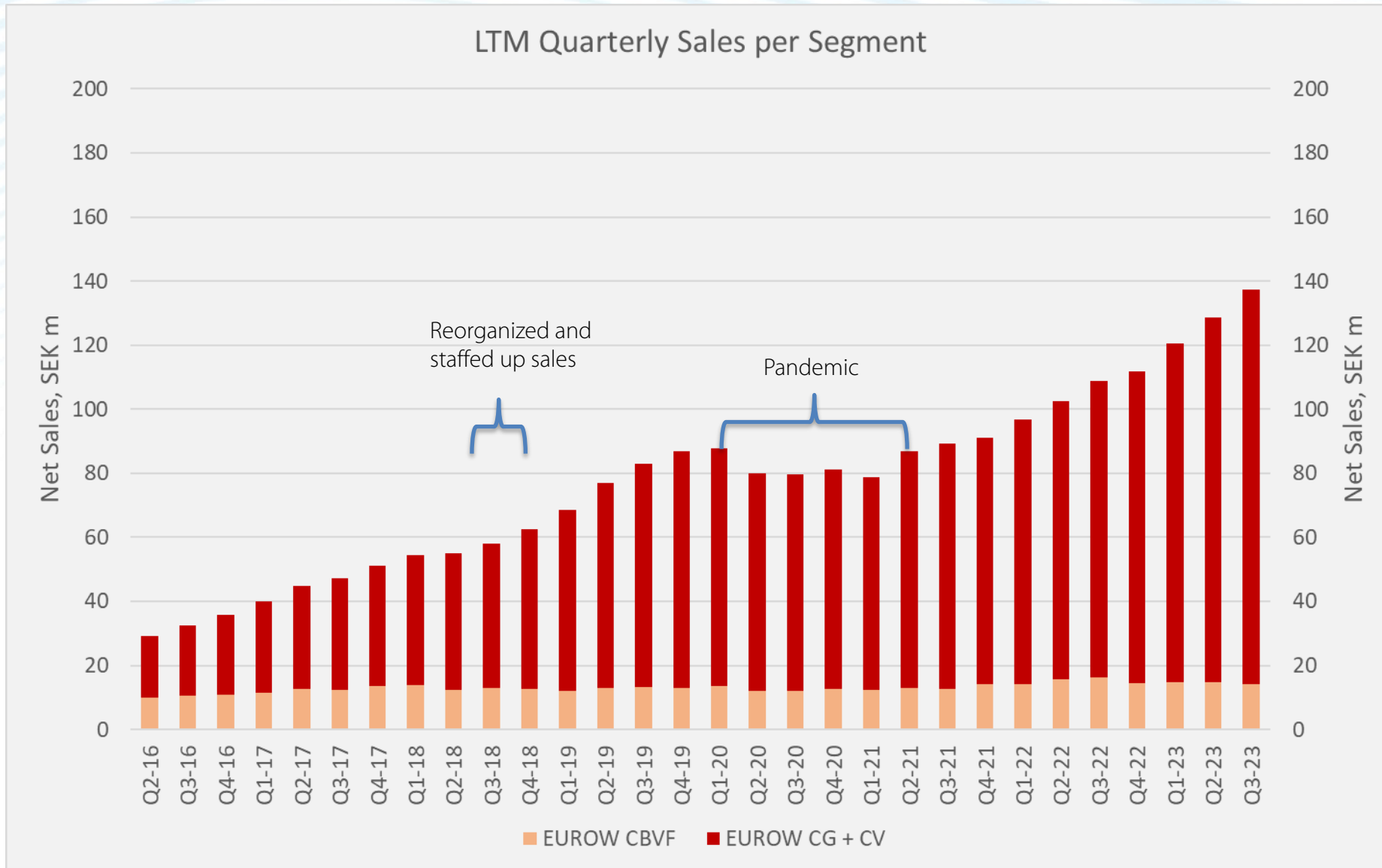


Incremental,  
Q-over-Q  
LTM growth:

- Q3-22 30 MSEK
- Q4-22 42 MSEK
- Q1-23 53 MSEK
- Q2-23 66 mSEK
- Q3-23 74 mSEK**

CBVF= CERAMENT Bone Void Filler  
CG = CERAMENT G (Gentamicin)  
CV = CERAMENT V (Vancomycin)

# EUROW - Steady and strong market penetration



**Q3 LTM 2023 growing with:**

**+27% versus Q3 2022**

(Ax: growth with 33%)

**+54,2% versus Q3 2021**

(Ax: growth with 80%)

**Sales FTE direct markets: 26**

Direct sales per head Q3 LTM:

**400 k€**

CBVF= CERAMENT Bone Void Filler

CG = CERAMENT G (Gentamicin)

CV = CERAMENT V (Vancomycin)



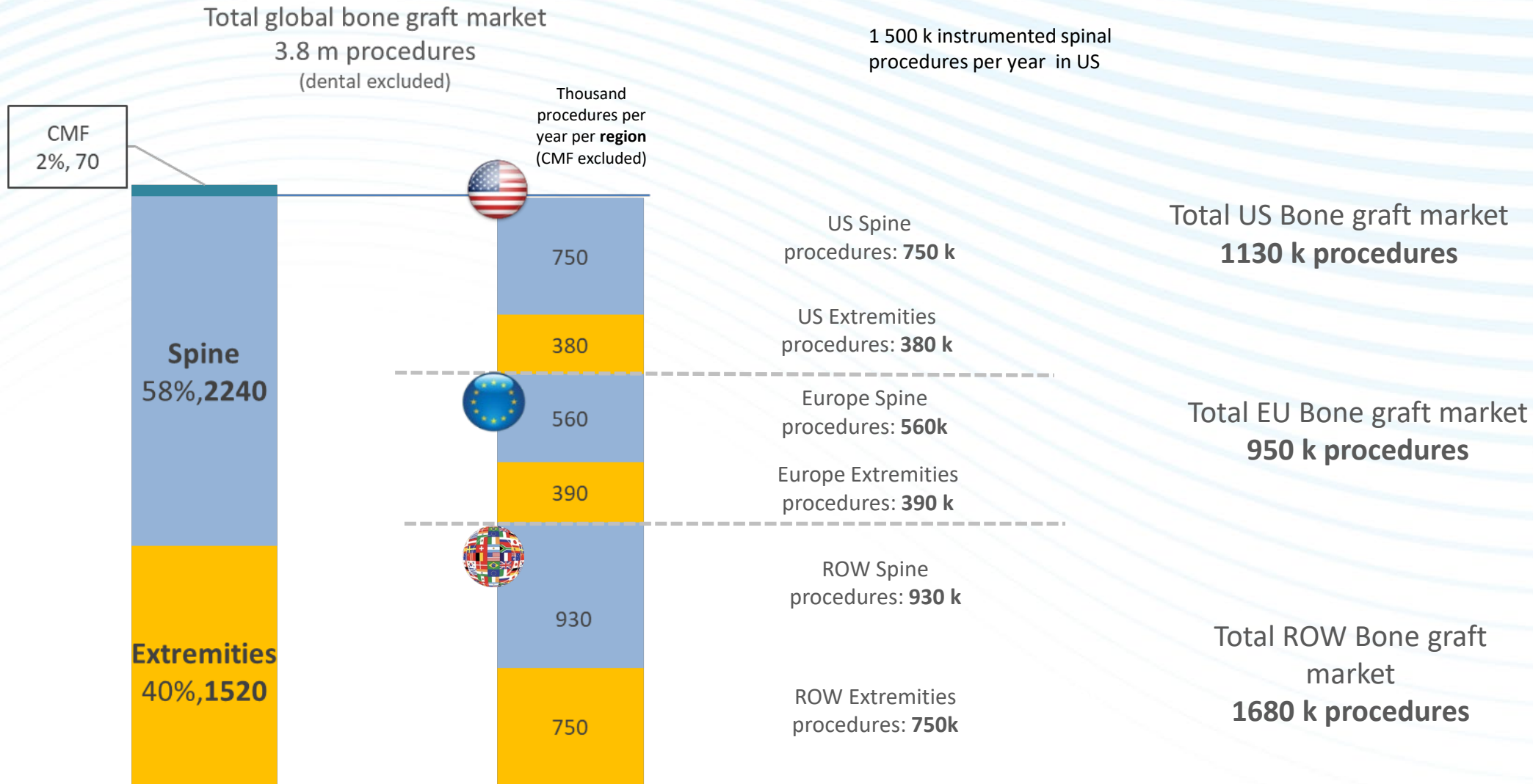
# **BONESUPPORT**

## **Capital Markets Day 2023**

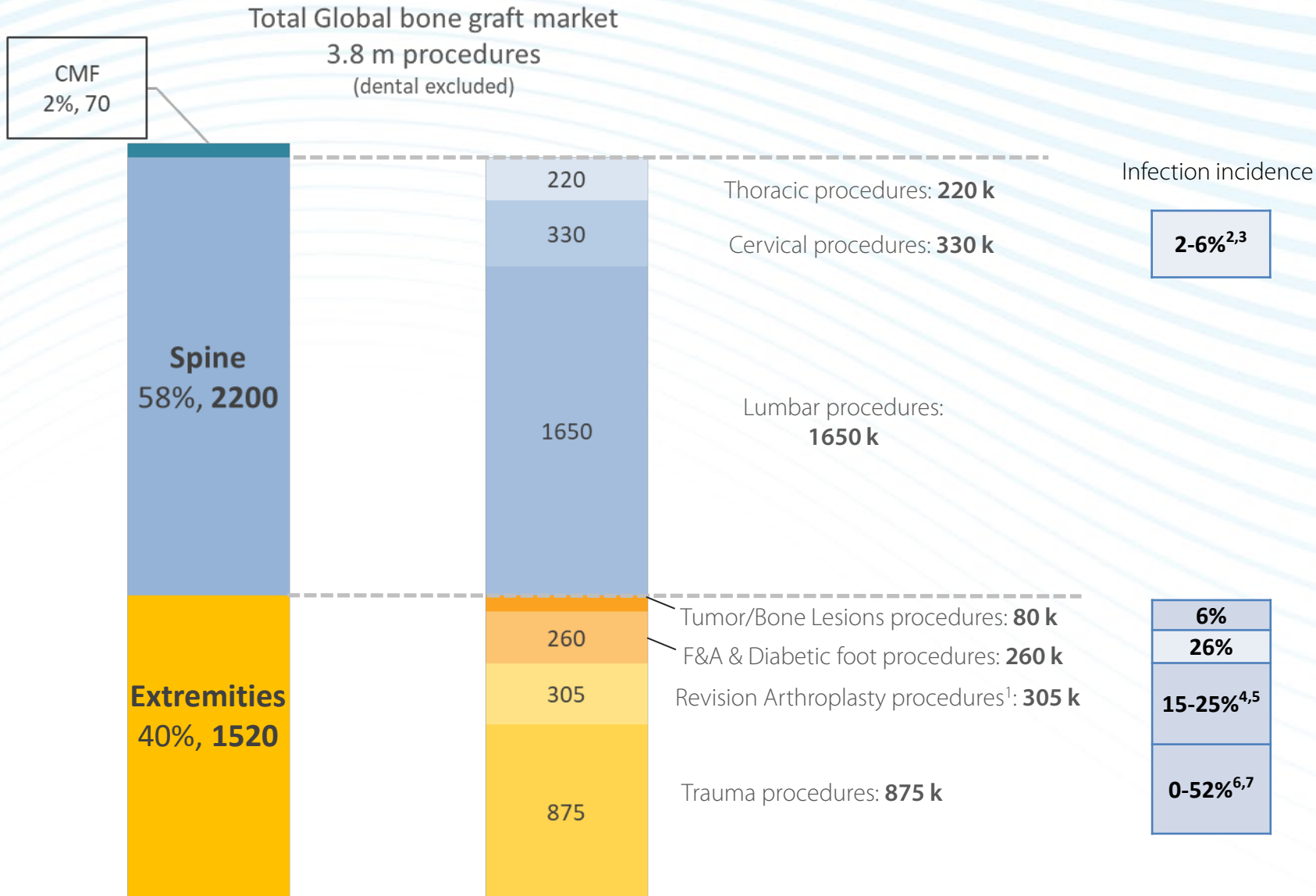
**November 28<sup>th</sup>**

**Emil Billbäck, CEO**

# Overview Total Bone Graft Market – Segment and Geography split



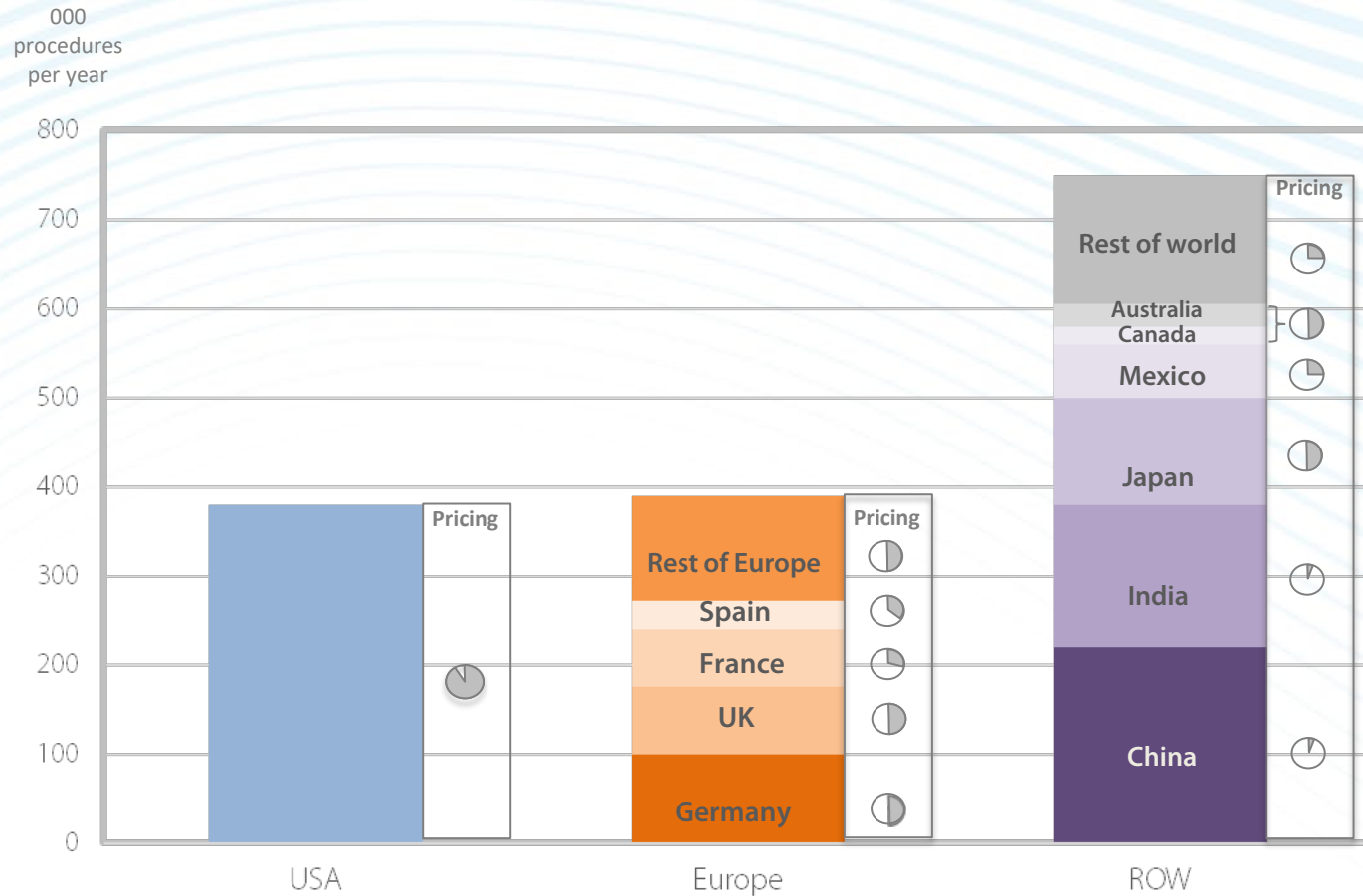
# Overview Total Graft Market – Segment and sub-segment split



1. 3000 k Arthroplasty procedures in the world. Approximately 10% leads to a revision, which has been defined as primary addressable market for CERAMENT 2. Edmiston, C., Leaper, D., Chitnis, A., Holy, C., & Chen, B. (2023). Risk and economic burden of surgical site infection following spinal fusion in adults. *Infection Control & Hospital Epidemiology*, 44(1), 88-95. doi:10.1017/ice.2022.32 3. Chahoud et al. Surgical site infections following spine surgery: eliminating the controversies in the diagnosis Infectious Agents and Disease Volume 1 - 2014 | <https://doi.org/10.3389/fmed.2014.00007> 4. Lum ZC, Shieh AK, Dorr LD. Why total knees fail-A modern perspective review. *World J Orthop* 2018; 9(4): 60-64 [PMID: 29686970 DOI: 10.5312/wjo.v9.i4.60] 5. Karachalios et al. Total hip arthroplasty: Survival and modes of failure. *EFORT Open Reviews*, 3(5), 232-239 doi.org/10.1302/2058-5241.3.170068 6. Gustilo RB et al. Problems in the management of type III (severe) open fractures: a new classification of type III open fractures. *J Trauma*. [Internet]. 1984; 24: 742-746. 7. Jahangir N, Niazi N, Aljawadi A, et al. The use of adjuvant local antibiotic hydroxyapatite biocomposite in the management of open Gustilo Anderson type IIB fractures. A prospective review. *Journal of orthopaedics*. 2019;16(3):278-282.



# Extremities split on Geographies - Procedures



- **USA**
  - Most developed market in the world
  - Strong developing trend for synthetic bone grafts
  - Allografts (incl DBM) holds larger share
  - 000 Procedures per mil. inhabitants: 1,2
- **Europe**
  - Defined as: see ref below<sup>1</sup>
  - Representing a population of 470 m
  - High share of autograft being used for bone repair and grafting. DBM less represented (5% of grafts)
  - 000 Procedures per mil. inhabitants: 0,7-1,0
- **Rest of the World**
  - Countries highlighted represent six largest market values
  - Very diverse treatment methods
  - 000 Procedures per mil. inhabitants: 0,2 (India) – 1,0 (Australia)

# CERAMENT market penetration (LTM) in extremities

## Europe

- Total Europe number of **Procedures** (extremities) 390 k → Total Europe market share CERAMENT: 2.4%
- Total Europe number of **Procedures** synthetics (extremities) 132 k → Total Europe market share CERAMENT: 7.0%
- Core markets<sup>1</sup>:
  - Market share Core<sup>1</sup> markets: 3.6 %
  - Market share Core<sup>1</sup> markets Synthetics: 10,7%
  - Market share Core<sup>1</sup> markets, infection management (treatment/recurrence and prevention): 8.3 %

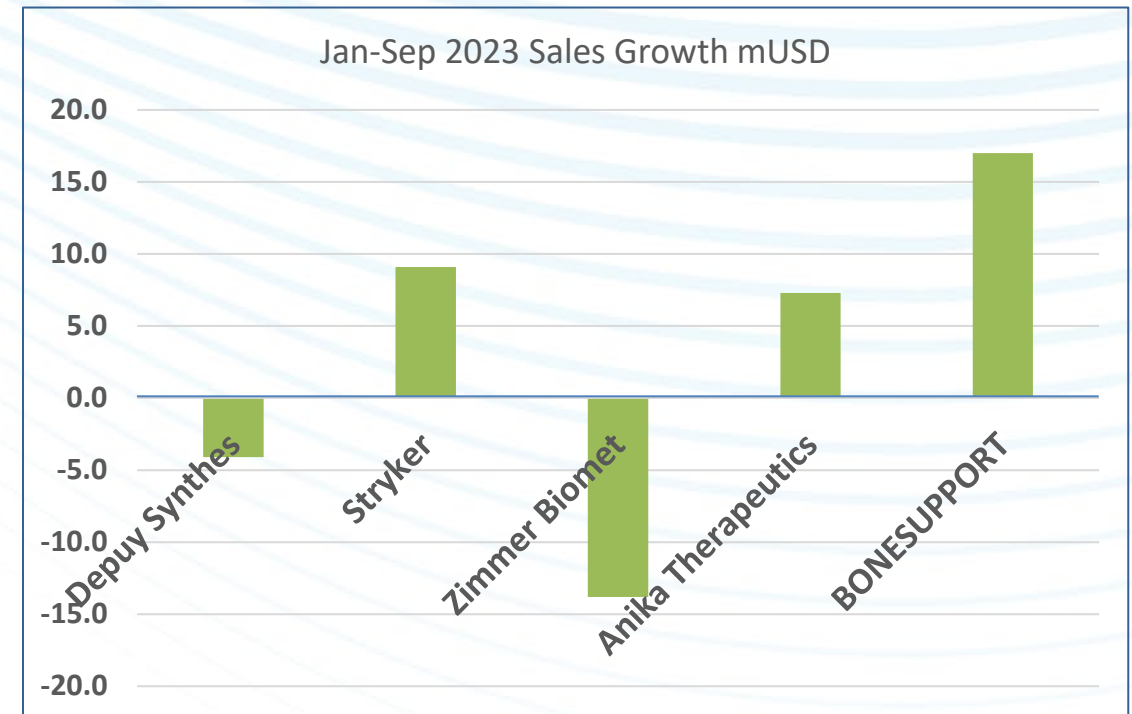
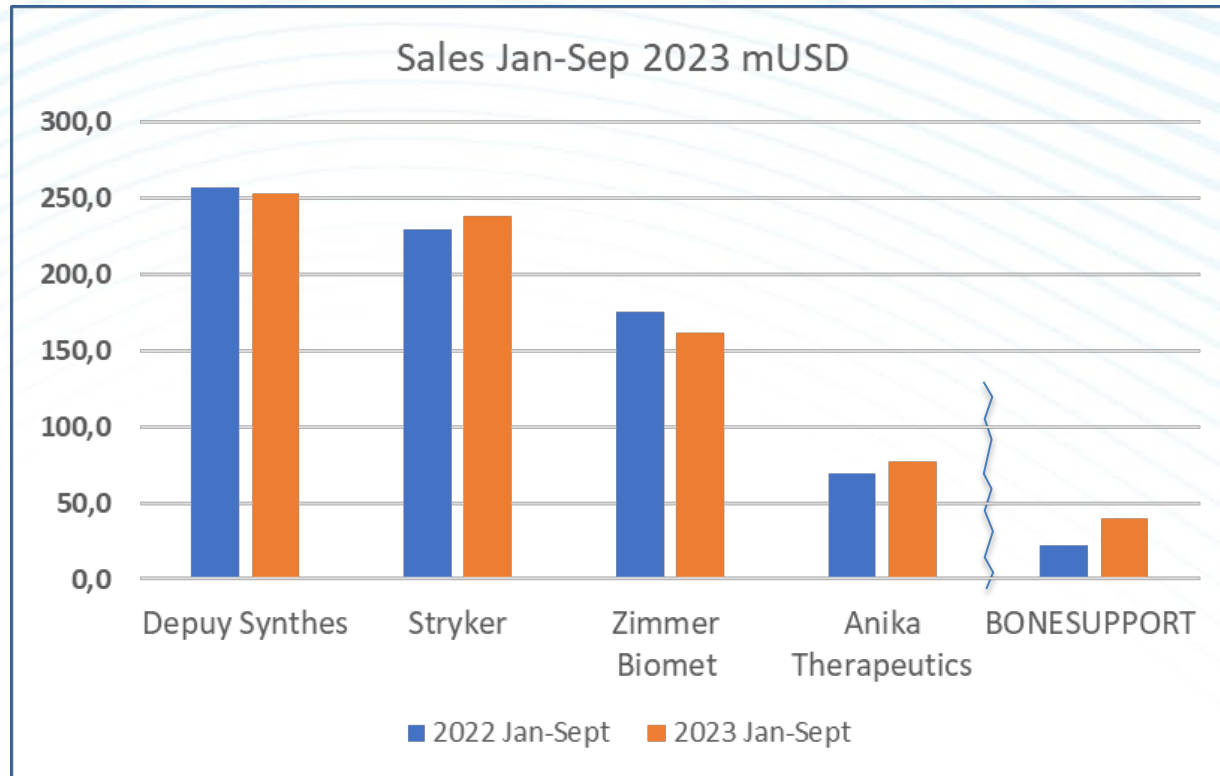
## US

- Total US number of **Procedures** (extremities) 380 k → Total US market share CERAMENT: 2.9%
- Total US number of **Procedures** synthetics (extremities) 103 k → Total US market share CERAMENT: 10.7%
- Total US market CERAMENT G in infection management (treatment/recurrence and prevention): 2,0%

**Get it right the first time**

# CERAMENT is outgrowing all major Orthobiologics companies

Sales of Orthobiologics Jan-Sept, 2023



## Trends in Orthobiologics

- Surgical volumes back to normal (pre-pandemic levels) in the US, not yet in Europe. Mainly due to staff shortage
- Orthobiologics benefit from highly favorable patient demographics.
- Trend towards synthetic bone graft substitutes procedures vs traditional autograft and/or allograft
- National Volume-Based Procurement in China disrupted orthopedic sales. Implant prices have drastically decreased and companies as ZimVie have left the Chinese market.
- Increase of procedures taking place in Ambulatory Surgical Centers (US) – which means that more of the elective surgery is going to take place in an outpatient setting, increasing the need to focus on outpatient reimbursement and funding.
- Slow adoption of instrumentation technologies & robotics. Only 11% of cases in joint replacement is using robotics and only 3% in spine. Meaning less impact of bundle solutions from big orthopedic companies than earlier anticipated.
- New MDR regulation is driving more efforts in European go-to-market model and product life cycle management. Market access also limited by health care provider's and other decision maker's availability



# **BONESUPPORT**

## **Major initiatives**

- 1. Overview**
- 2. Spine market entry**
- 3. CERAMENT V for US**

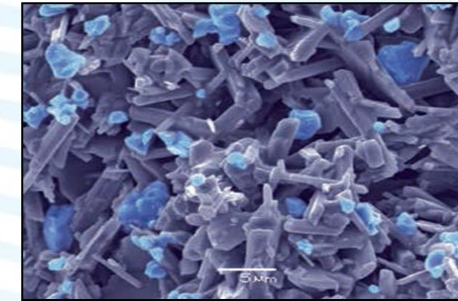
# CERAMENT - The versatile platform for building bone

## What makes CERAMENT unique ?

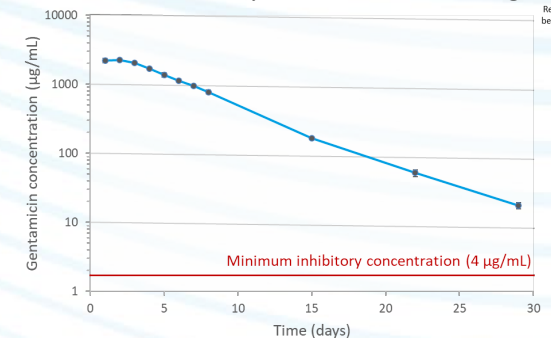
Proprietary technology platform that facilitates natural bone healing:

- Purpose engineered ceramic bio-composite
- Mimics natural healing
- Resorbs at pace of bone healing
- Builds a highly porous micro-scaffold that enables bone remodeling
- Predictable and engineered antibiotic elution
- Unique application properties reduces dead space

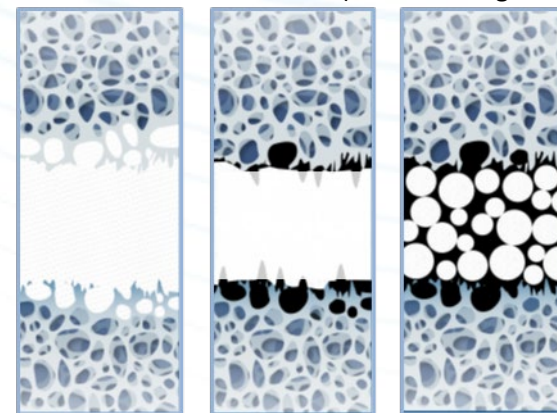
Purpose engineered



More than 30 days antibiotic elution significantly above MIC



Maximum surface contact (osteointerdigitation)



- Native bone
- Bone graft
- Dead space

Ref: Simplified, schematic model to explain interdigitation with bone related to graft application variants

CERAMENT

Putty

Beads (up to 50% dead space)

# Spinal fusion – Indication overview

The main reason for fusion surgery of the spine is to stabilize the spinal column and reduce pain caused by certain spinal conditions.

Fusion surgery involves joining two or more vertebrae together to create a solid bony bridge, with the purpose to eliminate motion between the fused vertebrae.

## Pathogenesis for indicating spinal fusion:

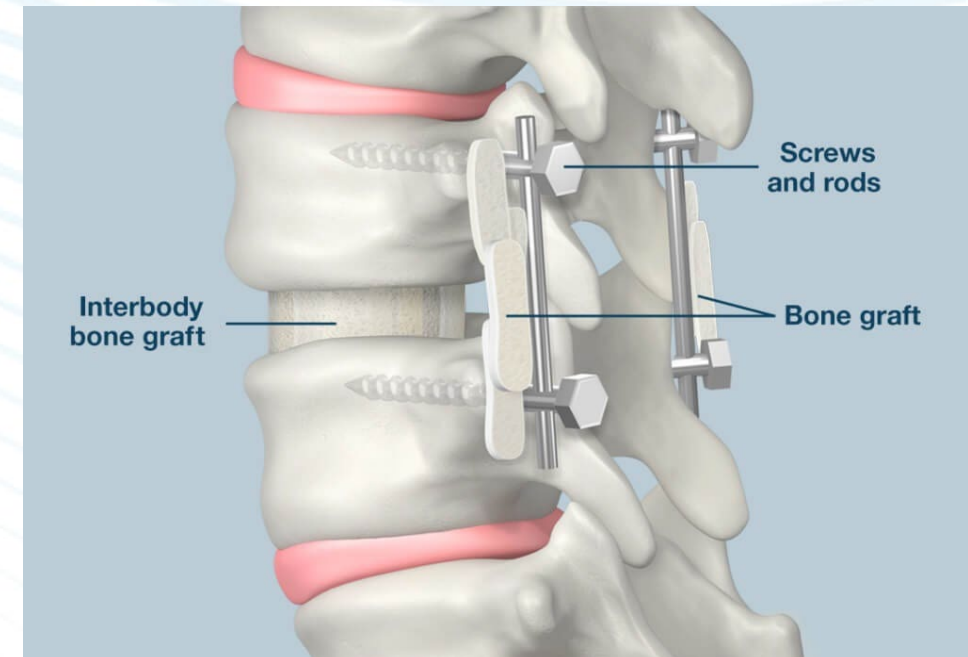
**Spinal Instability:** Fusion surgery is often performed when there is excessive motion between vertebrae, which can result from conditions such as degenerative disc disease, spondylolisthesis (vertebral slippage), or spinal fractures.

**Disc Herniation:** When a spinal disc bulges or ruptures, it can compress nearby nerves and cause pain. Fusion surgery may be considered if the disc is severely damaged and other conservative treatments have failed to provide relief.

**Spinal Deformities:** Conditions like scoliosis (abnormal sideways curvature of the spine) or kyphosis (excessive forward curvature) can lead to pain and functional limitations. Fusion surgery can be performed to correct the deformity and stabilize the spine.

**Spinal Tumors or Infections:** In some cases, fusion surgery may be necessary to remove tumors or treat spinal infections. Fusion helps restore stability after the affected vertebrae are removed.

**Spinal Trauma:** Severe spinal injuries, such as fractures or dislocations, may require fusion surgery to stabilize the spine and prevent further damage.



General categories of fusion:

- Posterolateral fusion (PLF)
- Interbody fusion

# CERAMENT entry into US spinal fusion

## Background:

750 k spinal fusion procedures are performed each year in the US.

Failure rate is **15-20%**<sup>1</sup> (fusion not achieved)

**2-6%**<sup>2</sup> of spinal fusions procedures develop a surgical site infection

## Standard of Care:

- Use of bone graft to create cortical bone “bridge” between vertebrae
- Off-label local antibiotics preventively applied in **40%**<sup>3</sup> of procedures

## Status:

CERAMENT BVF is FDA market-authorized for Posterolateral Fusion (PLF).

Application will be made for label extension into interbody fusion

Clinical data exists on CERAMENT BVF showing excellent bone remodeling in vertebrae repair

First pre-clinical (animal) study has shown spinal fusion for CERAMENT BVF

Additional data to be generated during 2024

## Regulatory:

Label extension through 510(k) submission for CERAMENT BVF to get full (Interbody fusion in addition to the Posterolateral fusion) market authorization

## Timing:

Submission filing to FDA for full market authorization (BVF) **2024 Q4**

Antibiotic eluting CERAMENT for spinal fusion; timing to be developed



## 750 k procedures annually:

- 325 k Cervical fusion procedures
- 85 k Thoracic fusion procedures
- 340 k Lumbar fusion procedures

82% of Lumbar fusions are made with interbody procedure

1. Cruz A, et al. Failure in Lumbar Spinal Fusion and Current Management Modalities. *Semin Plast Surg.* 2021 Feb;35(1):54-62. doi: 10.1055/s-0041-1726102. Epub 2021 May 10. PMID: 33994880; PMCID: PMC8110346.  
2. Edmiston et al. Risk and economic burden of surgical site infection following spinal fusion in adults. *Infection control and hospital epidemiology* vol. 44,1 (2023): 88-95. doi:10.1017/ice.2022.32  
3. Dodson et al. The effect of prophylactic vancomycin powder on infections following spinal surgeries: a systematic review; DOI: 10.3171/2018.10.FOCUS18470.



# CERAMENT entry into US spinal fusion

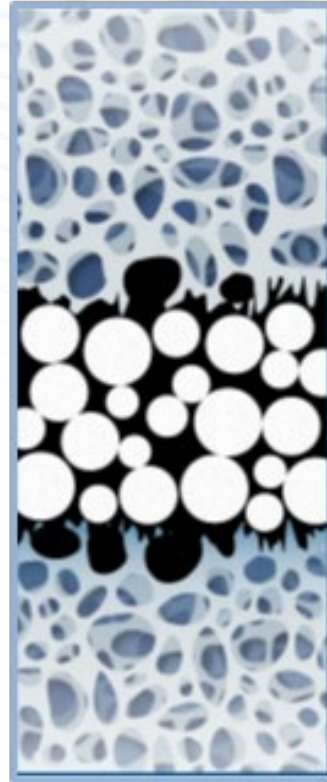
Bone repair needs contact<sup>1</sup>



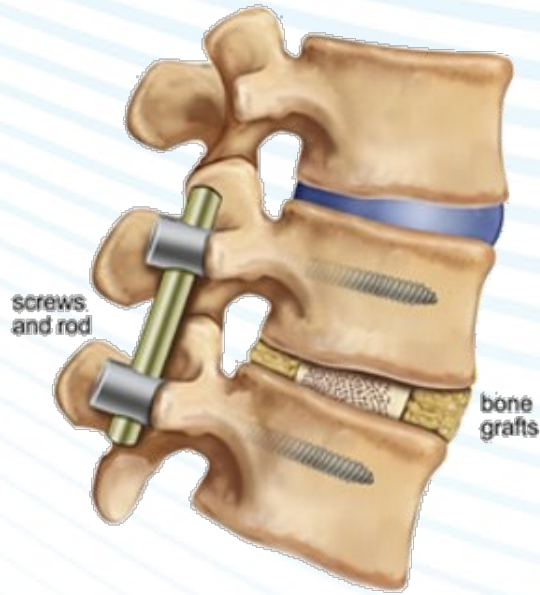
CERAMENT



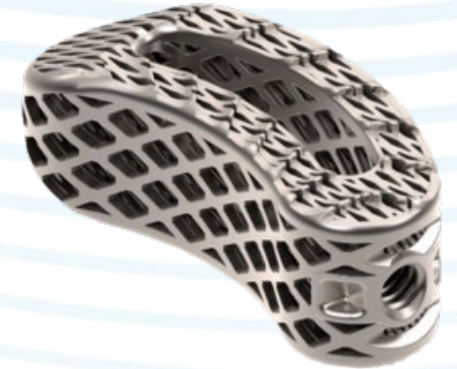
Putty



Beads (up to 50% dead space)



Interbody fusion



Interbody fusion cage

[Lumbar Spinal Fusion Surgery | Spine-health](https://www.spine-health.com/treatment/spinal-fusion/lumbar-spinal-fusion-surgery)

<https://www.spine-health.com/treatment/spinal-fusion/lumbar-spinal-fusion-surgery>

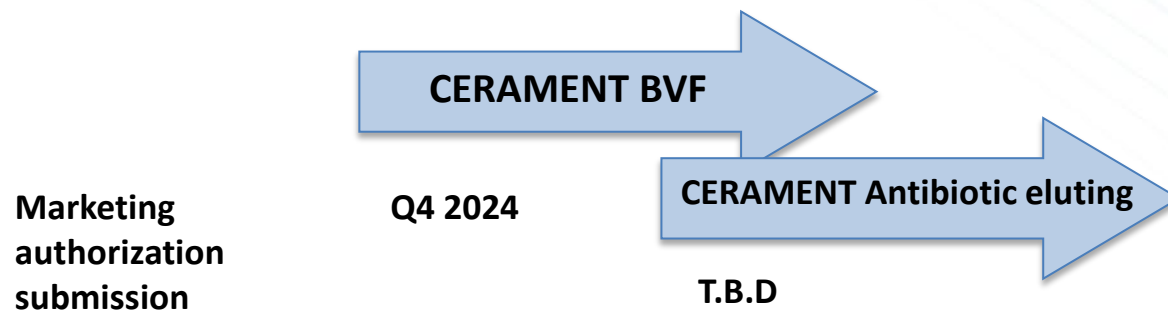
1. Ref: Simplified, schematic model to explain interdigitation with bone related to graft application variants

# CERAMENT entering SPINE - Short summary

Strictly confidential



- Very attractive and adjacent therapeutic area, with 2,2 m procedures a year (extremities are 1,5 m), with several synergies and leverage from the proven CERAMENT platform. **Focus on the 750 k procedure / year US market**
- **The clinicians are:**
  - Orthopedic spine surgeons
  - Interventional radiologists
  - Spine neurologists
- BONESUPPORT is bringing a well proven, clinically validated and versatile platform for bone repair
- Go-to-market model will follow the successful roll-out of **CERAMENT BVF** and **CERAMENT G** within extremities indications
- Good knowledge and experience within the company
- Go to market in 2 waves :



# CERAMENT V for bone infection (extremities) in the USA market

## Background:

CERAMENT G is available in the US since Oct 2022.

Gentamicin is very potent and with no material side effects shown, when administered locally. There are patients with **specific resistant microbes** as well as patients with several co-morbidities and **polymicrobial infection** that could benefit from a combination of antibiotics.

BONESUPPORT aims at providing a solution to this need without the surgeon having to revert to off-label mixing.

In **15 -20%** of the cases it could be beneficial to combine CERAMENT G and CERAMENT V.

In **5 -10%** of the cases Vancomycin will be more suitable than Gentamicin

## Standard of Care:

Systemic antibiotics + off-label antibiotic mixing

## Status:

Breakthrough device status achieved by FDA on October 16.

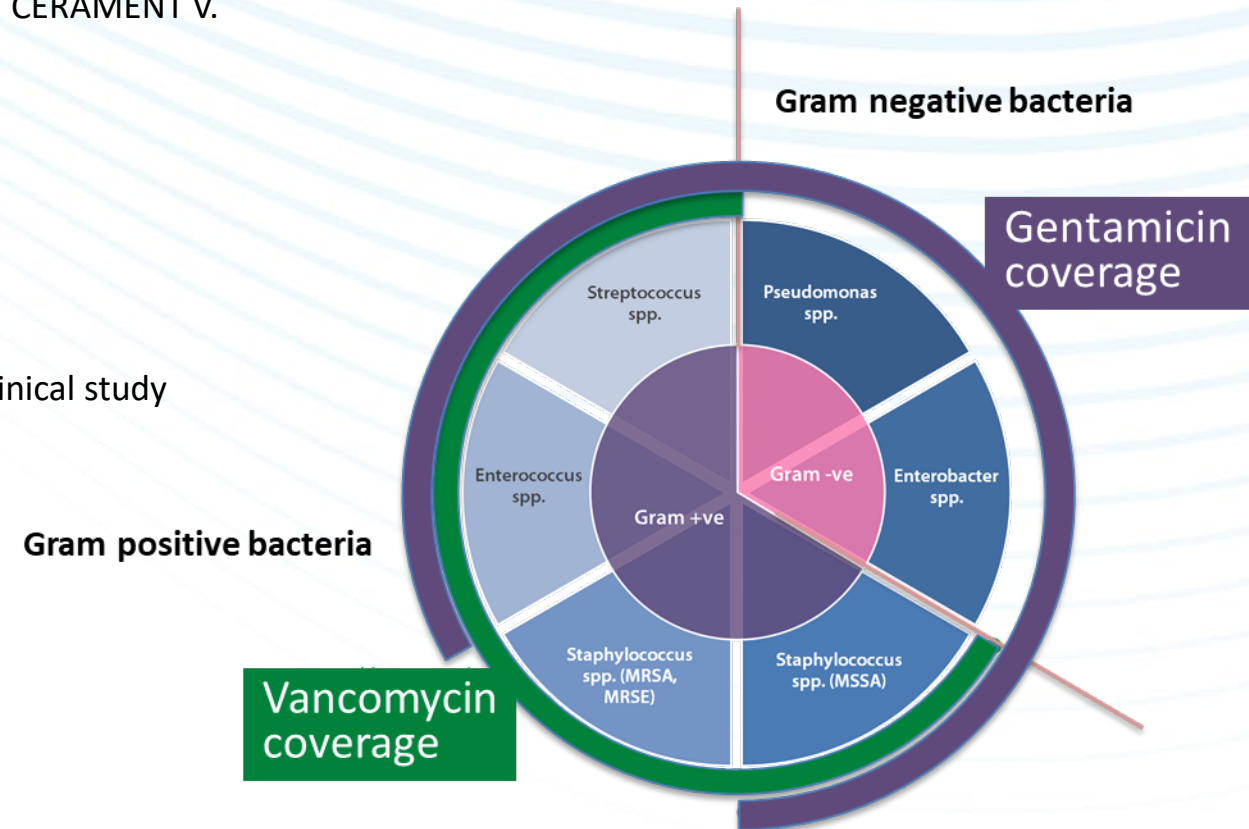
Real world clinical data exists. Assumption is no need for supplementary clinical study

## Regulatory:

De Novo submission

## Timing (preliminary):

Submission filing to **FDA Q1 2025**



# Strong business momentum, with additional vectors for growth



Segment NA

Segment EUROW

TAM = Total Addressable Market

Improved sales efficiency (Scaling on FTE investments)

COVID head wind      COVID Back-log tail wind

TAM: 100 k procedures<sup>1</sup>      EU Hybrid markets (Iberia & Italy)

TAM: 50 k procedures      US CERAMENT G (Bone infection)

TAM: 90 k procedures      US CERAMENT G Label extension

SOLARIO

TAM: +10 k procedures<sup>2</sup>      US CERAMENT V

TAM: 750 k procedures      US SPINE CERAMENT BVF

After 2026

TAM:  
70 k procedures      **France (2027)**  
120 k procedures      **Japan**  
345 k procedures<sup>3</sup>      **CG and CV SPINE US**

1. Addressable market defined as bone grafting extremities market Spain, Portugal and Italy

2. Addressable market defined as 15%-20% use in addition to CERAMENT G

3. Not incremental. Included in the 750 k procedures for total spinal fusion. Local antibiotics is used (off-label) in 40% of the US spinal fusion procedures + 45 k treatment



# **BONESUPPORT**

## **Capital Markets Day 2023**

**November 28<sup>th</sup>**

**Emil Billbäck, CEO**

# Bonesupport Capital Markets Day, Nov 28th 2023

- **Expect strong continued growth momentum in the current business:**

**Sales in 2024 will be above 40%<sup>1</sup>**

- **Preparations for entry into spinal fusion**
  - FDA market authorization submission Q4 2024
- **Preparations for market introduction of CERAMENT V in the US**
  - FDA market authorization submission Q1 2025



# **BONESUPPORT**

## **Capital Market Day**

### **November 28<sup>th</sup>, 2023**

**Clinical update**

**Michael Diefenbeck MD, PhD**  
**Chief Medical Officer**

# Introduction:

Michael Diefenbeck, MD, PhD  
Orthopaedic Surgeon

Chief Medical Officer, BONESUPPORT AB since April 2017

EVP Clinical and Medical Affairs since Jul 2018

Honorary Consultant, Nuffield Orthopaedic Centre,  
Oxford University Hospitals, NHS in 2016

Founder of “Scientific Consulting in Orthopaedic Surgery and  
Traumatology”, Hamburg in 2014

Clinical positions at:

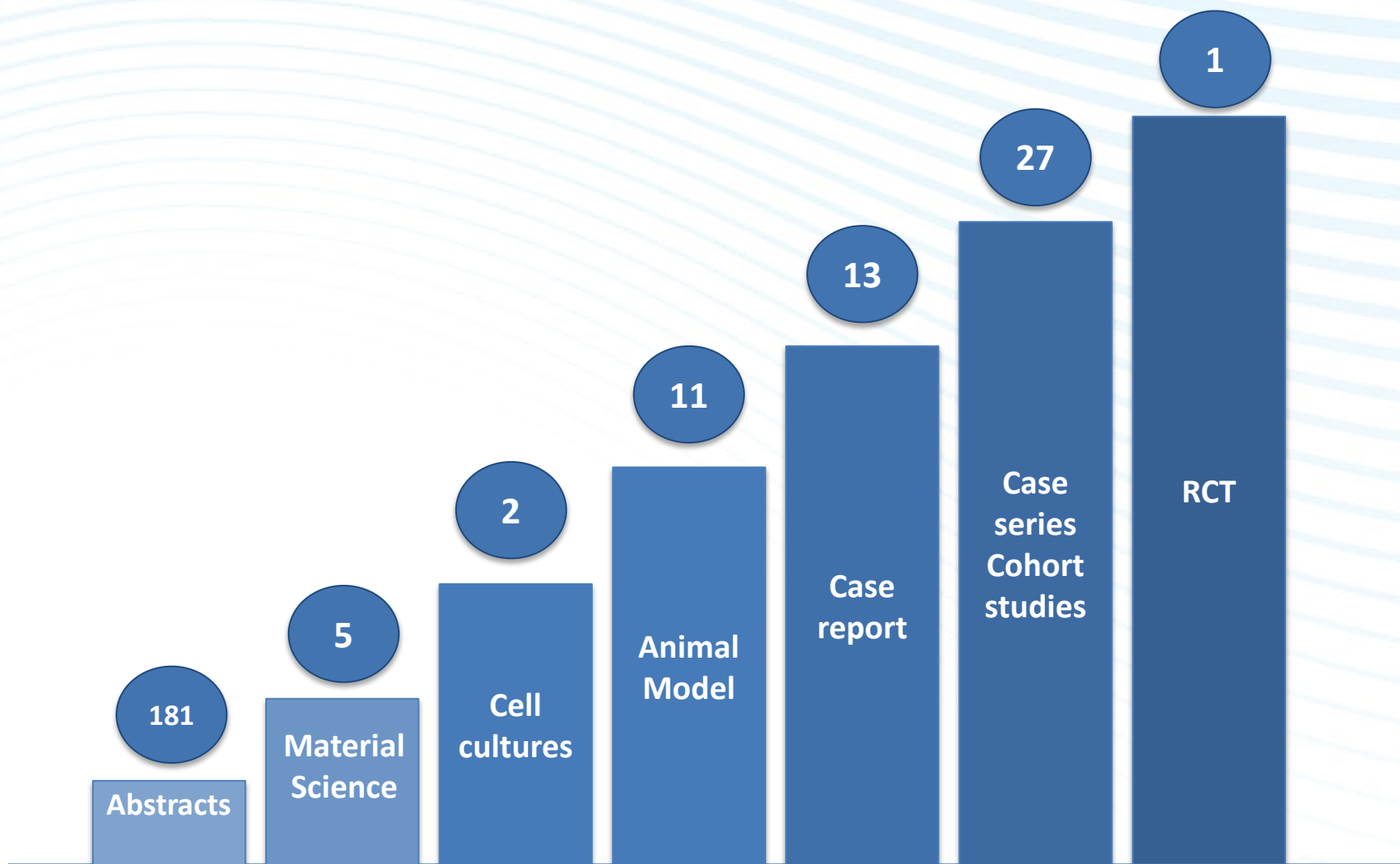
- Schön Klinik Hamburg Eilbek, Bone infection unit,  
Consultant for orthopaedic surgery, 2012-14
- University Hospital Jena, 2006-12
- BG Kliniken Bergmannstrost Halle/Saale, 2004-06
- BG Unfallklinik Murnau, 2000 – 03





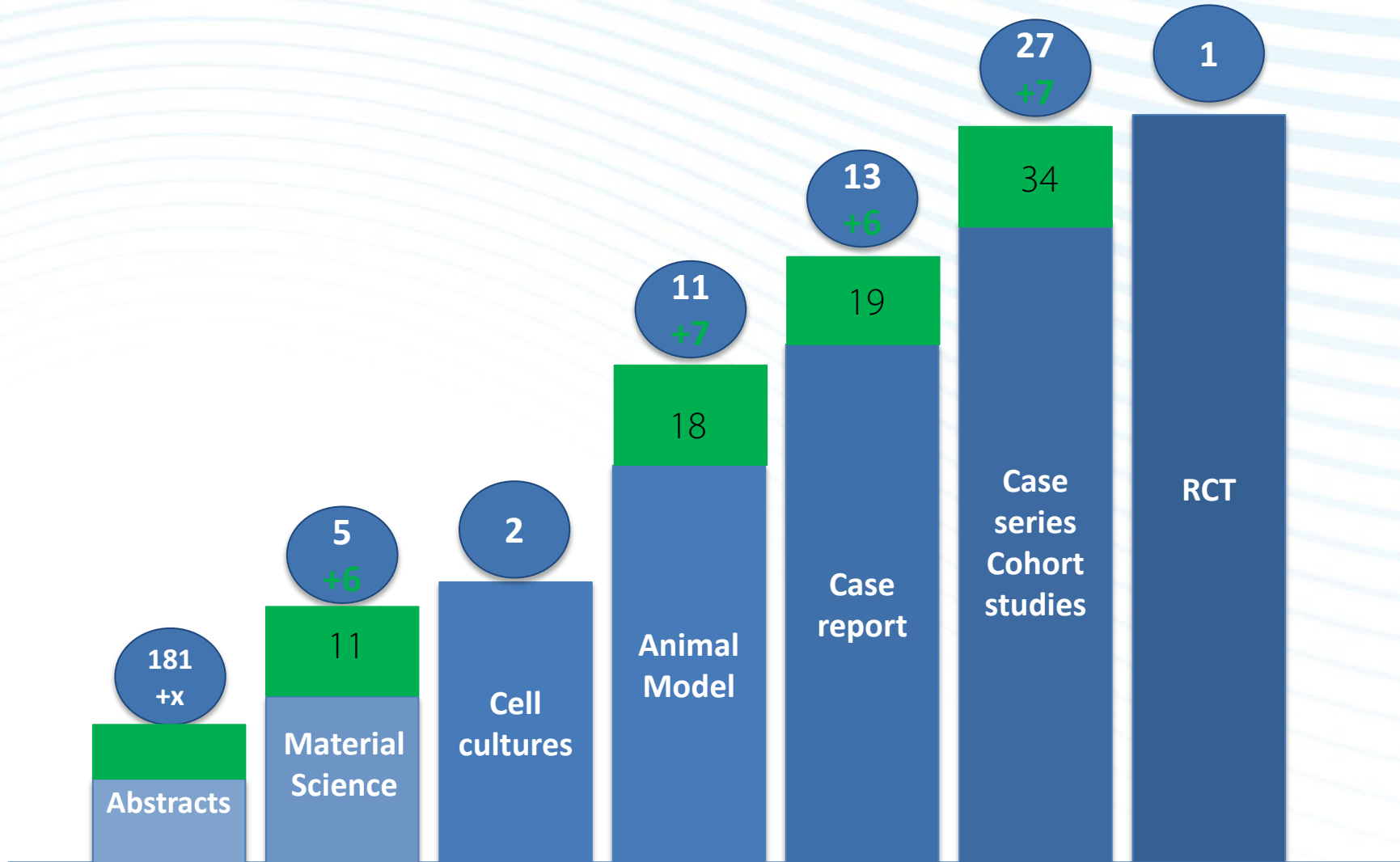
- New clinical evidence in key indications
- Antibiotic Stewardship
- CERAMENT's primary mode of action: Remodelling into bone
- CERAMENT and the future: Spinal fusion and bone active substances

# More clinical evidence for CERAMENT than any other grafting therapy



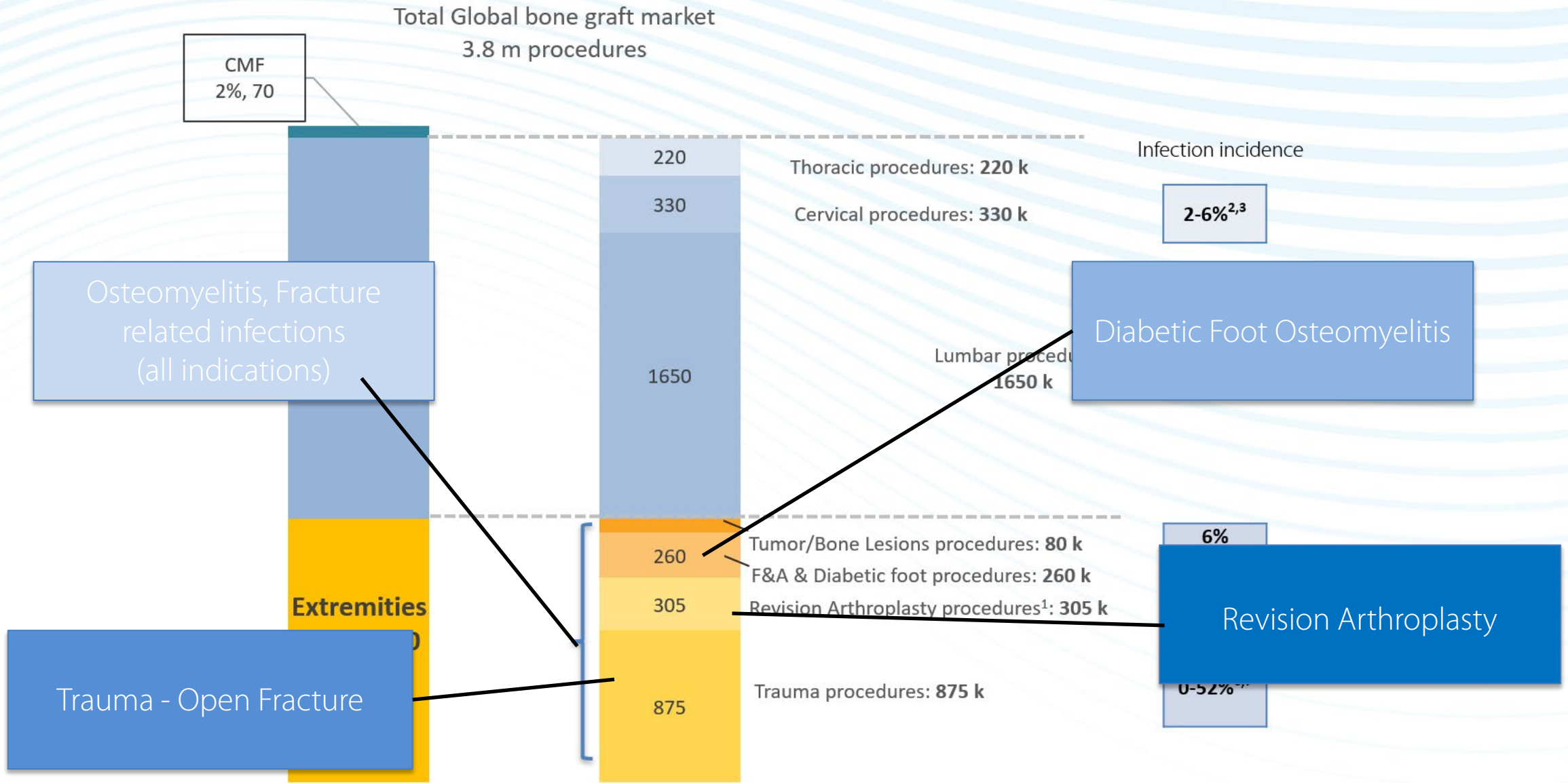
Reference: Clinical Evaluation Reports 2021

# More clinical evidence for CERAMENT than any other grafting therapy



Reference: Clinical Evaluation Reports 2023

# New clinical evidence in key indications

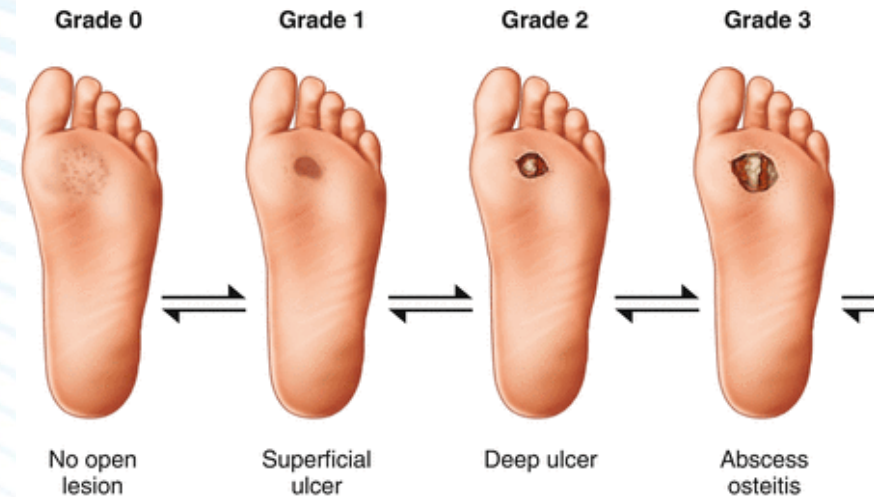


# Diabetic Foot Osteomyelitis a hard-to-treat indication

Diabetic Foot Osteomyelitis (DFO) is mostly a consequence of a soft tissue infection (e. g. Diabetic foot ulcer) that spreads into the bone, first involving the cortex and then the marrow

The typical sequence is usually:



- Deformity of the foot (shortening of tendons)
- Lack of protective sensation (no pain)
- Superficial foot ulcer / contamination
- Deep foot ulcer with infection
- Bone infection / Osteitis / Diabetic Foot Osteomyelitis
- ...
- Amputation



# Diabetic Foot Osteomyelitis a hard-to-treat indication

Article

## Evaluation of Adjuvant Antibiotic Loaded Injectable Bio-Composite Material in Diabetic Foot Osteomyelitis and Charcot Foot Reconstruction

Venu Kavarthapu <sup>1,\*</sup>, Jasdeep Giddie <sup>1</sup>, Varun Kommalapati <sup>1</sup>, Joanne Casey <sup>2</sup>, Maureen Bates <sup>2</sup> and Prashanth Vas <sup>2</sup>

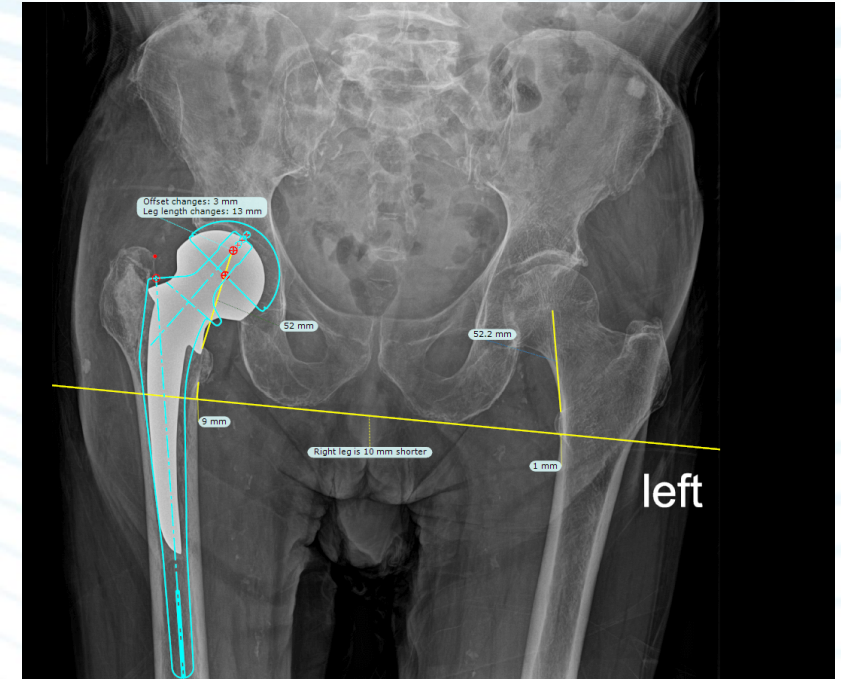
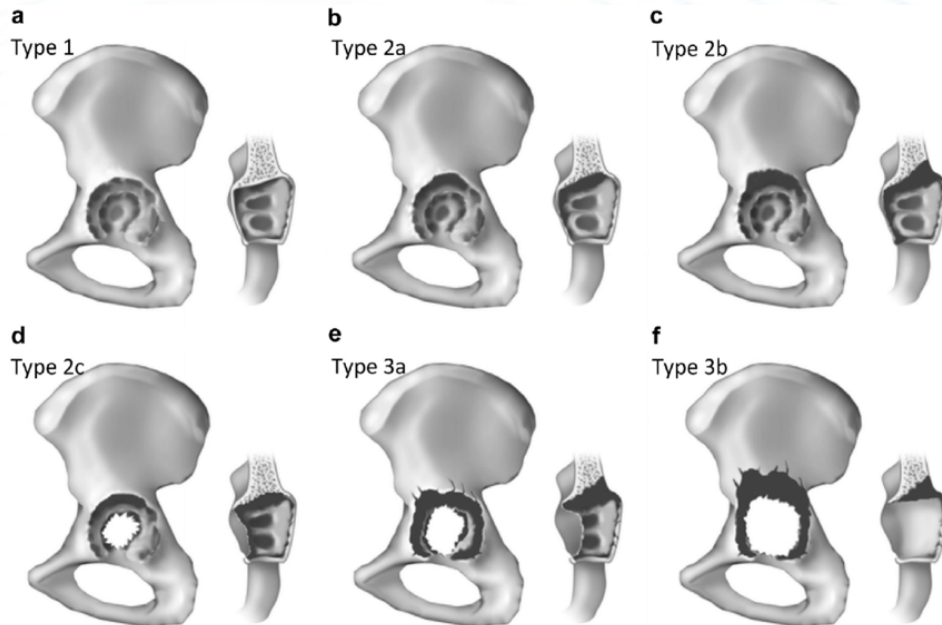
|                    |   |
|--------------------|---|
| <b>Design:</b>     | Retrospective case series   |
| <b>Indication:</b> | Diabetic Foot Osteomyelitis and Charcot Foot  |
| <b>Patients:</b>   | 53 (17 DFO and 37 Charcot foot)   |
| <b>Treatment:</b>  | One stage debridement and CERAMENT <sup>®</sup> (Group 1) or one stage (Group 2a; 19) or two stage (Group 2b; 18) Charcot foot reconstruction with CERAMENT <sup>®</sup>  |
| <b>Product:</b>    | CERAMENT <sup>®</sup> V was used in 39% and CERAMENT <sup>®</sup> G in 65 % (2 patients both)   |
| <b>Follow-up:</b>  | Mean 30 months [12 – 98 months]   |
| <b>Results:</b>    | <b>Group 1:</b> 15/19 pat : Complete eradication of infection in 87%,<br>2 persisting ulcers, cons. therapy<br><b>Group 2:</b> 100% primary ulcer resolution, 100% limb salvage<br>and 76% bony union rate. Five patients required reoperations due to problems with bone union.<br>Two deep infections needing revision surgery (2b) |

### Benchmark: Diabetic Foot Osteomyelitis

Standard of care: Amputation rate up to 24%<sup>1</sup>

# Revision arthroplasty

Revision arthroplasty is to be performed when a primary joint replacement fails. Reasons for failure are infection, aseptic loosening, recurrent dislocation or fracture. There are 3 million arthroplasty a year, and 10% goes into revision. At revision there is often significant bone loss, which needs to be addressed.



## Paprosky classification of acetabular defects<sup>1,2</sup>

1) Paprosky WG et al. Acetabular defect classification and surgical reconstruction in revision arthroplasty. A 6-year follow-up evaluation. J Arthroplasty. 1994 Feb;9(1):33-44.  
2) Honcharuk E, Kayiaros S, Rubin LE. The direct anterior approach for acetabular augmentation in primary total hip arthroplasty. Arthroplast Today. 2017 May 12;4(1):33-39.



Contents lists available at ScienceDirect

### Arthroplasty Today

journal homepage: <http://www.arthroplastytoday.org/>



Original Research

### Alternating Layers of Morselized Allograft and Injectable Ceramic Bone Graft Substitute in Acetabular Reconstruction: A Novel

'Sandwich' Technique Rajesh Malhotra, MS, FRCS, FACS, All India Institute of Medical Sciences, New Delhi, Delhi, India

Published: 2023

Patients: 24 pat.

Treatment: Bone defect filling with CERAMENT G and allograft

Follow-up: 60 and 82 months

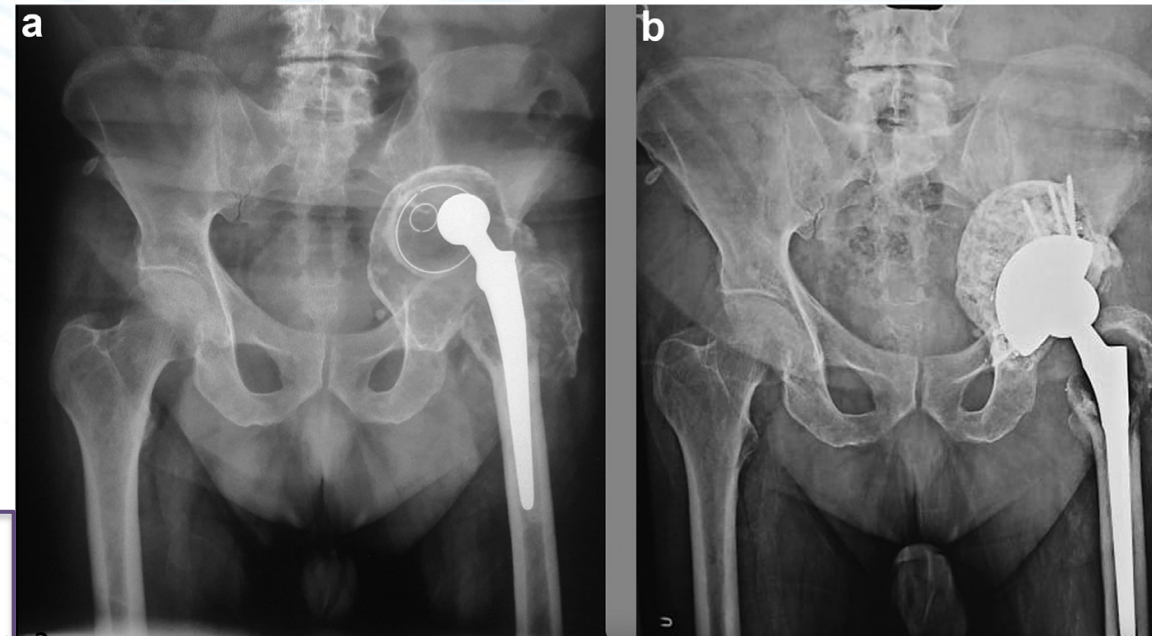
#### Results:

- Consolidation of the bone graft was seen in all the 24 cases within a range of 96 to 165 days
- With revision of the component as end point, the survivorship was 100% at 82 months
- Infection free: 100%
- Follow-up rate 100%

#### Benchmark:

**Infection rate after aseptic arthroplasty revision: 4.8%<sup>1</sup>**

**Revision rate for aseptic loosening after arthroplasty revision: 6.8%<sup>2</sup>**



1) Edmiston CE Jr et al. Longitudinal Rates, Patient Risk Factors, and Economic Impact of Superficial and Deep Incisional Surgical Site Infection After Primary and Revision Total Hip Arthroplasty: A U.S. Retrospective Commercial Claims Database Analysis. Surg Infect (Larchmt). 2023 May;24(4):366-375.

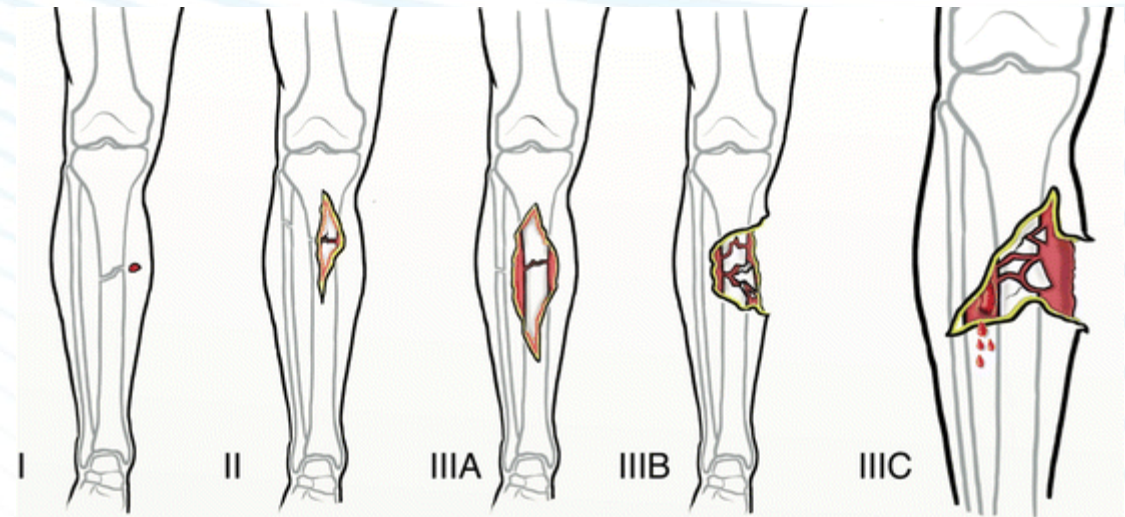
2) Pelt Ceet al. Early outcomes after revision total hip arthroplasty with a modern modular femoral revision stem in 65 consecutive cases. Arthroplast Today. 2018 Nov 17;5(1):106-112.



# Trauma: Open Fracture

- Open fracture is a fracture with an open wound or break in the skin near the site of the broken bone
- Most often caused by a fragment of bone breaking through the skin at the moment of injury
- Once the skin is broken, bacteria from dirt and other contaminants can enter the wound, potentially causing an infection at the site of injury

| Gustilo type | Definition   |
|--------------|--|
| I            | Open fracture, clean wound, wound <1 cm in length  |
| II           | Open fracture, wound >1 cm in length without extensive soft-tissue damage, flaps, avulsions  |
| III          | Open fracture with extensive soft-tissue laceration, damage, or loss or an open segmental fracture. This type also includes open fractures caused by farm injuries, fractures requiring vascular repair, or fractures that have been open for 8 h prior to treatment |
| IIIA         | Type III fracture with adequate periosteal coverage of the fracture bone despite the extensive soft-tissue laceration or damage  |
| IIIB         | Type III fracture with extensive soft-tissue loss and periosteal stripping and bone damage. Usually associated with massive contamination. Will often need further soft-tissue coverage procedure (i.e. free or rotational flap)                                     |
| IIIC         | Type III fracture associated with an arterial injury requiring repair, irrespective of degree of soft-tissue injury.   |



# New publication on IIb open fractures with mean 55 months follow-up

## Long-Term Follow-Up of Open Gustilo-Anderson IIIB Fractures Treated With an Adjuvant Local Antibiotic Hydroxyapatite Bio-Composite

Joshua A. Henry<sup>1</sup>, Almigdad Ali<sup>1</sup>, Ibrahim H. Elkhidir<sup>2</sup>, Adam Reid<sup>3</sup>, Jason Wong<sup>3</sup>, Anand Pillai<sup>1</sup>

1. Department of Trauma and Orthopaedics, Wythenshawe Hospital, Manchester Foundation Trust, Manchester, GBR

2. Department of Medicine, University of Khartoum, Khartoum, SDN 3. Department of Plastic Surgery, Wythenshawe Hospital, Manchester Foundation Trust, Manchester, GBR

Corresponding author: Joshua A. Henry, jhenry89@gmail.com

Published: 2023

Patients: 81

Treatment: Filling of fracture defects with CERAMENT G

Follow-up: min. 11 months (mean **55 months** [11-110 m])

### Results:

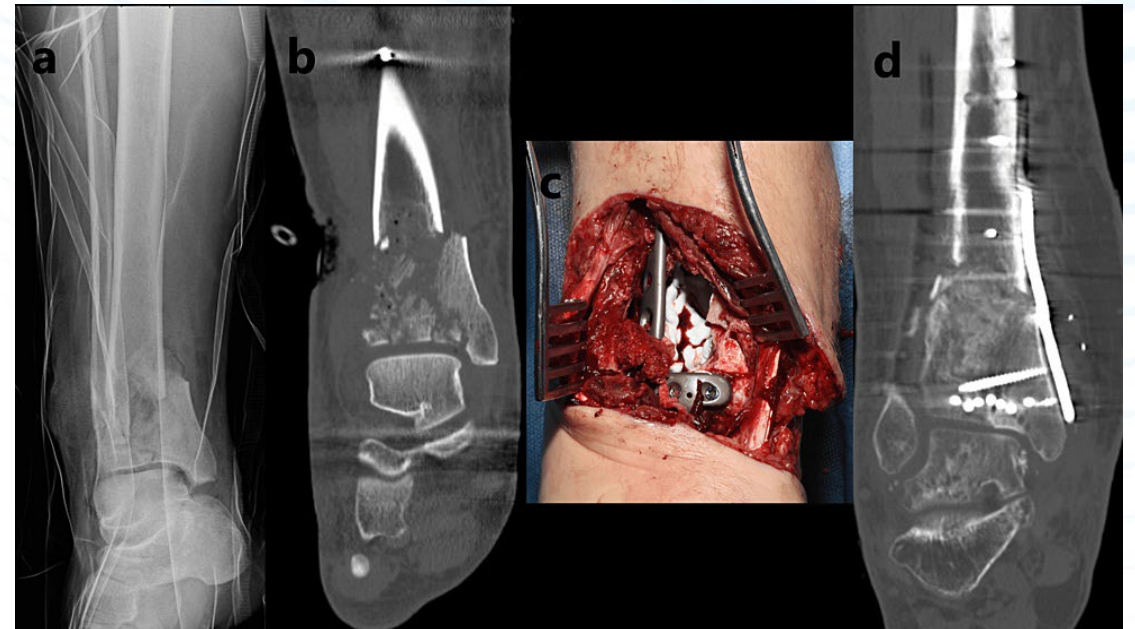
Infection rate: **3.7%**

Union rate: **96%**

Limb salvage rate: **96.3%**

### Benchmark: Trauma: Open fracture

Standard of care: Infection rate average 15%<sup>1</sup>



# Osteomyelitis (OM)

- McNally et al. (2016) definition: bone infection, with minimum of 6 months symptoms, with clinical and radiological features accompanied by at least one of the following:
  - The presence of a sinus, an abscess or intraoperative pus
  - Supportive histology
  - Or two or more microbiological cultures with indistinguishable organisms
- May present as recurrent or intermittent disease
- Vast majority is posttraumatic after fracture and internal fixation  
→ OM is usually a subset of Fracture Related Infections (FRI)

## Benchmark Osteomyelitis: PMMA beads

Two-stage surgery (min two interventions, min two hospital stays)

Infection rate (published data): **13.3%**<sup>1</sup>

Meta analysis (published data): **13.2%**<sup>2</sup>



1. McNally MA, Small JO, Tofighi HG, Mollan RA. Two-stage management of chronic osteomyelitis of the long bones. The Belfast technique. J Bone Joint Surg Br. 1993 May;75(3):375-80.

2.. Meta-analysis of published data from 7 studies on PMMA-beads as part of treatment of osteomyelitis, submitted to FDA as part of CERAMENT G application

# CERAMENT G in osteomyelitis with mean 6 year follow-up



## ■ GENERAL ORTHOPAEDICS

### Mid- to long-term results of single-stage surgery for patients with chronic osteomyelitis using a bioabsorbable gentamicin-loaded ceramic carrier

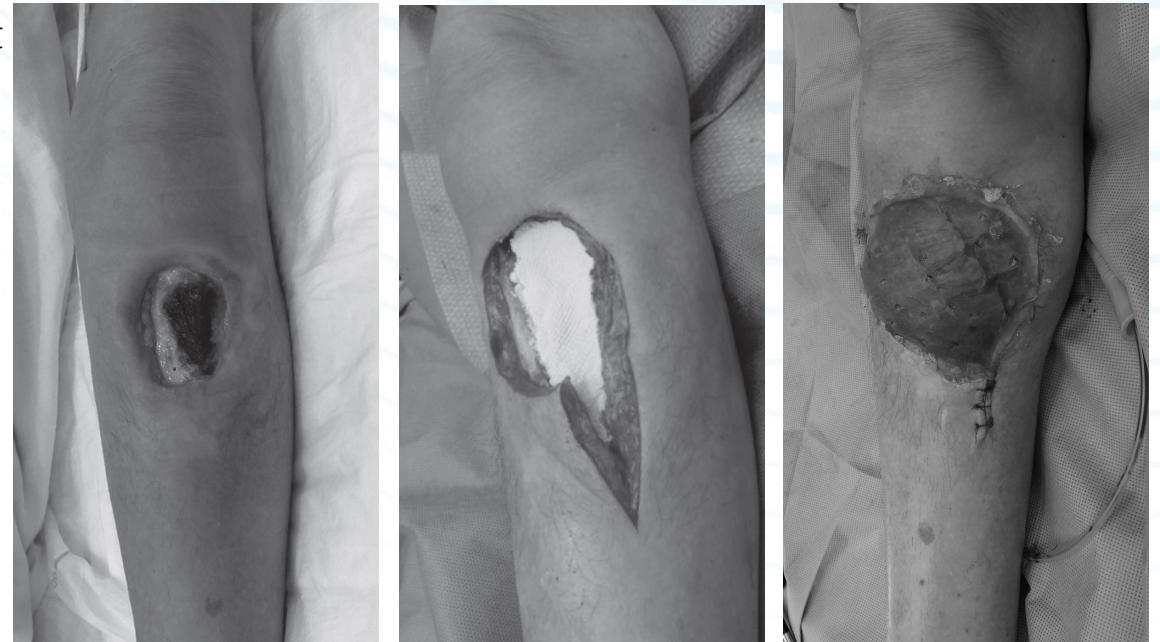
M. A. McNally,  
J. Y. Ferguson,  
M. Scarborough,  
A. Ramsden,  
D. A. Stubbs,  
B. L. Atkins

#### Aims

Excision of chronic osteomyelitic bone creates a dead space which must be managed to avoid early recurrence of infection. Systemic antibiotics cannot penetrate this space in high

Published: 2022  
Patients: 100 pat  
Treatment: Debridement and dead-space management with CERAMENT G  
Follow-up: min. **4.4 years** (mean **6.05 years** [4.4-8.4y])  
Recurrence of infection: **6%** (6/100 pat)  
Pathologic fractures: **3%** (all within the first 11 months)  
Mortality: 5 pat. (infection free)  
Lost to Follow-up: 4 pat. ; Follow-up rate 96%

**Benchmark  
Osteomyelitis:  
PMMA beads 13.2%**



# CERAMENT G in osteomyelitis with mean 6 year follow-up

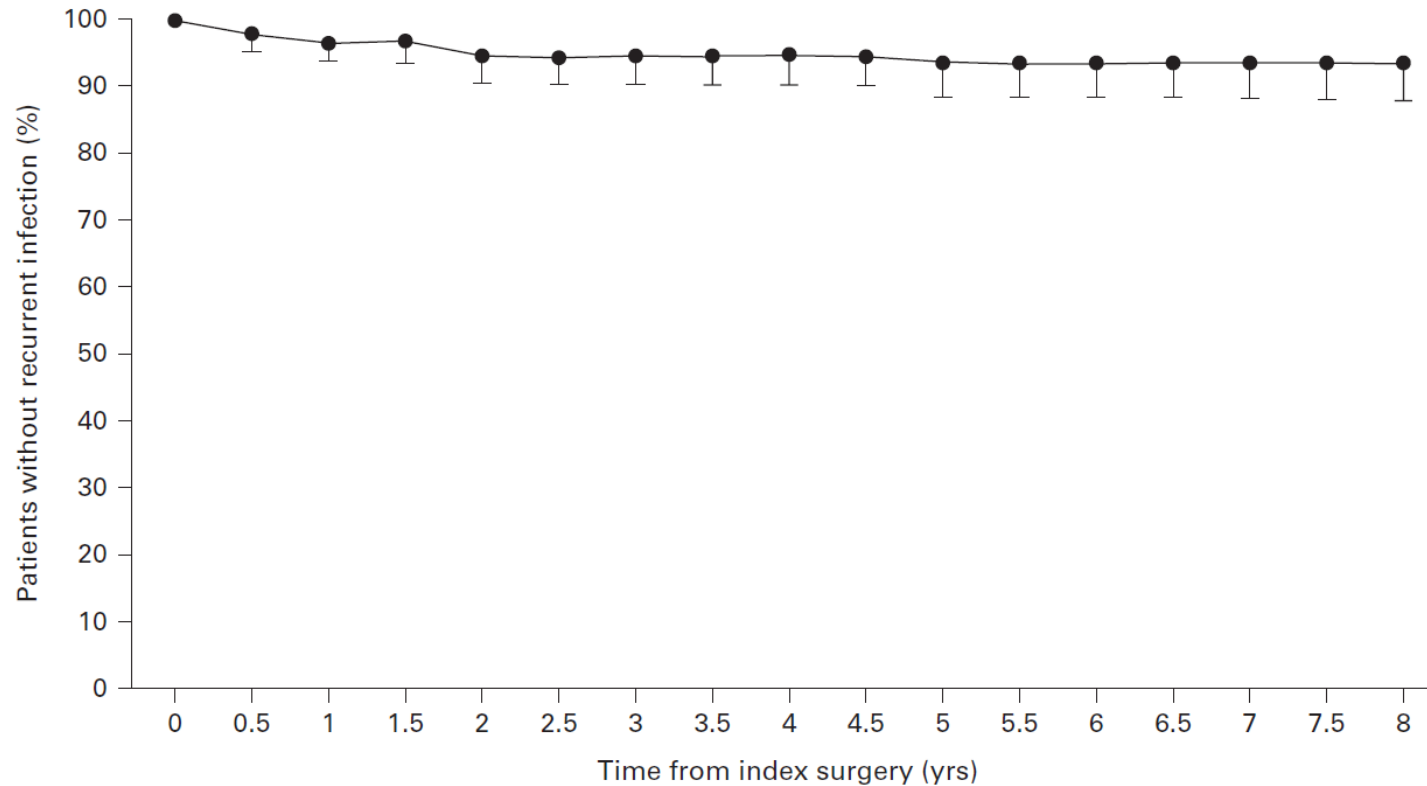


Fig. 4

Kaplan-Meier graph of survival until eight years after surgery.

*“At final follow-up, six patients (six bones) had recurrent infection; thus 94% were infection-free. Three infections recurred in the first year, two in the second year, and one 4.5 years postoperatively.”*

**Benchmark  
Osteomyelitis:  
PMMA beads 86%**

# SOLARIO – a randomized trial on 500 patients

STUDY PROTOCOL

Open Access

Short or Long Antibiotic Regimes in Orthopaedics (SOLARIO): a randomised controlled open-label non-inferiority trial of duration of systemic antibiotics in adults with orthopaedic infection treated operatively with local antibiotic therapy



Maria Dudareva<sup>1\*</sup>, Michelle Kümin<sup>2</sup>, Werner Vach<sup>3</sup>, Klaus Kaier<sup>4</sup>, Jamie Ferguson<sup>1</sup>, Martin McNally<sup>1†</sup> and Matthew Scarborough<sup>1†</sup>

SOLARIO

- Title:** Short **O**r Long **A**ntibiotic **R**egimes **I**n **O**rthopaedics (**SOLARIO**)
- Design:** Randomized, multi-centre, non-inferiority study
- Indication:** Infections of the musculoskeletal system (cOM, FRI, PJI)
- Patients:** 500 pat, LPI August 2023, planned LPO August 2024
- Treatment:** Debridement and dead-space management with an approved antibiotic eluting device plus systemic antibiotic treatment. Comparison of a short course of systemic antibiotics (1 week or less) to a long course of systemic antibiotics (4 weeks or more).
- Hospital:** 19 clinical sites
- Follow-up:** 12 months
- Endpoint:** Primary: Treatment success defined by an “clinical endpoint committee” according to the recorded data
- Consequence:** Change of the Standard of Care (SOC) for musculoskeletal infections to the combination of an antibiotic eluting device plus systemic antibiotic treatment for only one week (in stead of four or more)

# CERAMENT G and Antibiotic Stewardship

Antibiotic stewardship is the effort to measure and improve how antibiotics are prescribed by clinicians and used by patients.

Improving antibiotic prescribing and use is critical to

- Effectively treat infections
- Protect patients from harms caused by unnecessary antibiotic and
- Combat antibiotic resistance.



**HIGH-LEVEL MEETING ON  
ANTIMICROBIAL RESISTANCE**



**GLOBAL**

A failure to address the problem of antibiotic resistance could result in:



**10m  
deaths  
by 2050**

**Costing  
£66  
trillion**

## **Effectively treat infections**

- The right drug:
- At the right dosage (concentration):
- At the right time:
- With a good clinical outcome:

## **Protect patients from harms caused by unnecessary antibiotic use:**

- Systemic side effects:
- Compliance / Does the pat. take the tablets?

## **Combat antibiotic resistance: Do local antibiotics cause antibiotic resistance in bacteria?**

- In vitro: Bidossi et al. :
- In vivo: Young et al.:



## Effectively treat infections

- The right drug:
- At the right dosage (concentration):
- At the right time:
- With a good clinical outcome:

## CERAMENT G offers

**Active against gram-positive and gram-negative bacteria**

**High local concentration (burst elution)**

**Right after debridement, available for 28 days above MIC**

**Infection free: 94% of pat. at 6.04 years (mean)**

## Protect patients from harms caused by unnecessary antibiotic use:

- Systemic side effects: **No systemic side effects of locally implanted CERAMENT G**
- Compliance / Does the pat. take the tablets? **CERAMENT is implanted, no worries of compliance**

## Combat antibiotic resistance: Do local antibiotics cause antibiotic resistance in bacteria?

- In vitro: Bidossi et al. : **Did not lead to stable or transient adaptations in either of the tested bacterial strains**
- In vivo: Young et al.: **Treatment of orthopaedic infection with local antibiotics was not associated with the emergence of antimicrobial resistance**

# CERAMENT G and Antibiotic Stewardship

Antibiotic stewardship is the effort to measure and improve how antibiotics are prescribed by clinicians and used by patients.

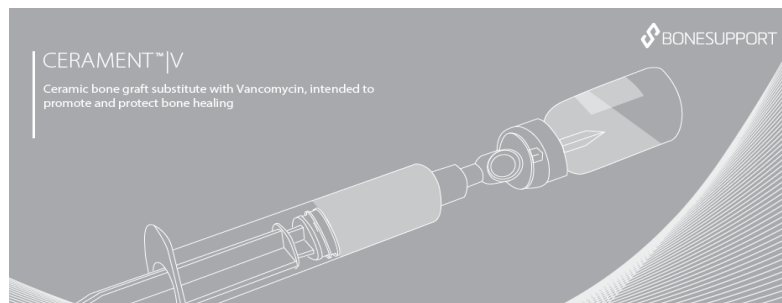
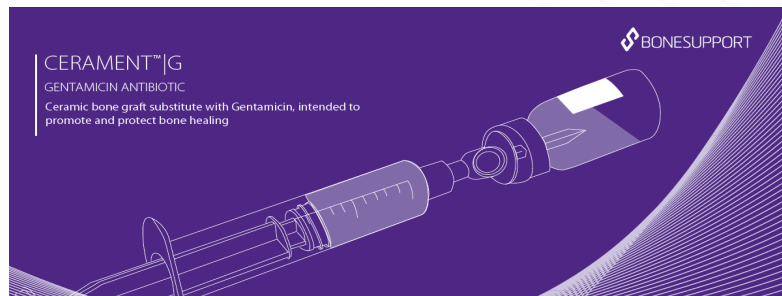
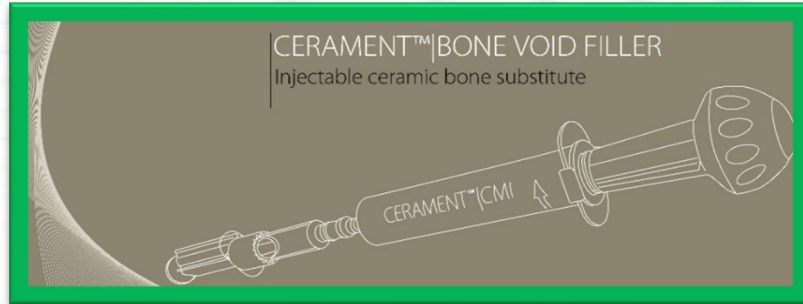
Improving antibiotic prescribing and use is critical to

- Effectively treat infections
- Protect patients from harms caused by unnecessary antibiotic and
- Combat antibiotic resistance.

CERAMENT is optimal  
Antibiotic Stewardship



# Primary mode of action: Remodelling into bone



## Key features:

Remodelling to bone

Remodelling to bone

+

Elution of  
Gentamicin

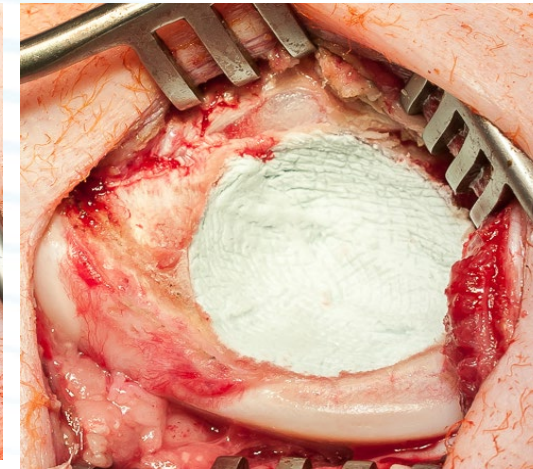
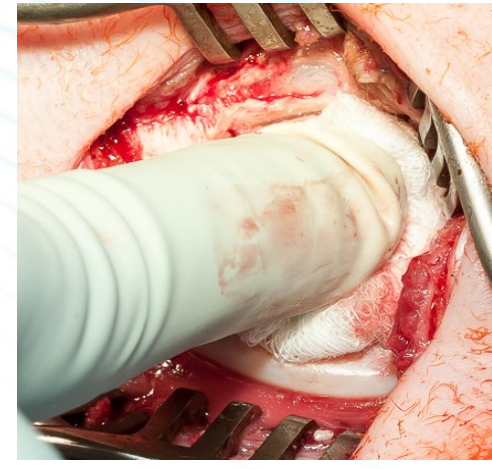
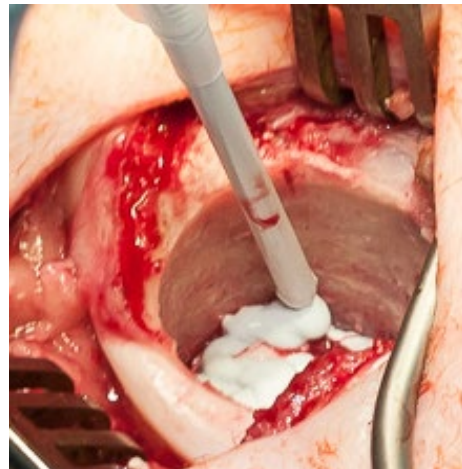
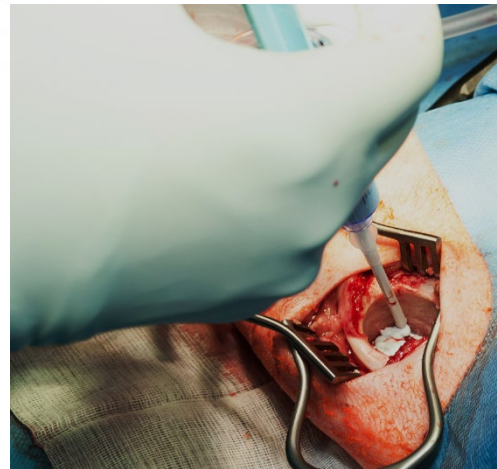
Remodelling to bone

+

Elution of  
Vancomycin

## Establishment and effects of allograft and synthetic bone graft substitute treatment of a critical size metaphyseal bone defect model in the sheep femur

WERNER HETTWER,<sup>1</sup> PETER F. HORSTMANN,<sup>1</sup> SABINE BISCHOFF,<sup>2</sup> DANIEL GÜLLMAR,<sup>3</sup>  
JÜRGEN R. REICHENBACH,<sup>3</sup> PATRINA S. P. POH,<sup>4</sup> MARTIJN VAN GRIENSVEN,<sup>4</sup>  
FLORIAN GRAS<sup>5</sup> and MICHAEL DIEFENBECK<sup>6,7</sup>



## Material and Methods

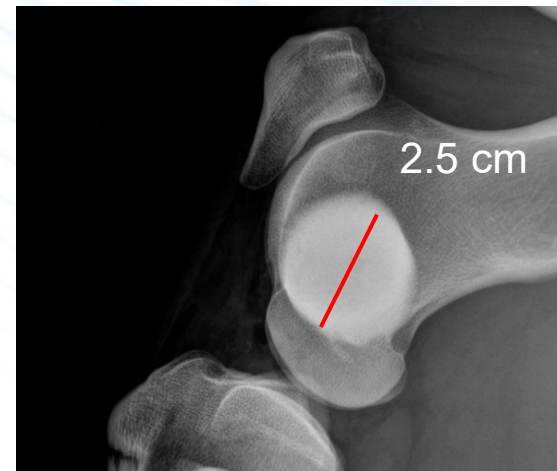
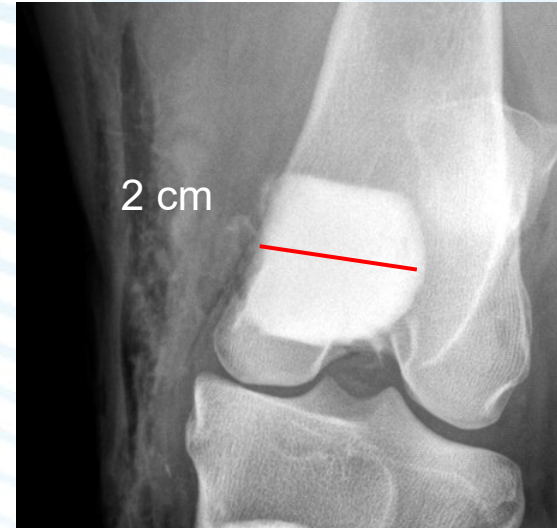
Drill hole dist. femur of sheep

➤ Volume: 10ml

Three months later surgery on  
contralateral leg

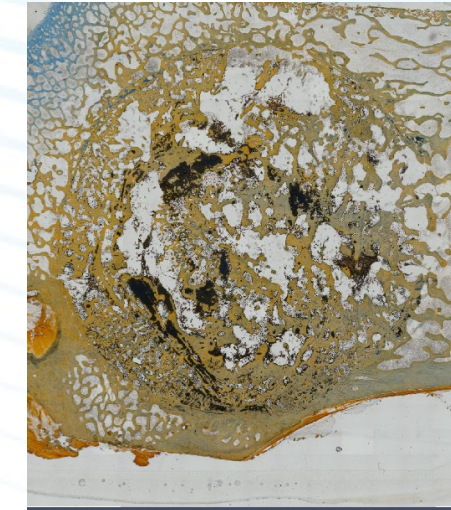
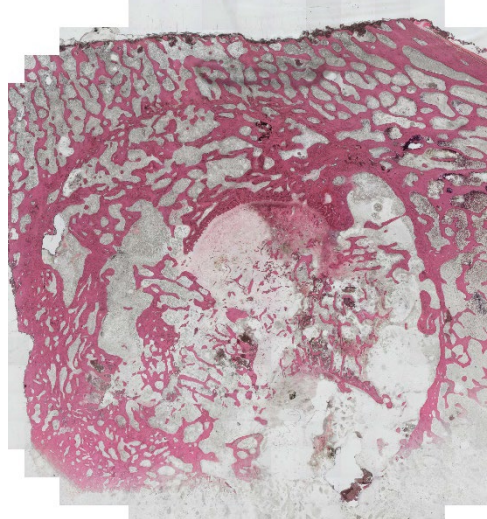
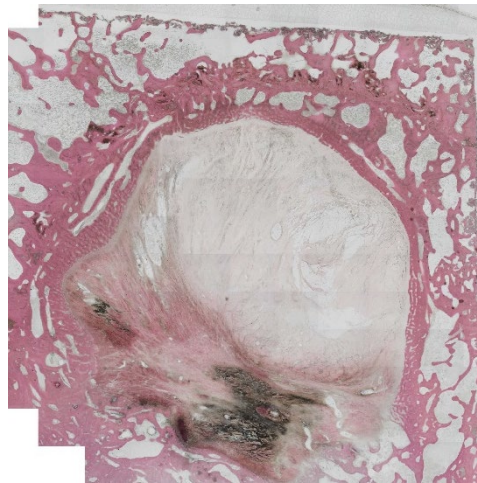
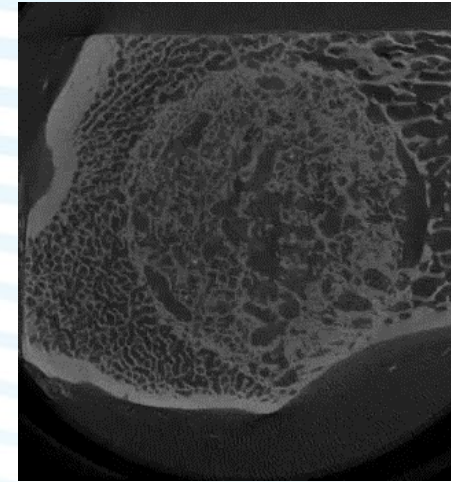
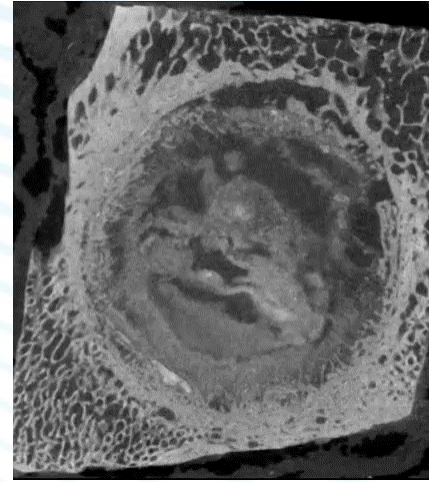
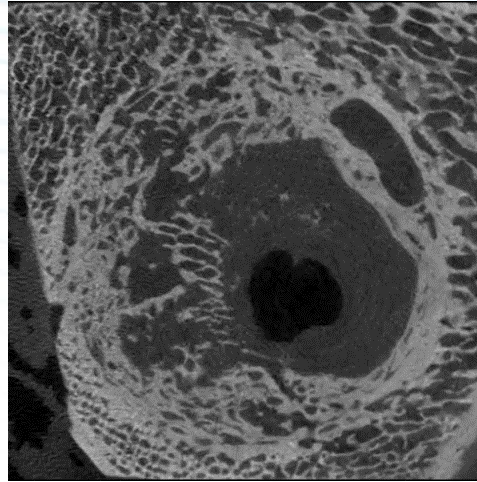
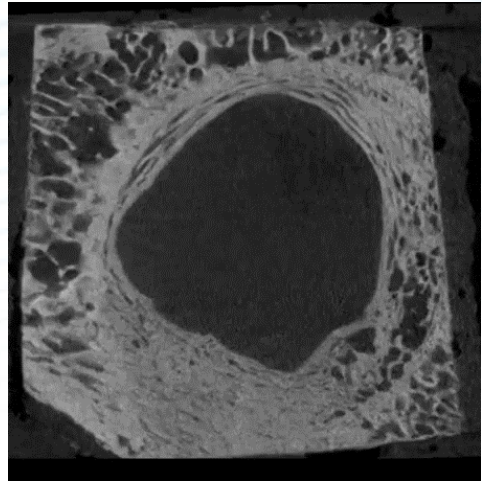
10 sheep

➤ Radiology,  $\mu$ CT, MRI, histology  
between 3 days and 12 months



# Bone remodeling – a critical success factor in bone repair

## 1. Animal model: unfilled vs. allograft vs. CERAMENT



Empty, 6 months

Allograft, 6 months  
(Gold standard)

CERAMENT, 6 months

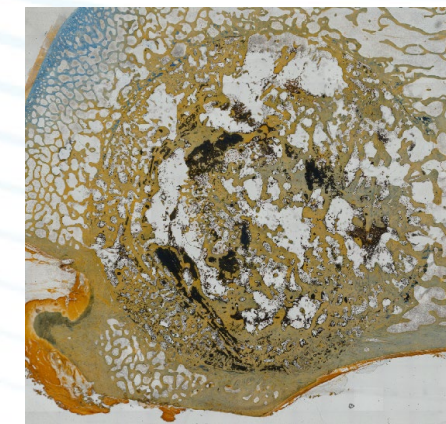
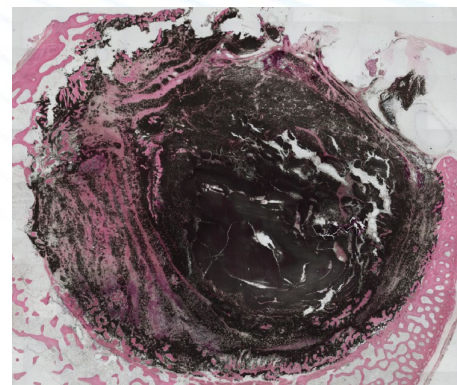
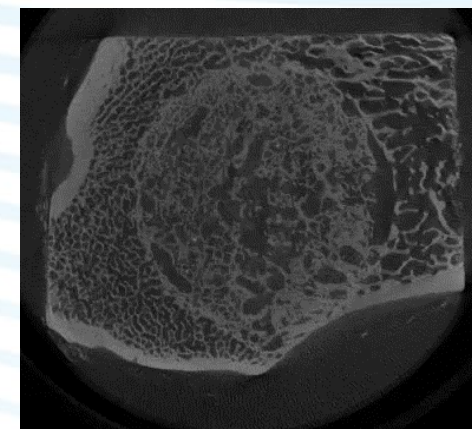
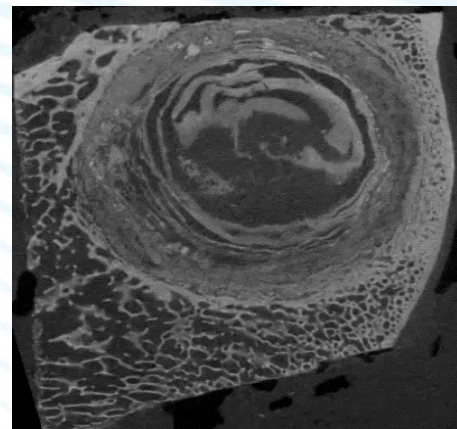
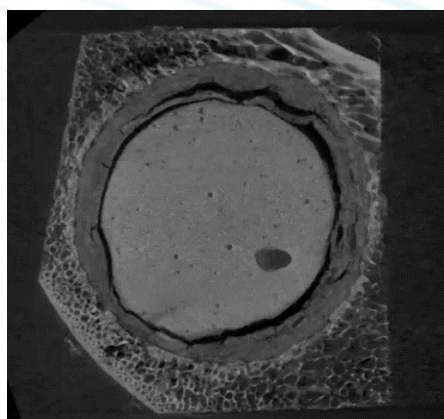
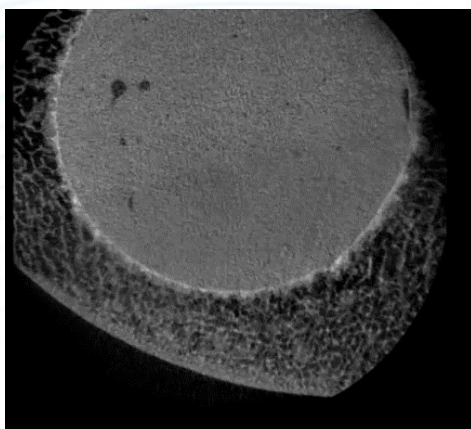
CERAMENT, 12 months

Masson Goldner

BONESUPPORT, data on file

# Bone remodeling – a critical success factor in bone repair

2. Animal model: CERAMENT radiological examination, Micro-CT and histology at different time points



CERAMENT® 3 days

CERAMENT® 6 weeks

CERAMENT® 3 months

CERAMENT® 12 months

# Bone remodeling – a critical success factor in bone repair

## 3. Level 1 Randomized Clinical Trial, CERTiFy, 135 patients

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### Autologous Iliac Bone Graft Compared with Biphasic Hydroxyapatite and Calcium Sulfate Cement for the Treatment of Bone Defects in Tibial Plateau Fractures

A Prospective, Randomized, Open-Label, Multicenter Study

Alexander Hofmann, MD, PhD, Stanislav Gorbulev, PhD, Thorsten Guehring, MD, PhD, Arndt Peter Schulz, MD, PhD, Rupert Schupfner, MD, Michael Raschke, MD, PhD, Stefan Huber-Wagner, MD, PhD, and Pol Maria Rommens, MD, PhD, on behalf of the CERTiFy Study Group\*



**Design:** Randomized Clinical Trial  
**Patients:** 135 (18 to 65 Y)  
**Indication:** Tibia plateau fractures  
**Treatment:** Autologous Iliac Bone Graft vs. CERAMENT BONE VOID FILLER  
**Centers:** 20 orthopedic trauma centers in Germany

**Outcome:**  
**Primary:** SF-12 Physical Component Summary at 26 weeks  
**Co-primary:** Pain level at 26 weeks  
**Secondary:** SF-12 Mental Component Summary & SF-12 PCS at 1,6 and 12 weeks  
Bone-healing radiographs

Designed to show non-inferiority of CERAMENT BVF vs autograft



# Bone remodeling – a critical success factor in bone repair

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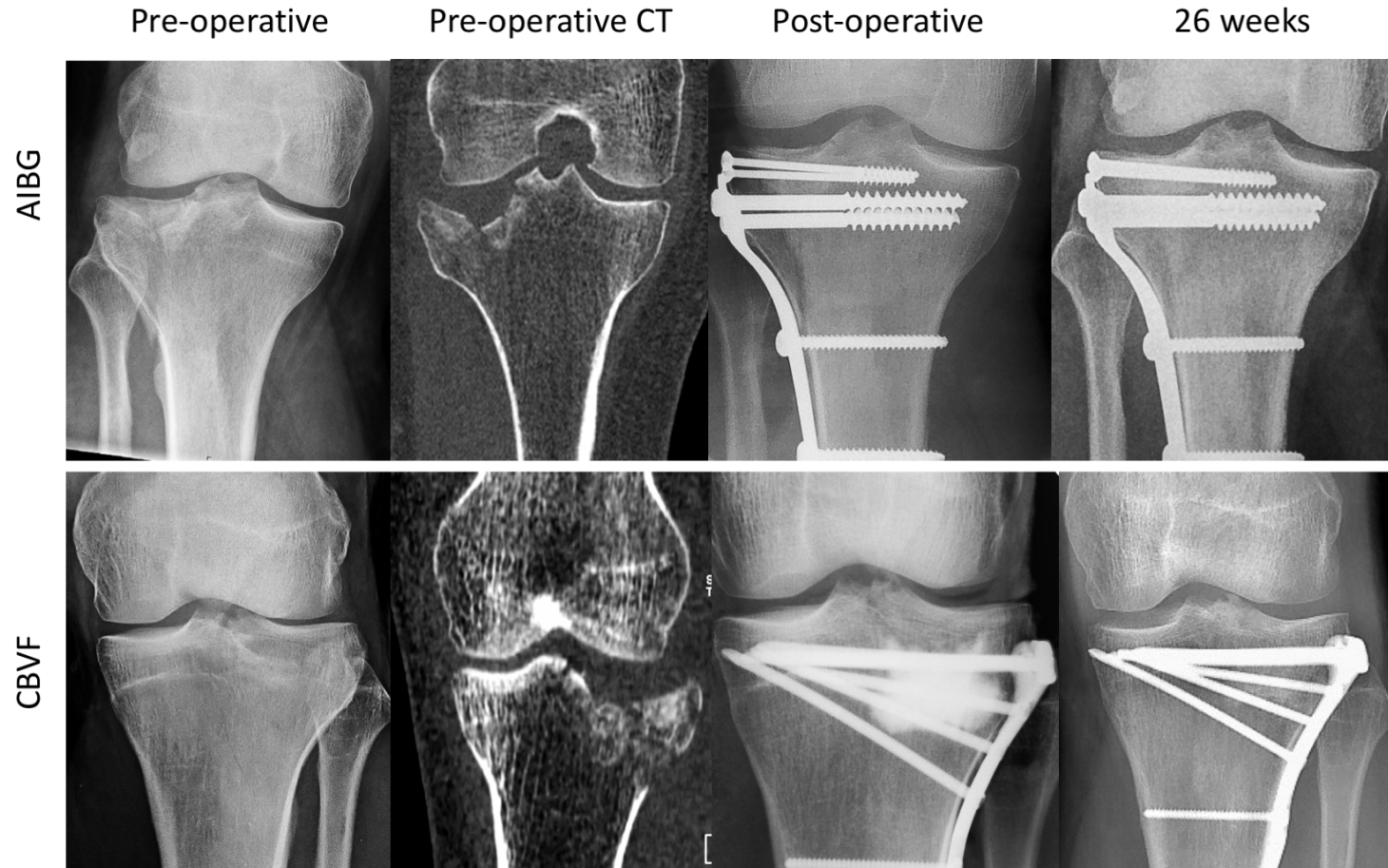
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**Secondary:** ✓ Bone-healing radiographs

✓ CERAMENT BVF is equivalent to autograft

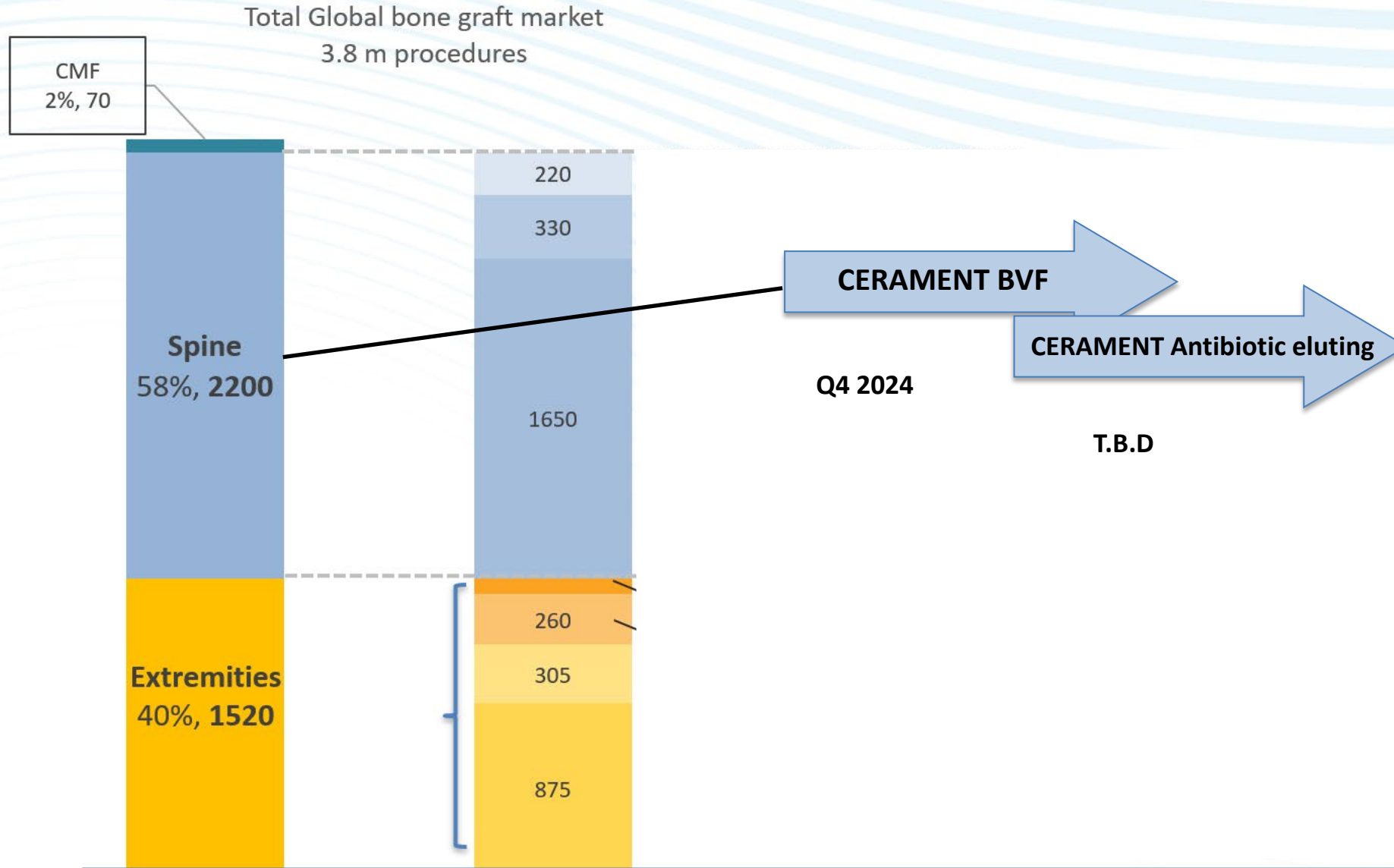
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# CERAMENT and the future



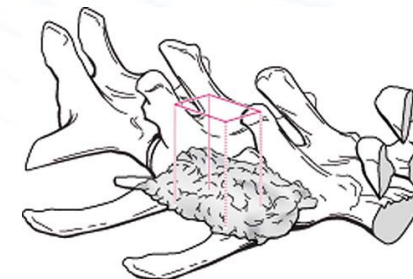
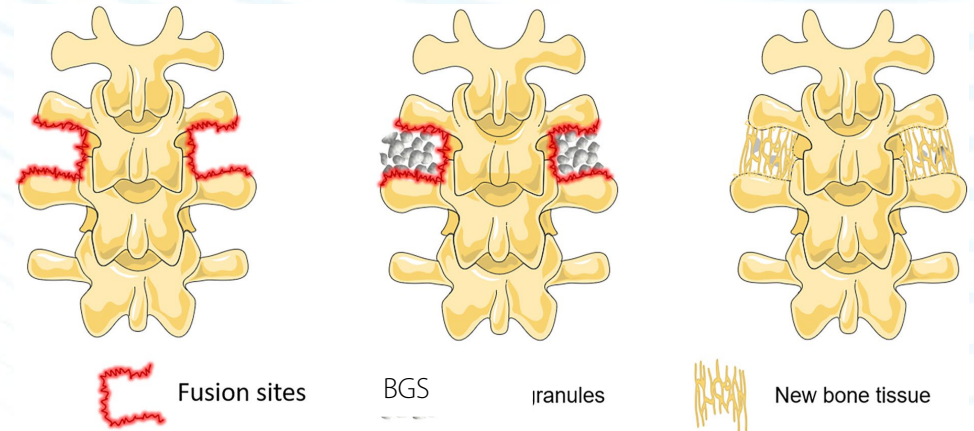
## Calcium sulfate/hydroxyapatite mediated controlled co-delivery of BMP-2 and zoledronic acid enhances spinal fusion in a rat posterolateral spinal fusion model

Tian X, Vater C, Raina DB, Findeisen L, Matuszewski LM, Tägil M, Lidgren L, Schaser KD, Disch KD, Zwingenberger S.

**Methods:** A standard posterolateral spinal fusion at L4 to L5 was performed bilaterally in rats by implanting group dependent scaffolds. At 3 weeks, 12 animals per group, and at 6 weeks 10 animals per group were euthanized for  $\mu$ CT, histological staining, or mechanical testing.

### Groups:

| Group |                                   |
|-------|-----------------------------------|
| 1)    | C BVF                             |
| 2)    | C BVF plus BMP-2                  |
| 3)    | C BVF plus systemic ZA            |
| 4)    | C BVF plus local ZA               |
| 5)    | C BVF plus BMP-2 plus systemic ZA |
| 6)    | C BVF plus BMP-2 plus local ZA    |
| 7)    | Empty / Sham group                |



# CERAMENT and the future – bone active substances

| First Product                                      | Second Product | Evidence: Animal Models  | Brief outcome   |
|--|----------------|--|---|
| BMP-2<br>BMP-2 plus Zoledronate (ZA)<br>Zoledronat | C BVF          | Raina DB, Matuszewski LM, Vater C, Bolte J, Isaksson H, Lidgren L, Tägil M, Zwingenberger S. A facile one-stage treatment of critical bone defects using a calcium sulfate/hydroxyapatite biomaterial providing spatiotemporal delivery of bone morphogenic protein-2 and zoledronic acid. <i>Sci Adv.</i> 2020 Nov 27;6(48):eabc1779. | rhBMP-2 and zoledronic acid (ZA) was combined with C BVF. The delivery of rhBMP-2 was necessary for critical defect healing and restoration of mechanical properties, but co-delivery of BMP-2 and ZA led to denser and stronger bone.  |
| BMP-2 plus Zoledronate (ZA)                        | C BVF          | Raina DB, Larsson D, Sezgin EA, Isaksson H, Tägil M, Lidgren L. Biomodulation of an implant for enhanced bone-implant anchorage. <i>Acta Biomater.</i> 2019 Sep 15;96:619-630. doi: 10.1016/j.actbio.2019.07.009. Epub 2019 Jul 10. PMID: 31301423.  | A very strong effect on peri-implant bone formation was observed when a fenestrated PEEK implant was filled with C BVF plus ZA or plus a combination of rhBMP-2 + ZA. The results from the implant integration model clearly indicates that local controlled delivery of ZA alone is sufficient to enhance bone implant anchorage without the need of adding rhBMP-2. |
| Zoledronat (ZA)                                    | C BVF          | Raina DB, Larsson D, Sezgin EA, Isaksson H, Tägil M, Lidgren L. Biomodulation of an implant for enhanced bone-implant anchorage. <i>Acta Biomater.</i> 2019 Sep 15;96:619-630. doi: 10.1016/j.actbio.2019.07.009. Epub 2019 Jul 10. PMID: 31301423.  |   |

|   |              |   |  |
|---|--------------|---|--|
| <b>Zoledronate(ZA)</b><br><b>Tetracycline (TC)</b><br><b>18F-fluoride (18F)</b> | <b>C BVF</b> | <b>Raina DB, Liu Y, Isaksson H, Tägil M, Lidgren L. Synthetic hydroxyapatite: a recruiting platform for biologically active molecules. <i>Acta Orthop.</i> 2020 Apr;91(2):126-132.</b>  | <b>Systemically administered ZA, TC and 18F seek HA acting as a recruiting moiety. The HA particles acted as a ZA-recruiting moiety and resulted in improved bone-implant anchorage</b>  |
| Parathormone (PTH)  | CG           | Freischmidt H, Armbruster J, Bonner E, Guehring T, Nurjadi D, Bechberger M, Sonntag R, Schmidmaier G, Grützner PA, Helbig L. Systemic Administration of PTH Supports Vascularization in Segmental Bone Defects Filled with Ceramic-Based Bone Graft Substitute. <i>Cells.</i> 2021 Aug 11;10(8):2058. | PTH alone nor the combination of CG and PTH led to the formation of a stable union. PTH induce vascularization, both as a single adjuvant treatment and in combination with CG. Systemic PTH is a potential synergistic co-treatment to CG |



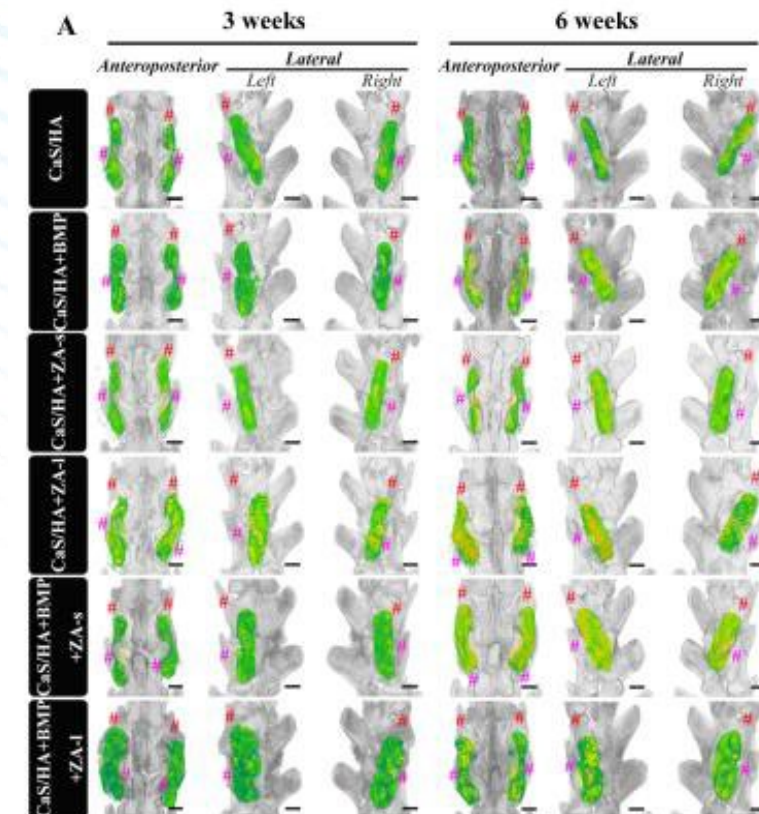
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| 4)    | C BVF plus local ZA               |
| 5)    | C BVF plus BMP-2 plus systemic ZA |
| 6)    | C BVF plus BMP-2 plus local ZA    |
| 7)    | Empty / Sham group                |







A close-up, profile view of a female surgeon wearing a blue surgical cap and a white face mask. She is looking intently to the right. The background is a blurred operating room with bright lights.

# **BONESUPPORT**

## **Capital Markets Day 2023**

### **Financial status and Outlook**

**Håkan Johansson, CFO**

**Emil Billbäck, CEO**

# Revised guidance

- The previous guidance, set at the capital markets day in Sept 2022, was established before the launch of CERAMENT G (Oct 2022) in the US
- At that time, we communicated the ambition to grow with 40% CAGR 2023-2025, in fixed currency
- 2023 has been a very strong performance year, well above expectations

## Revised guidance:

- **Sales growth in 2024 over 40% (CER<sup>1</sup>)**

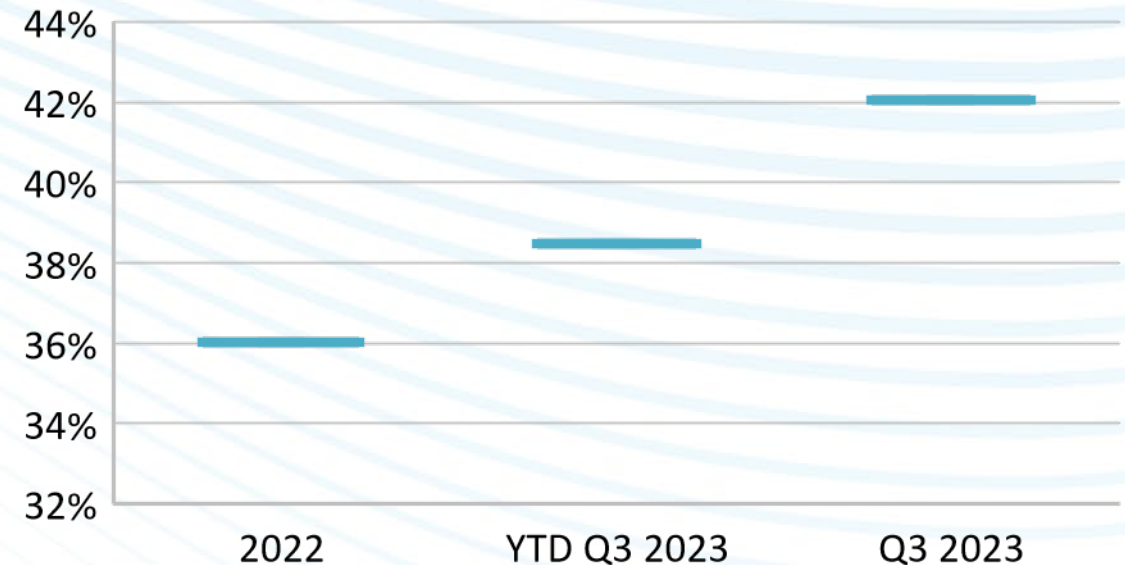
## YTD Q3 2023

| SEK m                            | YTD Q3 2022  | YTD Q3 2023  |
|----------------------------------|--------------|--------------|
| <b>Net sales</b>                 | <b>225,6</b> | <b>418,3</b> |
| <i>North America</i>             | <i>143,5</i> | <i>310,8</i> |
| <i>EUROW</i>                     | <i>82,1</i>  | <i>107,5</i> |
| <b>Gross Profit</b>              | <b>203,3</b> | <b>382,3</b> |
| <b>Gross Margin</b>              | <b>90,1%</b> | <b>91,4%</b> |
| Sales commission and fees (U.S.) | -44,9        | -109,7       |
| Other operating expenses         | -184,4       | -229,8       |
| <b>EBIT</b>                      | <b>-26,1</b> | <b>42,8</b>  |
| Cash at period end               | 212,6        | 164,1        |

### YTD Q3 2023:

- Sales growth (CER): 75%. Reported growth +85%
- Strong gross margin following favorable product mix
- Increased commercial activity impacting operating expenses
- EBIT positive from Q1 2023 and cash flow positive in Q3 2023

## EBIT Conversion<sup>1</sup> - Incremental growth



### Scalable business model:

- Gradually improved EBIT conversion from incremental sales growth confirming a strong scalability in the business model
- Scaling on existing commercial infrastructure;
  - Headroom to grow sales per FTE in EUROW
  - Strong US commercial infrastructure (380 commission-based sales reps)

<sup>1</sup> Calculated as EBIT improvement in relation to gross profit improvement

# Consolidated financials per quarter

|   | 2023          |               |               | 2022          |              |              | 2021         |              |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
|   | Q3            | Q2            | Q1            | Q4            | Q3           | Q2           | Q1           | Q4           |
| <b>SEK m</b>                              |               |               |               |               |              |              |              |              |
| <b>Net Sales</b>                          | <b>158,2</b>  | <b>140,4</b>  | <b>119,7</b>  | <b>103,2</b>  | <b>84,6</b>  | <b>74,6</b>  | <b>66,3</b>  | <b>61,4</b>  |
| <i>North America</i>                      | 121,0         | 103,9         | 85,9          | 73,4          | 56,3         | 46,0         | 41,2         | 34,8         |
| <i>EUROW</i>                              | 37,2          | 36,5          | 33,8          | 29,8          | 28,3         | 28,6         | 25,2         | 26,6         |
| Cost of sales                             | -12,4         | -12,2         | -11,4         | -8,8          | -7,8         | -8,2         | -6,3         | -6,6         |
| <b>Gross profit</b>                       | <b>145,8</b>  | <b>128,2</b>  | <b>108,3</b>  | <b>94,4</b>   | <b>76,8</b>  | <b>66,4</b>  | <b>60,0</b>  | <b>54,8</b>  |
| <b>Gross margin, %</b>                    | <b>92,1%</b>  | <b>91,3%</b>  | <b>90,5%</b>  | <b>91,5%</b>  | <b>90,8%</b> | <b>89,0%</b> | <b>90,5%</b> | <b>89,3%</b> |
| Selling expenses                          | -53,5         | -55,0         | -49,0         | -46,8         | -38,8        | -37,4        | -35,2        | -35,4        |
| Sales commissions and fees                | -42,7         | -37,2         | -29,9         | -28,1         | -21,1        | -16,8        | -14,3        | -13,9        |
| Research and development expenses         | -12,5         | -14,6         | -12,5         | -14,8         | -12,6        | -13,6        | -12,1        | -14,4        |
| Administrative expenses, Adj <sup>1</sup> | -11,9         | -12,1         | -11,7         | -12,1         | -11,3        | -10,9        | -10,6        | -10,0        |
| Other operating income                    | 9,4           | 17,3          | 3,1           | 4,4           | 19,9         | 11,9         | 7,0          | 5,2          |
| Other operating expenses                  | -10,1         | -12,8         | -3,7          | -7,2          | -17,5        | -8,7         | -7,3         | -3,3         |
| <b>Operating expenses</b>                 | <b>-121,2</b> | <b>-114,6</b> | <b>-103,7</b> | <b>-104,5</b> | <b>-81,3</b> | <b>-75,5</b> | <b>-72,6</b> | <b>-71,8</b> |
| <b>Operating result, Adj<sup>1</sup></b>  | <b>24,6</b>   | <b>13,7</b>   | <b>4,6</b>    | <b>-10,1</b>  | <b>-4,4</b>  | <b>-9,1</b>  | <b>-12,5</b> | <b>-17,0</b> |
| Cost to sales ratio                       | 0,77          | 0,82          | 0,87          | 1,01          | 0,96         | 1,01         | 1,09         | 1,17         |
| Cash flow from operation                  | 16,4          | -38,8         | -8,6          | -6,5          | -9,8         | -23,5        | -8,0         | -16,7        |
| Cash at period end                        | 164,1         | 149,8         | 190,4         | 201,3         | 212,6        | 171,8        | 195,6        | 206,5        |

<sup>1</sup> Administrative expenses and Operating result before effects from the Group's incentive programs

# Consolidated financials per quarter

|   | 2023          |               |               | 2022          |              |              | 2021         |              |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
|   | Q3            | Q2            | Q1            | Q4            | Q3           | Q2           | Q1           | Q4           |
| <b>SEK m</b>                              |               |               |               |               |              |              |              |              |
| <b>Net Sales</b>                          | <b>158,2</b>  | <b>140,4</b>  | <b>119,7</b>  | <b>103,2</b>  | <b>84,6</b>  | <b>74,6</b>  | <b>66,3</b>  | <b>61,4</b>  |
| <i>North America</i>                      | 121,0         | 103,9         | 85,9          | 73,4          | 56,3         | 46,0         | 41,2         | 34,8         |
| <i>EUROW</i>                              | 37,2          | 36,5          | 33,8          | 29,8          | 28,3         | 28,6         | 25,2         | 26,6         |
| Cost of sales                             | -12,4         | -12,2         | -11,4         | -8,8          | -7,8         | -8,2         | -6,3         | -6,6         |
| <b>Gross profit</b>                       | <b>145,8</b>  | <b>128,2</b>  | <b>108,3</b>  | <b>94,4</b>   | <b>76,8</b>  | <b>66,4</b>  | <b>60,0</b>  | <b>54,8</b>  |
| <b>Gross margin, %</b>                    | <b>92,1%</b>  | <b>91,3%</b>  | <b>90,5%</b>  | <b>91,5%</b>  | <b>90,8%</b> | <b>89,0%</b> | <b>90,5%</b> | <b>89,3%</b> |
| Selling expenses                          | -53,5         | -55,0         | -49,0         | -46,8         | -38,8        | -37,4        | -35,2        | -35,4        |
| Sales commissions and fees                | -42,7         | -37,2         | -29,9         | -28,1         | -21,1        | -16,8        | -14,3        | -13,9        |
| Research and development expenses         | -12,5         | -14,6         | -12,5         | -14,8         | -12,6        | -13,6        | -12,1        | -14,4        |
| Administrative expenses, Adj <sup>1</sup> | -11,9         | -12,1         | -11,7         | -12,1         | -11,3        | -10,9        | -10,6        | -10,0        |
| Other operating income                    | 9,4           | 17,3          | 3,1           | 4,4           | 19,9         | 11,9         | 7,0          | 5,2          |
| Other operating expenses                  | -10,1         | -12,8         | -3,7          | -7,2          | -17,5        | -8,7         | -7,3         | -3,3         |
| <b>Operating expenses</b>                 | <b>-121,2</b> | <b>-114,6</b> | <b>-103,7</b> | <b>-104,5</b> | <b>-81,3</b> | <b>-75,5</b> | <b>-72,6</b> | <b>-71,8</b> |
| <b>Operating result, Adj<sup>1</sup></b>  | <b>24,6</b>   | <b>13,7</b>   | <b>4,6</b>    | <b>-10,1</b>  | <b>-4,4</b>  | <b>-9,1</b>  | <b>-12,5</b> | <b>-17,0</b> |
| Cost to sales ratio                       | 0,77          | 0,82          | 0,87          | 1,01          | 0,96         | 1,01         | 1,09         | 1,17         |
| Cash flow from operation                  | 16,4          | -38,8         | -8,6          | -6,5          | -9,8         | -23,5        | -8,0         | -16,7        |
| Cash at period end                        | 164,1         | 149,8         | 190,4         | 201,3         | 212,6        | 171,8        | 195,6        | 206,5        |

- Gradual gross margin improvement following the growth in the US.

<sup>1</sup> Administrative expenses and Operating result before effects from the Group's incentive programs

# Consolidated financials per quarter

|   | 2023          |               |               | 2022          |              |              | 2021         |              |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
|   | Q3            | Q2            | Q1            | Q4            | Q3           | Q2           | Q1           | Q4           |
| <b>SEK m</b>                              |               |               |               |               |              |              |              |              |
| <b>Net Sales</b>                          | <b>158,2</b>  | <b>140,4</b>  | <b>119,7</b>  | <b>103,2</b>  | <b>84,6</b>  | <b>74,6</b>  | <b>66,3</b>  | <b>61,4</b>  |
| <i>North America</i>                      | 121,0         | 103,9         | 85,9          | 73,4          | 56,3         | 46,0         | 41,2         | 34,8         |
| <i>EUROW</i>                              | 37,2          | 36,5          | 33,8          | 29,8          | 28,3         | 28,6         | 25,2         | 26,6         |
| Cost of sales                             | -12,4         | -12,2         | -11,4         | -8,8          | -7,8         | -8,2         | -6,3         | -6,6         |
| <b>Gross profit</b>                       | <b>145,8</b>  | <b>128,2</b>  | <b>108,3</b>  | <b>94,4</b>   | <b>76,8</b>  | <b>66,4</b>  | <b>60,0</b>  | <b>54,8</b>  |
| <b>Gross margin, %</b>                    | <b>92,1%</b>  | <b>91,3%</b>  | <b>90,5%</b>  | <b>91,5%</b>  | <b>90,8%</b> | <b>89,0%</b> | <b>90,5%</b> | <b>89,3%</b> |
| Selling expenses                          | -53,5         | -55,0         | -49,0         | -46,8         | -38,8        | -37,4        | -35,2        | -35,4        |
| Sales commissions and fees                | -42,7         | -37,2         | -29,9         | -28,1         | -21,1        | -16,8        | -14,3        | -13,9        |
| Research and development expenses         | -12,5         | -14,6         | -12,5         | -14,8         | -12,6        | -13,6        | -12,1        | -14,4        |
| Administrative expenses, Adj <sup>1</sup> | -11,9         | -12,1         | -11,7         | -12,1         | -11,3        | -10,9        | -10,6        | -10,0        |
| Other operating income                    | 9,4           | 17,3          | 3,1           | 4,4           | 19,9         | 11,9         | 7,0          | 5,2          |
| Other operating expenses                  | -10,1         | -12,8         | -3,7          | -7,2          | -17,5        | -8,7         | -7,3         | -3,3         |
| <b>Operating expenses</b>                 | <b>-121,2</b> | <b>-114,6</b> | <b>-103,7</b> | <b>-104,5</b> | <b>-81,3</b> | <b>-75,5</b> | <b>-72,6</b> | <b>-71,8</b> |
| <b>Operating result, Adj<sup>1</sup></b>  | <b>24,6</b>   | <b>13,7</b>   | <b>4,6</b>    | <b>-10,1</b>  | <b>-4,4</b>  | <b>-9,1</b>  | <b>-12,5</b> | <b>-17,0</b> |
| Cost to sales ratio                       | 0,77          | 0,82          | 0,87          | 1,01          | 0,96         | 1,01         | 1,09         | 1,17         |
| Cash flow from operation                  | 16,4          | -38,8         | -8,6          | -6,5          | -9,8         | -23,5        | -8,0         | -16,7        |
| Cash at period end                        | 164,1         | 149,8         | 190,4         | 201,3         | 212,6        | 171,8        | 195,6        | 206,5        |

<sup>1</sup> Administrative expenses and Operating result before effects from the Group's incentive programs

- Gradual gross margin improvement following the growth in the US.
- Selling expenses growing following the US Booster program and increased momentum in marketing and sales promotion activities in both US and EUROW.

# Consolidated financials per quarter

|   | 2023          |               |               | 2022          |              |              | 2021         |              |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
|   | Q3            | Q2            | Q1            | Q4            | Q3           | Q2           | Q1           | Q4           |
| <b>SEK m</b>                              |               |               |               |               |              |              |              |              |
| <b>Net Sales</b>                          | <b>158,2</b>  | <b>140,4</b>  | <b>119,7</b>  | <b>103,2</b>  | <b>84,6</b>  | <b>74,6</b>  | <b>66,3</b>  | <b>61,4</b>  |
| <i>North America</i>                      | 121,0         | 103,9         | 85,9          | 73,4          | 56,3         | 46,0         | 41,2         | 34,8         |
| <i>EUROW</i>                              | 37,2          | 36,5          | 33,8          | 29,8          | 28,3         | 28,6         | 25,2         | 26,6         |
| Cost of sales                             | -12,4         | -12,2         | -11,4         | -8,8          | -7,8         | -8,2         | -6,3         | -6,6         |
| <b>Gross profit</b>                       | <b>145,8</b>  | <b>128,2</b>  | <b>108,3</b>  | <b>94,4</b>   | <b>76,8</b>  | <b>66,4</b>  | <b>60,0</b>  | <b>54,8</b>  |
| <b>Gross margin, %</b>                    | <b>92,1%</b>  | <b>91,3%</b>  | <b>90,5%</b>  | <b>91,5%</b>  | <b>90,8%</b> | <b>89,0%</b> | <b>90,5%</b> | <b>89,3%</b> |
| Selling expenses                          | -53,5         | -55,0         | -49,0         | -46,8         | -38,8        | -37,4        | -35,2        | -35,4        |
| Sales commissions and fees                | -42,7         | -37,2         | -29,9         | -28,1         | -21,1        | -16,8        | -14,3        | -13,9        |
| Research and development expenses         | -12,5         | -14,6         | -12,5         | -14,8         | -12,6        | -13,6        | -12,1        | -14,4        |
| Administrative expenses, Adj <sup>1</sup> | -11,9         | -12,1         | -11,7         | -12,1         | -11,3        | -10,9        | -10,6        | -10,0        |
| Other operating income                    | 9,4           | 17,3          | 3,1           | 4,4           | 19,9         | 11,9         | 7,0          | 5,2          |
| Other operating expenses                  | -10,1         | -12,8         | -3,7          | -7,2          | -17,5        | -8,7         | -7,3         | -3,3         |
| <b>Operating expenses</b>                 | <b>-121,2</b> | <b>-114,6</b> | <b>-103,7</b> | <b>-104,5</b> | <b>-81,3</b> | <b>-75,5</b> | <b>-72,6</b> | <b>-71,8</b> |
| <b>Operating result, Adj<sup>1</sup></b>  | <b>24,6</b>   | <b>13,7</b>   | <b>4,6</b>    | <b>-10,1</b>  | <b>-4,4</b>  | <b>-9,1</b>  | <b>-12,5</b> | <b>-17,0</b> |
| Cost to sales ratio                       | 0,77          | 0,82          | 0,87          | 1,01          | 0,96         | 1,01         | 1,09         | 1,17         |
| Cash flow from operation                  | 16,4          | -38,8         | -8,6          | -6,5          | -9,8         | -23,5        | -8,0         | -16,7        |
| Cash at period end                        | 164,1         | 149,8         | 190,4         | 201,3         | 212,6        | 171,8        | 195,6        | 206,5        |

<sup>1</sup> Administrative expenses and Operating result before effects from the Group's incentive programs

- Gradual gross margin improvement following the growth in the US.
- Selling expenses growing following the US Booster program and increased momentum in marketing and sales promotion activities in both US and EUROW.
- R & D stable at an annual run rate of SEK 55 million, as a reference 15 MSEK below 2019, a year impacted by larger clinical trials.

# Consolidated financials per quarter

|   | 2023          |               |               | 2022          |              |              | 2021         |              |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
|   | Q3            | Q2            | Q1            | Q4            | Q3           | Q2           | Q1           | Q4           |
| <b>SEK m</b>                              |               |               |               |               |              |              |              |              |
| <b>Net Sales</b>                          | <b>158,2</b>  | <b>140,4</b>  | <b>119,7</b>  | <b>103,2</b>  | <b>84,6</b>  | <b>74,6</b>  | <b>66,3</b>  | <b>61,4</b>  |
| <i>North America</i>                      | 121,0         | 103,9         | 85,9          | 73,4          | 56,3         | 46,0         | 41,2         | 34,8         |
| <i>EUROW</i>                              | 37,2          | 36,5          | 33,8          | 29,8          | 28,3         | 28,6         | 25,2         | 26,6         |
| Cost of sales                             | -12,4         | -12,2         | -11,4         | -8,8          | -7,8         | -8,2         | -6,3         | -6,6         |
| <b>Gross profit</b>                       | <b>145,8</b>  | <b>128,2</b>  | <b>108,3</b>  | <b>94,4</b>   | <b>76,8</b>  | <b>66,4</b>  | <b>60,0</b>  | <b>54,8</b>  |
| <b>Gross margin, %</b>                    | <b>92,1%</b>  | <b>91,3%</b>  | <b>90,5%</b>  | <b>91,5%</b>  | <b>90,8%</b> | <b>89,0%</b> | <b>90,5%</b> | <b>89,3%</b> |
| Selling expenses                          | -53,5         | -55,0         | -49,0         | -46,8         | -38,8        | -37,4        | -35,2        | -35,4        |
| Sales commissions and fees                | -42,7         | -37,2         | -29,9         | -28,1         | -21,1        | -16,8        | -14,3        | -13,9        |
| Research and development expenses         | -12,5         | -14,6         | -12,5         | -14,8         | -12,6        | -13,6        | -12,1        | -14,4        |
| Administrative expenses, Adj <sup>1</sup> | -11,9         | -12,1         | -11,7         | -12,1         | -11,3        | -10,9        | -10,6        | -10,0        |
| Other operating income                    | 9,4           | 17,3          | 3,1           | 4,4           | 19,9         | 11,9         | 7,0          | 5,2          |
| Other operating expenses                  | -10,1         | -12,8         | -3,7          | -7,2          | -17,5        | -8,7         | -7,3         | -3,3         |
| <b>Operating expenses</b>                 | <b>-121,2</b> | <b>-114,6</b> | <b>-103,7</b> | <b>-104,5</b> | <b>-81,3</b> | <b>-75,5</b> | <b>-72,6</b> | <b>-71,8</b> |
| <b>Operating result, Adj<sup>1</sup></b>  | <b>24,6</b>   | <b>13,7</b>   | <b>4,6</b>    | <b>-10,1</b>  | <b>-4,4</b>  | <b>-9,1</b>  | <b>-12,5</b> | <b>-17,0</b> |
| Cost to sales ratio                       | 0,77          | 0,82          | 0,87          | 1,01          | 0,96         | 1,01         | 1,09         | 1,17         |
| Cash flow from operation                  | 16,4          | -38,8         | -8,6          | -6,5          | -9,8         | -23,5        | -8,0         | -16,7        |
| Cash at period end                        | 164,1         | 149,8         | 190,4         | 201,3         | 212,6        | 171,8        | 195,6        | 206,5        |

<sup>1</sup> Administrative expenses and Operating result before effects from the Group's incentive programs

- Gradual gross margin improvement following the growth in the US.
- Selling expenses growing following the US Booster program and increased momentum in marketing and sales promotion activities in both US and EUROW.
- R & D stable at an annual run rate of SEK 55 million, as a reference 15 MSEK below 2019, a year impacted by larger clinical trials.
- Administration remaining stable, with minor uptick following sales growth.



# Consolidated financials per quarter

|   | 2023          |               |               | 2022          |              |              | 2021         |              |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
|   | Q3            | Q2            | Q1            | Q4            | Q3           | Q2           | Q1           | Q4           |
| <b>SEK m</b>                              |               |               |               |               |              |              |              |              |
| <b>Net Sales</b>                          | <b>158,2</b>  | <b>140,4</b>  | <b>119,7</b>  | <b>103,2</b>  | <b>84,6</b>  | <b>74,6</b>  | <b>66,3</b>  | <b>61,4</b>  |
| <i>North America</i>                      | 121,0         | 103,9         | 85,9          | 73,4          | 56,3         | 46,0         | 41,2         | 34,8         |
| <i>EUROW</i>                              | 37,2          | 36,5          | 33,8          | 29,8          | 28,3         | 28,6         | 25,2         | 26,6         |
| Cost of sales                             | -12,4         | -12,2         | -11,4         | -8,8          | -7,8         | -8,2         | -6,3         | -6,6         |
| <b>Gross profit</b>                       | <b>145,8</b>  | <b>128,2</b>  | <b>108,3</b>  | <b>94,4</b>   | <b>76,8</b>  | <b>66,4</b>  | <b>60,0</b>  | <b>54,8</b>  |
| <b>Gross margin, %</b>                    | <b>92,1%</b>  | <b>91,3%</b>  | <b>90,5%</b>  | <b>91,5%</b>  | <b>90,8%</b> | <b>89,0%</b> | <b>90,5%</b> | <b>89,3%</b> |
| Selling expenses                          | -53,5         | -55,0         | -49,0         | -46,8         | -38,8        | -37,4        | -35,2        | -35,4        |
| Sales commissions and fees                | -42,7         | -37,2         | -29,9         | -28,1         | -21,1        | -16,8        | -14,3        | -13,9        |
| Research and development expenses         | -12,5         | -14,6         | -12,5         | -14,8         | -12,6        | -13,6        | -12,1        | -14,4        |
| Administrative expenses, Adj <sup>1</sup> | -11,9         | -12,1         | -11,7         | -12,1         | -11,3        | -10,9        | -10,6        | -10,0        |
| Other operating income                    | 9,4           | 17,3          | 3,1           | 4,4           | 19,9         | 11,9         | 7,0          | 5,2          |
| Other operating expenses                  | -10,1         | -12,8         | -3,7          | -7,2          | -17,5        | -8,7         | -7,3         | -3,3         |
| <b>Operating expenses</b>                 | <b>-121,2</b> | <b>-114,6</b> | <b>-103,7</b> | <b>-104,5</b> | <b>-81,3</b> | <b>-75,5</b> | <b>-72,6</b> | <b>-71,8</b> |
| <b>Operating result, Adj<sup>1</sup></b>  | <b>24,6</b>   | <b>13,7</b>   | <b>4,6</b>    | <b>-10,1</b>  | <b>-4,4</b>  | <b>-9,1</b>  | <b>-12,5</b> | <b>-17,0</b> |
| Cost to sales ratio                       | 0,77          | 0,82          | 0,87          | 1,01          | 0,96         | 1,01         | 1,09         | 1,17         |
| Cash flow from operation                  | 16,4          | -38,8         | -8,6          | -6,5          | -9,8         | -23,5        | -8,0         | -16,7        |
| Cash at period end                        | 164,1         | 149,8         | 190,4         | 201,3         | 212,6        | 171,8        | 195,6        | 206,5        |

<sup>1</sup> Administrative expenses and Operating result before effects from the Group's incentive programs

- Gradual gross margin improvement following the growth in the US.
- Selling expenses growing following the US Booster program and increased momentum in marketing and sales promotion activities in both US and EUROW.
- R & D stable at an annual run rate of SEK 55 million, as a reference 15 MSEK below 2019, a year impacted by larger clinical trials.
- Administration remaining stable, with minor uptick following sales growth.
- Quarterly trajectory in cost to sales ratio and operating result confirms an underlying increase in operating leverage.

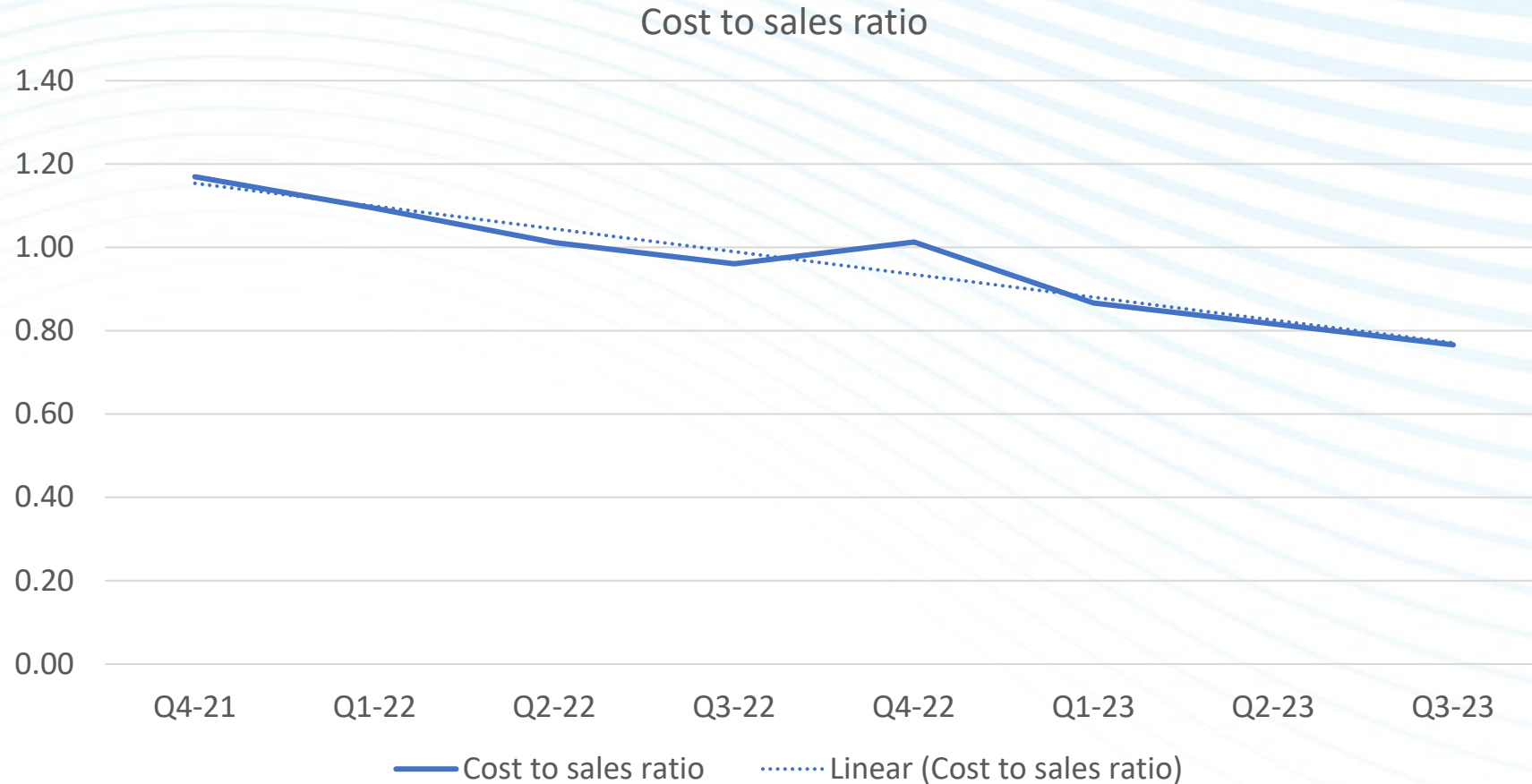
# Consolidated financials per quarter

|   | 2023          |               |               | 2022          |              |              | 2021         |              |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
|   | Q3            | Q2            | Q1            | Q4            | Q3           | Q2           | Q1           | Q4           |
| <b>SEK m</b>                              |               |               |               |               |              |              |              |              |
| <b>Net Sales</b>                          | <b>158,2</b>  | <b>140,4</b>  | <b>119,7</b>  | <b>103,2</b>  | <b>84,6</b>  | <b>74,6</b>  | <b>66,3</b>  | <b>61,4</b>  |
| <i>North America</i>                      | 121,0         | 103,9         | 85,9          | 73,4          | 56,3         | 46,0         | 41,2         | 34,8         |
| <i>EUROW</i>                              | 37,2          | 36,5          | 33,8          | 29,8          | 28,3         | 28,6         | 25,2         | 26,6         |
| Cost of sales                             | -12,4         | -12,2         | -11,4         | -8,8          | -7,8         | -8,2         | -6,3         | -6,6         |
| <b>Gross profit</b>                       | <b>145,8</b>  | <b>128,2</b>  | <b>108,3</b>  | <b>94,4</b>   | <b>76,8</b>  | <b>66,4</b>  | <b>60,0</b>  | <b>54,8</b>  |
| <b>Gross margin, %</b>                    | <b>92,1%</b>  | <b>91,3%</b>  | <b>90,5%</b>  | <b>91,5%</b>  | <b>90,8%</b> | <b>89,0%</b> | <b>90,5%</b> | <b>89,3%</b> |
| Selling expenses                          | -53,5         | -55,0         | -49,0         | -46,8         | -38,8        | -37,4        | -35,2        | -35,4        |
| Sales commissions and fees                | -42,7         | -37,2         | -29,9         | -28,1         | -21,1        | -16,8        | -14,3        | -13,9        |
| Research and development expenses         | -12,5         | -14,6         | -12,5         | -14,8         | -12,6        | -13,6        | -12,1        | -14,4        |
| Administrative expenses, Adj <sup>1</sup> | -11,9         | -12,1         | -11,7         | -12,1         | -11,3        | -10,9        | -10,6        | -10,0        |
| Other operating income                    | 9,4           | 17,3          | 3,1           | 4,4           | 19,9         | 11,9         | 7,0          | 5,2          |
| Other operating expenses                  | -10,1         | -12,8         | -3,7          | -7,2          | -17,5        | -8,7         | -7,3         | -3,3         |
| <b>Operating expenses</b>                 | <b>-121,2</b> | <b>-114,6</b> | <b>-103,7</b> | <b>-104,5</b> | <b>-81,3</b> | <b>-75,5</b> | <b>-72,6</b> | <b>-71,8</b> |
| <b>Operating result, Adj<sup>1</sup></b>  | <b>24,6</b>   | <b>13,7</b>   | <b>4,6</b>    | <b>-10,1</b>  | <b>-4,4</b>  | <b>-9,1</b>  | <b>-12,5</b> | <b>-17,0</b> |
| Cost to sales ratio                       | 0,77          | 0,82          | 0,87          | 1,01          | 0,96         | 1,01         | 1,09         | 1,17         |
| Cash flow from operation                  | 16,4          | -38,8         | -8,6          | -6,5          | -9,8         | -23,5        | -8,0         | -16,7        |
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- Administration remaining stable, with minor uptick following sales growth.
- Quarterly trajectory in cost to sales ratio and operating result confirms an underlying increase in operating leverage.
- With current cash position and a business turning cash flow positive the business remain well funded.

# Operating leverage continuously improving



Quarterly trajectory in cost to sales ratio confirms an underlying improvement in operating leverage.

# Sustainability for BONESUPPORT

## **SUSTAINABILITY for our people**

- We involve all employees and strive for integration of sustainability as a natural part of our business.

## **SUSTAINABILITY for our patients**

- We provide solutions to global musculoskeletal healthcare challenges by ensuring access to innovative and effective products and procedures.

## **SUSTAINABILITY for our planet**

- We take a proactive approach to sustainability by setting science based targets and engaging with suppliers and customers across our value chain.

BONESUPPORT's most relevant focus areas:



# Sustainable value creation

## Recent achievements

- Sustainability training of ESG core team
- Extensive value chain mapping
- Business Partner Code of Conduct established
- Improved employee health benefits
- Sustainability disclosures on our website

## Short-term priorities

- Join the Science Based Target Initiative (SBTi) and set science-based emission reduction targets
- Establish the company emission baseline to enable target setting for reduction
- Further strengthened ability to meet stakeholder expectations
- Prepare for future CSRD reporting

