

**vertecem v+ System.** Enhanced  
viscosity for controlled injection.

## Technique Guide



This publication is not intended for  
distribution in the USA.

Instruments and implants  
approved by the AO Foundation.



### Ready-to-use viscosity

Vertecem V+ Cement requires no waiting time before injectable cement viscosity is reached. The application time of the ready-to-use cement is approximately 27 minutes at room temperature and offers physicians the freedom to use cement with greatly reduced time constraints<sup>1</sup>.

### Easy and efficient

The Vertecem V+ System is a closed, clean and easy-to-use vertebroplasty system. The modularity of the available kits enables physicians to perform surgeries efficiently.

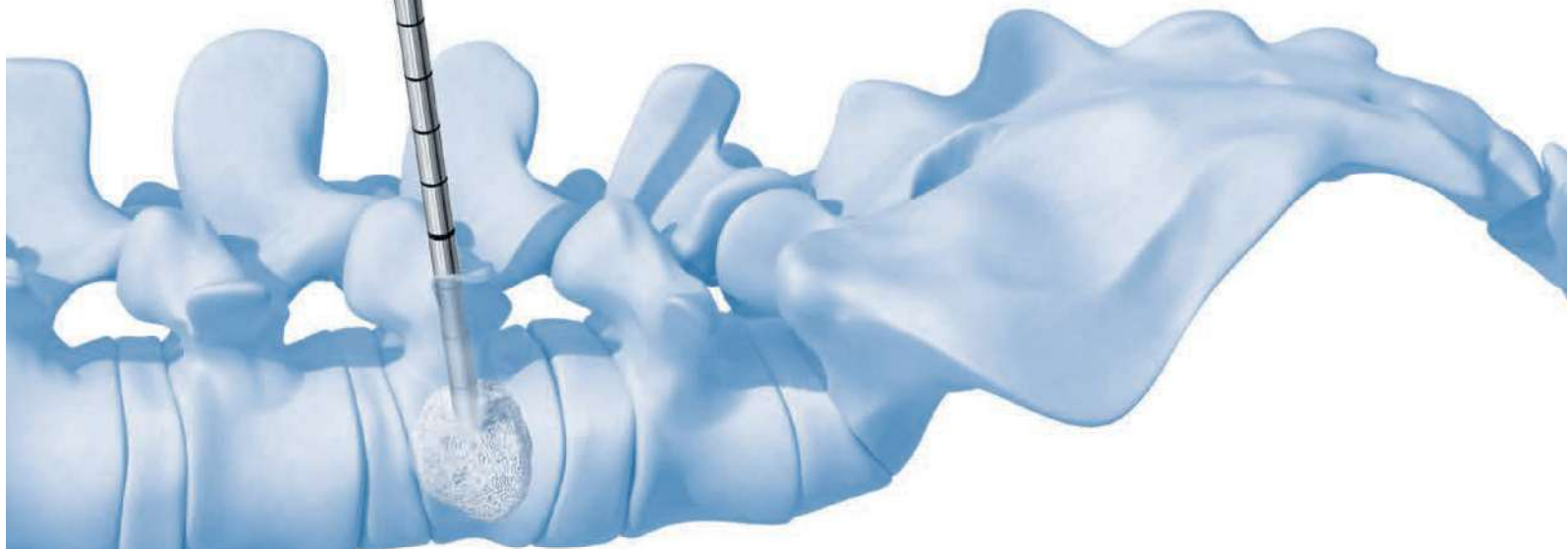
### Cement specific syringes

Vertecem V+ Syringes have wide integrated wings and reinforced syringe plungers to guarantee excellent force transfer, combined with good tactile feedback.

### Wide portfolio of vertebroplasty needles

A wide portfolio with both diamond and beveled tip needles offers a solution for every preference. All needles can be used for injection of cement through the front or through a side opening. The side-opening needles make it possible to guide cement flow in-situ.

<sup>1</sup> See Instruction for Use for specific information





### Vertebroplasty Needle Kit

- Side-opening needles, 2-pack
- Diamond and beveled tip
- 8G/14 cm (blue)
- 10G/12 cm (yellow)
- 12G/12 cm (green)
- Optional 8G and 10G biopsy solution



### Bone Access Needle

- Front-opening needle, 1-pack
- Diamond and beveled tip
- 8G/14 cm (blue)
- 11G/10 cm (violet)
- 11G/15 cm (violet)
- 13G/10 cm (orange)
- Optional 8G and 11G biopsy solution



### Vertecem V+ Syringe Kit

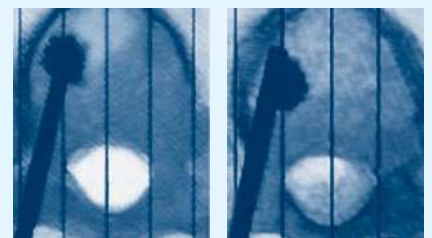
Vertecem V+ Syringe Kit includes a stop-cock for simple, clean and quick filling of the 1 mL and 2 mL syringes.



### Vertecem V+ Cement Kit

For good visual control during cement application under x-ray imaging, the Vertecem V+ powder contains 40% zirconium dioxide and 15% hydroxyapatite. Therefore Vertecem V+ powder contains 55% ceramic components and only 45% PMMA.

### Direction of cement through side-opening



A

B

Comparison of flow behaviour between a front-opening (A) and a side-opening (B) needle. The needles are placed identically. After the injection of 2 mL, the cement is clearly directed into the medial part of the vertebral body with the side-opening needle.