

VerteStable® & BonOs® Inject

• Vertebral body stabilisation with Vertebroplasty

VerteStable®

Vertestable® contains a minimally invasive application system for the treatment of vertebral compression fractures. The diversification of the Vertestable® kits allow individual patient related treatment options to perform a Vertebroplasty.

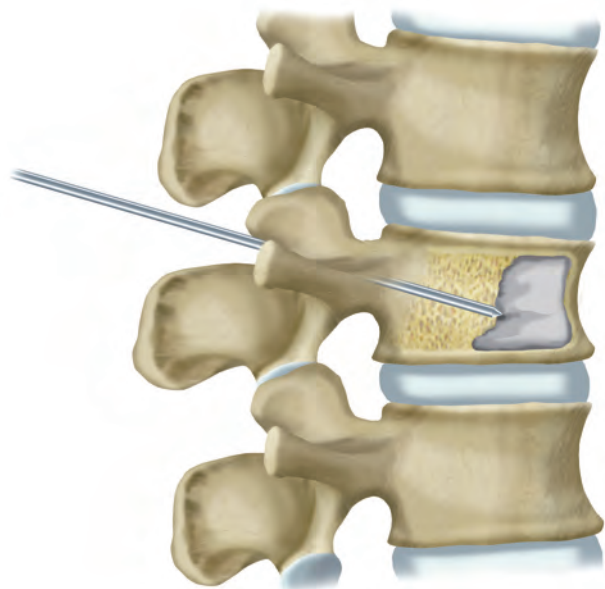
It is recommended to use VerteStable® in combination with the specific spine cement BonOs® Inject.

»Vertebroplasty is a procedure for the treatment of bone pain«

"Vertebroplasty is a medical treatment method which can be suitable for patients with back pain. For a variety of diseases that come along with strong bone pain of the vertebra good results were achieved with Vertebroplasty in the past. These diseases are predominately osteoporosis as well as the attack by tumors.

Bone pain originates by an increasing instability of the bone that leads to deformations of it. On the one hand the pain emergence due to the fracture itself but also due to the irritation of the surrounding periosteum. Because this periosteum is been fed by many „pain nerves“, the patient senses pain.

By using Vertebroplasty the lost bony structure is been compensated by bone cement, fragments are reconnected and the bone is stabilized from the inside. Thereby the painful deformation is prevented and the patient experiences a fast and long-lasting pain relief."



Prof. Dr. med. Johannes Hierholzer
Chief physician of the diagnostic and interventional radiology
Ernst-von-Bergmann Clinic, Potsdam, Germany

Different set configurations for different user requirements

VerteStable® mini

► The small and handy Vertebroplasty set



The mini among Vertebroplasty application systems allows a cement filling of vertebral bodies with only one hand. Thus, VerteStable® mini offers a perfect pressure control and leakage reduction especially with the filling of small bone defects.

VerteStable® classic

► Easy mixing and safe application



The classic version of VerteStable® combines fundamental benefits of VerteStable® mini and VerteStable® advanced within one system

VerteStable® advanced

► Maximized comfort and safety



The standard application technologie of VerteStable® satisfies all requirements that are demanded in the modern Vertebroplasty and provides additionally high safety and comfort within the usage.

VerteStable® Set Components

	mini	classic	advanced
VerteStable® Somix® 2.0	–	–	1
VerteStable® mixing bowl & spatula	1	1	–
VerteStable® CIS	–	1	1
VerteStable® SIS	2	–	–
VerteStable® cannula	2	2	2
VerteStable® needle holder	1	1	1

Components

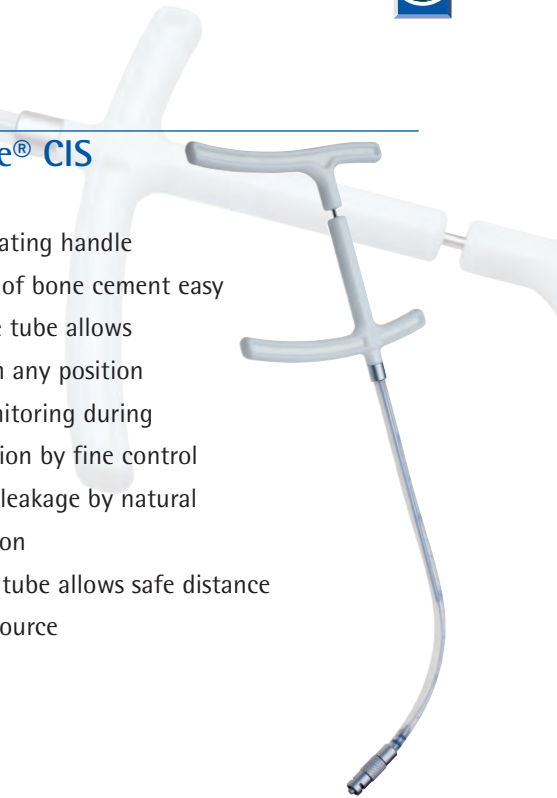
▶ VerteStable® Somix® 2.0

- ▶ Clearly reduction of monomeric exposure in respiratory air
- ▶ Homogenous & repeatable mixing results
- ▶ Air-bubble-free cement transfer to injection devices
- ▶ PMMA – resistant material
- ▶ Easy transfer via high pressure
- ▶ Ordinary handling
- ▶ Closed system
- ▶ Translation & Rotation of paddle
- ▶ Vacuum compatible



▶ VerteStable® CIS

- ▶ Ergonomical rotating handle makes injection of bone cement easy
- ▶ Flexible pressure tube allows application from any position
- ▶ Continuous monitoring during cement application by fine control
- ▶ Reduced risk of leakage by natural pressure limitation
- ▶ Longer pressure tube allows safe distance from radiation source



▶ VerteStable® application cannula

- ▶ Maximum stability (wall thickness 0.375 mm)
- ▶ Excellent smooth edge
- ▶ Supplementary guide to penetration depth with engraved cm markings with 5 and 10 marks
- ▶ Low resistance during cement application with smooth internal cannula wall
- ▶ Excellent guiding properties with electropolished cannula surface
- ▶ The notch at the mandrin head enables the position of the cannula point to be located
- ▶ The solid metal attachment of cannula and mandrin withstands the impact of a surgical hammer
- ▶ Luer Lock connection for standard syringes



▶ VerteStable® SIS

- ▶ Ergonomical design and self-explanatory handling
- ▶ Operation with only one hand
- ▶ Significantly longer application times compared to conventional polycarbonate syringe
- ▶ Reduced risk of leakage by direct and perceptible force transfer
- ▶ Standard Luer connection for all standard vertebroplasty components



▶ VerteStable® mixing beaker & spatula

- ▶ Convenient mixing of the cement
- ▶ Effective mixing of cement components
- ▶ PMMA – resistant material



▶ VerteStable® needle holder

- ▶ Reduced radiation exposure with the safe distance
- ▶ An anaesthetic cannula can be locked with or without syringe
- ▶ No interference from x-ray shadows
- ▶ Assistance with removal of mandrin after cannula is correctly positioned
- ▶ Can be used for easy removal of cannula after application of cement



BonOs® Inject



BonOs® Inject is a PMMA bone cement that is specifically adjusted to the individual requirements of spine surgery.

By these characteristics it is suitable for Vertebroplasty, Kyphoplasty as well as for the augmentation of pedicle screws.

Long application time

Both components dash quickly to a homogenous paste with the right viscosity for percutaneous injection. After a short mixing time, the surgeon has sufficient time for the transfer of BonOs® Inject in the application instruments followed by a long application time.

21°C*	
Mixing	Filling of the application instruments and waiting time
Application	Hardening
Max. Time	0,5 ▶ 5,0 ▶ 7,5 ▶ 9,0 ▶
[Min.]*	▶ 0 ▶ 22 ▶

Temperature-Time-chart (e.g. 21°C) *For further information see the Instructions for Use
 Test conditions: Application needle: ø3 mm, length 120 mm, Syringe capacity: 1 ml

Initially high viscosity for rapid application

The composition of the polymers ensures a high initial cohesion and therefore reduces the risk of cement leakage. After a short waiting time the cement attains an ideal viscosity for application. BonOs® Inject can be used for Vertebroplasty, Kyphoplasty as well as for the augmentation of pedicle screws.

High radiopacity

The addition of zirconium dioxide (ZrO₂) allows an optimal X-ray visualization of BonOs® Inject for a safe use.



X-ray Images Cadaver Tests
 © PD Dr. K. Wilhelm, Bonn

Good mechanical properties

The composition of BonOs® Inject guarantees optimized mechanical properties which exceed the respective requirements of the ISO 5833 standard.

Thanks to its ideal viscosity, BonOs® Inject can be used with all currently approved PMMA cements application tools.

VerteStable® Sets

ARTICLE	CONTENT	ART.-NO.
VerteStable® mini 3,00 (11G) x 125 mm	2	458030
VerteStable® mini 3,00 (11G) x 150 mm	2	458031
VerteStable® classic 3,00 (11G) x 125 mm	1	458032
VerteStable® classic 3,00 (11G) x 150 mm	1	458033
VerteStable® advanced 3,00 (11G) x 125mm	1	458034
VerteStable® advanced 3,00 (11G) x 150mm	1	458035

VerteStable® Components

ARTICLE	CONTENT	ART.-NO.
VerteStable® SIS	5	458040
VerteStable® CIS	2	458041
VerteStable® Somix® 2.0	2	458042
VerteStable® cannula 3,00 (11G) x 125 mm	25	458043
VerteStable® cannula 3,00 (11G) x 150 mm	25	458044
VerteStable® mixing beaker & spatula	10	458045

BonOs® Inject

ARTICLE	CONTENT	ART.-NO.
BonOs® Inject CE-Version	1 x 24g	01-0310
BonOs® Inject FDA-Version	1 x 24g	01-0309



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BonOs® Inject



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