

Heraeus

# OSTEOPAL<sup>®</sup>

The product line for spinal surgery



# OSTEOPAL® V

## The gold standard for the spine.

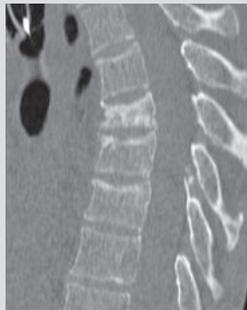
*For over 50 years, Heraeus has been the leading specialist for bone cements “Made in Germany”. The Heraeus product portfolio has been continuously developed with the benefit of decades of experience and success from PALACOS®. Expansion of the OSTEOPAL® portfolio brings three spinal cements that meet the exacting demands of vertebral body augmentation. Heraeus therefore provides for a wide range of uses and tremendous flexibility.*

The classic in vertebral cement augmentation, OSTEOPAL® V, is an X-ray positive, low-viscosity bone cement for filling and stabilising vertebral bodies. It is prepared by mixing a polymer powder with a liquid monomer component. Zirconium dioxide is added to the cement powder as an X-ray contrast agent, permitting optimal imaging.<sup>1</sup> OSTEOPAL® V has proven its worth in spinal surgery over the last 10 years thanks to its outstanding properties. The formulation is based on the raw materials used in PALACOS®, a product that has been successfully tried and tested against other bone cements in numerous clinical studies and registries.

### Clinical case study: Vertebroplasty for an osteoporotic vertebral body fracture



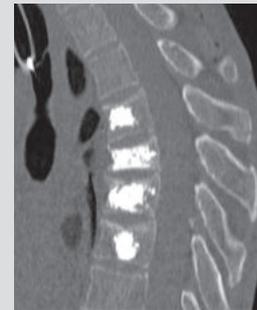
preoperative



preoperative



postoperative



postoperative

**Surgical technique:** Vertebroplasty

**Diagnosis:** Painful, acute osteoporotic fracture T4, T5, T6, T7

**Case:** 55 year-old male patient on corticoid therapy

**Source:** Prof. Gangi, Nouvel Hôpital Civil/NHC, Strasbourg, France

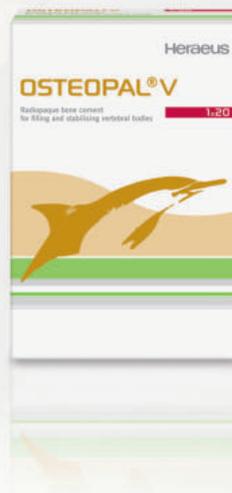
- Augmentation of vertebral bodies T4-T7 following osteoporotic fracture
- Postop: Excellent visibility of cement filling on imaging

(1) Kock H.-J. et al.: Biomechanische Untersuchung unterschiedlicher PMMA-Knochenzemente für die Kyphoplastie und Vertebroplastie. Bad Homburg. 2007

## OSTEOPAL® V

A classic – perfect visibility in imaging techniques. Significantly better fatigue strength against dynamic loading. (1)

# V



### ADVANTAGES AT A GLANCE

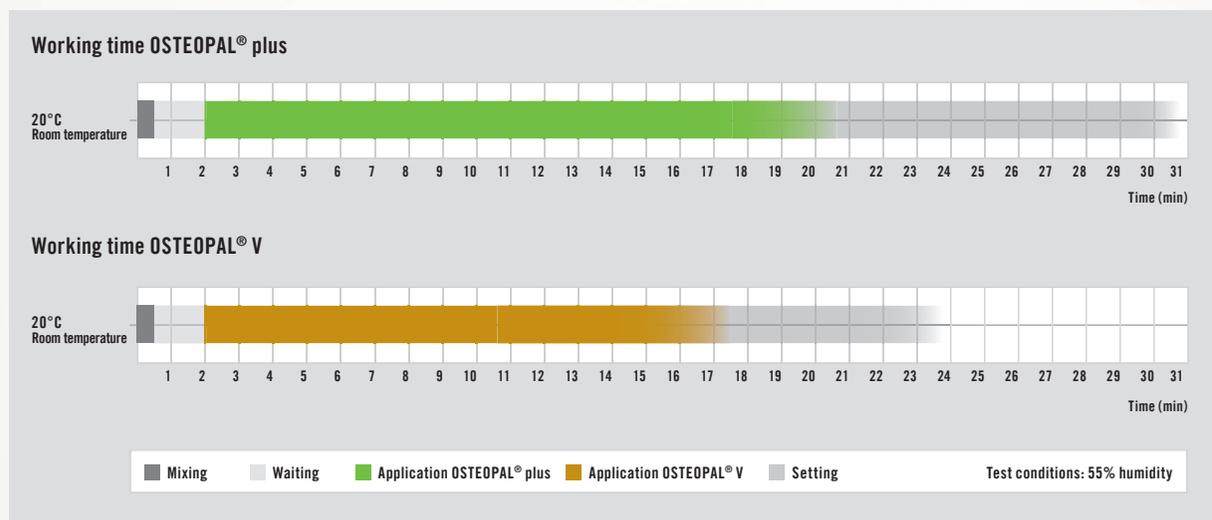
- Regarded as the gold standard in spinal surgery
- Simple application thanks to optimised viscosity
- Ideal control over application thanks to zirconium dioxide as an X-ray contrast agent

# OSTEOPAL® plus

## The spinal cement with added time.

*Continuous innovation and development enable Heraeus to respond specifically to medical demands. The outcome: new products offering more possibilities and greater certainty. Hence Heraeus plays a significant role in supporting the surgical team and improving surgical outcomes.*

The excellent material properties of OSTEOPAL® plus reflect those of the proven OSTEOPAL® V, combining the properties of the gold standard with a prolonged working time. Impressive product characteristics mean that OSTEOPAL® plus is especially suitable for vertebral body augmentation in several stages, since the cement has a longer application time.

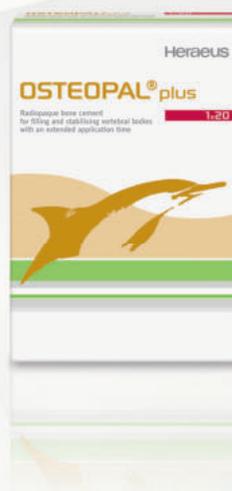


# Heraeus

## OSTEOPAL® plus

Added time –  
OSTEOPAL® plus combines  
the benefits of a classic with  
a prolonged working time.

# plus



### ADVANTAGES AT A GLANCE

- Prolonged working time
- One mixture for several vertebral bodies
- Based on OSTEOPAL® V, the gold standard in spinal surgery
- Simple application thanks to optimised viscosity
- Ideal control over application thanks to zirconium dioxide as an X-ray contrast agent

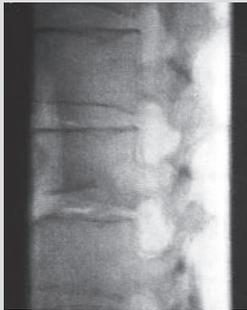
# OSTEOPAL® G

## With gentamicin for infection prophylaxis.

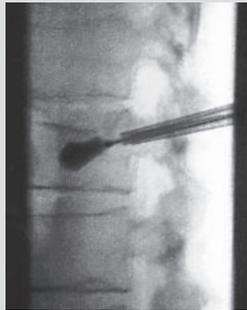
*Modern cementing techniques not only focus on secure endoprosthesis anchorage and stabilisation of the bone structure, but today also include infection prophylaxis as a vital part of therapeutic management. Heraeus embraces the increasing importance of such an approach: the company is systematically expanding its portfolio to include effective products that can be used in at risk patients.*

OSTEOPAL® G is the first and only commercially produced spinal cement for vertebral augmentation to include an antibiotic. The commercial addition of gentamicin to the cement powder promises reproducible and standardised results – both in terms of mechanical properties and antibiotic release.

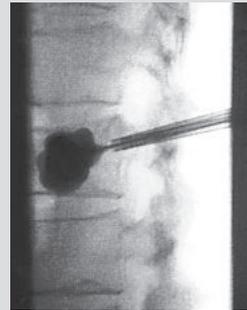
### Clinical case study: Kyphoplasty following vertebral body fracture in the lumbar spine



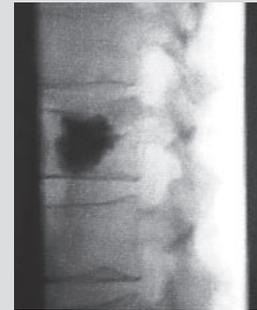
preoperative



intraoperative



intraoperative



postoperative

**Surgical technique:** Kyphoplasty

**Diagnosis:** L2 fracture

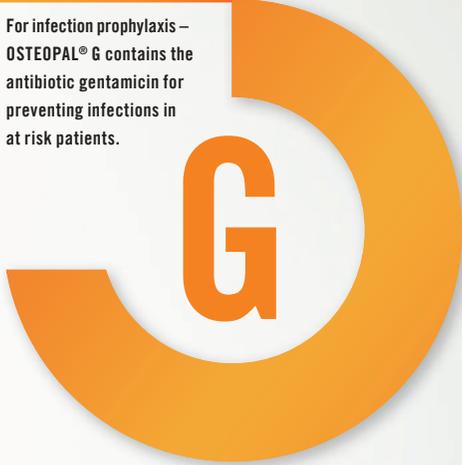
**Case:** 80 year-old female patient with insulin-dependent diabetes, arterial hypertension and healed fracture of the proximal humerus

**Source:** Maciej Opałko, Asklepios Klinikum Uckermark, Schwedt/Oder

Free of symptoms at 6- and 12-month follow-up after stabilisation of L2 fracture with OSTEOPAL® G

## OSTEOPAL® G

For infection prophylaxis –  
OSTEOPAL® G contains the  
antibiotic gentamicin for  
preventing infections in  
at risk patients.



# G



### ADVANTAGES AT A GLANCE

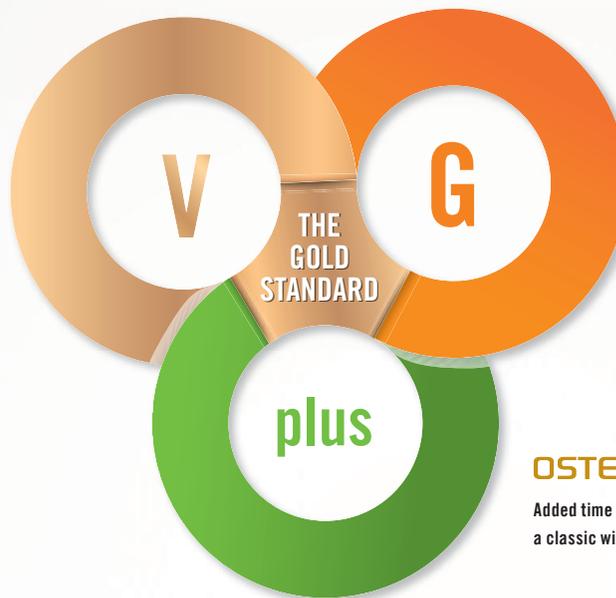
- First commercially produced bone cement with added antibiotic for use in the spine
- Based on OSTEOPAL® V, the gold standard in spinal surgery
- Simple application thanks to low viscosity
- Ideal control over application thanks to zirconium dioxide as an X-ray contrast agent

## OSTEOPAL®

The product line for spinal surgery

### OSTEOPAL® V

A classic – perfect visibility in imaging techniques. Significantly better fatigue strength against dynamic loading. (1)



### OSTEOPAL® G

For infection prophylaxis – OSTEOPAL® G contains the antibiotic gentamicin for preventing infections.

### OSTEOPAL® plus

Added time – OSTEOPAL® plus combines the benefits of a classic with a prolonged working time.

Product	Description	Content	REF
OSTEOPAL® V	Radiopaque bone cement for filling and stabilising vertebral bodies	1 x 20	66031896
OSTEOPAL® plus	Radiopaque bone cement for filling and stabilising vertebral bodies with an extended application time	1 x 20	66045747
OSTEOPAL® G	Radiopaque bone cement containing Gentamicin for filling and stabilising vertebral bodies	1 x 20	66045749

[www.heraeus-medical.com](http://www.heraeus-medical.com)

OSTEOPAL ROW  
66057671/05745

(1) Kock H.-J. et al.: Biomechanische Untersuchung unterschiedlicher PMMA-Knochenzemente für die Kyphoplastie und Vertebroplastie. Bad Homburg. 2007