B BRAUN
SHARING EXPERTISE

SPINE SURGERY

AESCULAP® CeSPACE® TITANIUM

ANTERIOR CERVICAL INTERBODY FUSION SYSTEM

SURGICAL TECHNIQUE

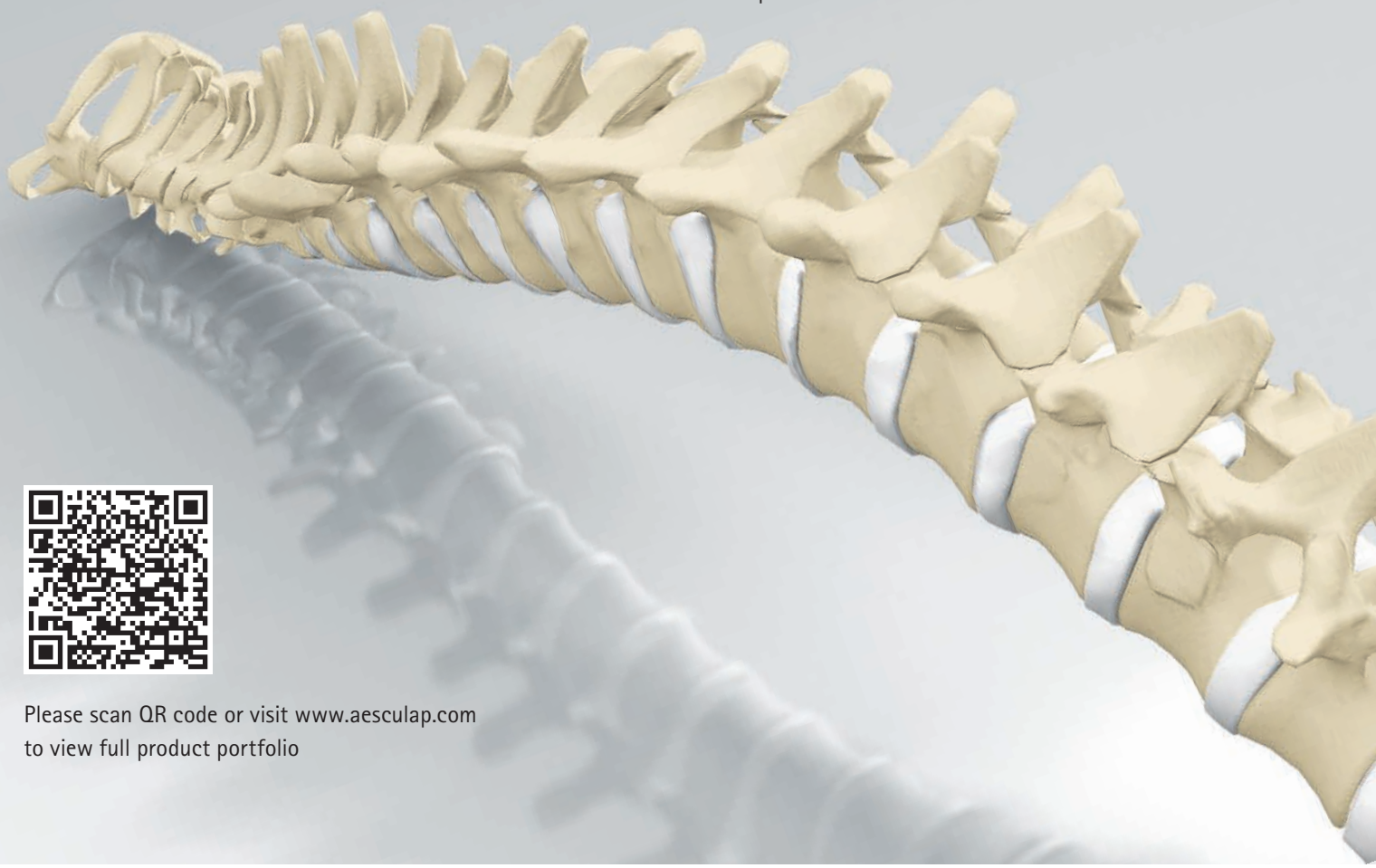
AESCULAP® CERVICAL SPINE

PROTECTING AND PRESERVING SPINAL STABILITY

Modern lifestyle has resulted in increasing physical inactivity among people all over the world. Of the many medical problems associated with this, spinal disorders are among the most critical. This is even more significant as the spinal column is one of the most important structures in the human body. It supports and stabilizes the upper body and is the center of our musculoskeletal system, which gives the body movement.

Our work in the field of spine surgery is dedicated to protecting the spinal column and preserving its stability. We support spine surgeons with durable, reliable products and partner services for proven procedures and good clinical outcomes (1-10).

Our philosophy of sharing expertise with healthcare professionals and patients allows us to develop innovative implant and instrument systems that help to preserve stability and stabilize the cervical and thoracolumbar spine.



Please scan QR code or visit www.aesculap.com to view full product portfolio

AESCULAP® CeSPACE® TITANIUM

CONTENT

AESCULAP® CeSPACE® TITANIUM

PHILOSOPHY

CeSPACE® TITANIUM is a spacer used for cervical interbody fusion.

It is indicated for stabilization of the cervical spine C2-T1 through anterior approach, monosegmental and multisegmental.

CeSPACE® TITANIUM IS DESIGNED TO DELIVER

- PRIMARY STABILITY (11).
- RESTORATION OF THE NATURAL DISC HEIGHT (6).
- SEGMENTAL LORDOTIC CORRECTION (12).

IMPLANT MATERIAL

Fig. 1

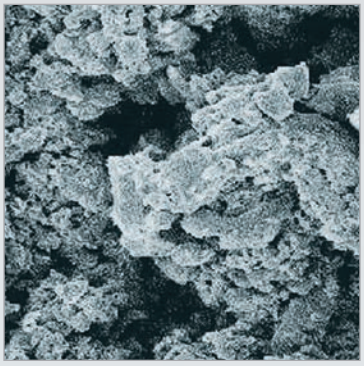


Fig. 2

The heart of this implant is a solid titanium alloy core (Ti6Al4V acc. to ISO 5832-3). The core is mantled with the proven PLASMAPORE® coating to increase the contact area between implant and endplate (11–14).

PLASMAPORE® is a pure titanium coating (Ti / ISO 5832-2) which allows ingrowth of bone due to its balanced relationship between pore depth, porosity and roughness (11–13).

Using a special manufacturing procedure, the implant surface is sprayed with pure titanium powder. Molten titanium particles settle on the core of the implant where they cool rapidly, building a firm form-lock between coating and core (Fig. 1).

In this way, each layer of the coating is built up and a favorable surface for bone ingrowth is created (7, 14) (Fig. 2).

AIM OF THE PLASMAPORE® COATING

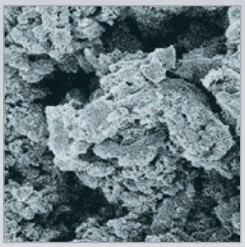
- **Primary Stability**
  The increased surface roughness of the PLASMAPORE® coating contributes to the primary stability of the motion segment (11).
- **Secondary Stability**
  Bone growth into the coating is enabled due to the supportive features of PLASMAPORE®, which leads to bone fusion between the adjacent vertebras with the implant (7, 14).

The coating concept, which has been proven as a result of many years of use in the field of hip prosthetics, is widely used in spinal surgery (11–13).

IMPLANT FEATURES

PLASMAPORE® COATING

- High primary stability due to roughened surface which increases migration resistance and mechanical strength (11).
- High secondary stability due to bone ongrowth and ingrowth into the PLASMAPORE® structure (7, 14).



IMPLANT DESIGN

- Fixation crown for a firm implant fit and high primary stability (11, 15).
- Favorable ration between contact area and opening (11, 15).
- Option of filling with bone or bone substitute to enhance bone bridging.

IMPLANT VARIETY

- Adequate range of sizes to enable the choice of implant size to fit the patient.

INSTRUMENT DESIGN

- Specifically designed and clearly arranged instruments.

AESCULAP® CeSPACE® TITANIUM

B | SURGICAL TECHNIQUE

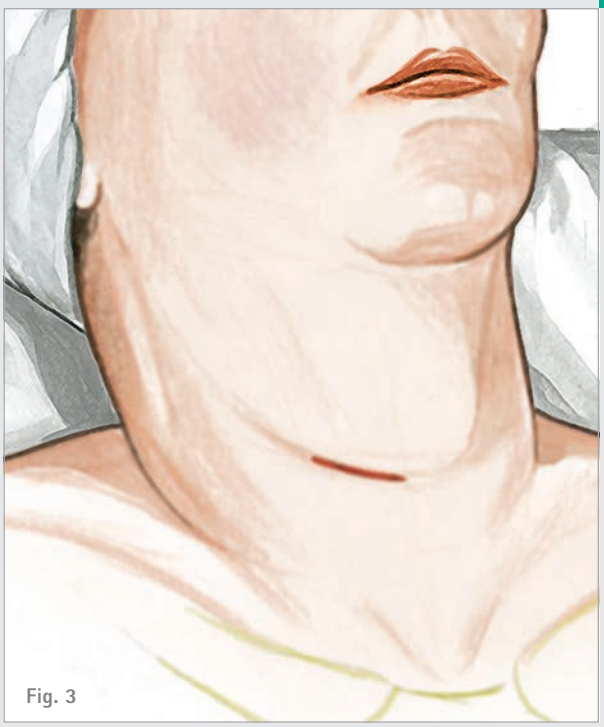


Fig. 3

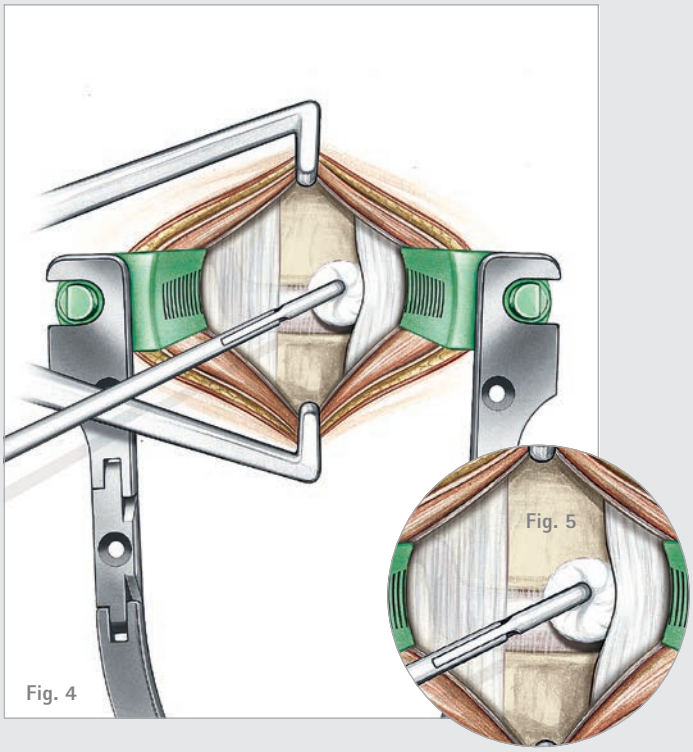


Fig. 4

Fig. 5

B.1. PATIENT POSITIONING

- The patient is placed in the supine position with the head slightly reclined (Fig. 3) and stabilized in a head holder. Once the lordotic cervical spine has been supported, the thorax may be placed on a pillow to emphasize the reclination of the cervical spine. The arms are fixed alongside the body.

B.2. EXPOSURE OF THE INTERVERTEBRAL SPACE

- After the skin incision and preparation, the CCR retractor is placed. The blades are available in PEEK and TITANIUM. A counter retractor can be used (Fig. 4/5). The subcutaneous tissue is separated from the platysma cranially, caudally and medially, and the platysma is also separated following the direction of its fibres. The margins of the platysma can be held apart with the retractor or with two surgical forceps.
- Now the medial edge of the sternocleidomastoid muscle is located and prepared with the index finger in the connective tissue space over the ventral surface of the cervical spine and under lateralization of the vascular nerve bundle and medialization of the trachea, esophagus and thyroid gland.
- After the Langenbeck hooks have been inserted, the ventral surface of the cervical spine, still covered by a thin prevertebral layer of connective tissue, is revealed. This layer can now be exposed by either a blunt scissor or alternatively through bipolar coagulation, in order to expand the tissue cranially and caudally using a swab. A wire is set under X-ray monitoring to mark the intervertebral disc space.

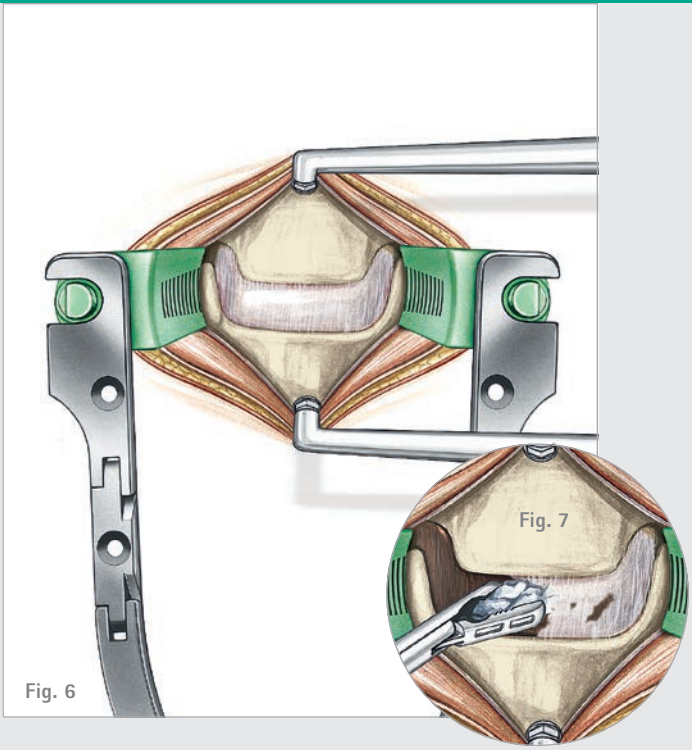


Fig. 6

B.3. DISTRACTION / DISCECTOMY / PREPARATION OF THE ENDPLATES

- The distraction screws are placed in position and the CASPAR® distractor is applied following the CASPAR® technique (Fig. 6).
- Complete discectomy is performed using various rongeurs, rectangular curettes and bone curettes (Fig. 7). While using a high speed drill to remove the posterior rim and / or dorsal osteophytes, care must be taken to avoid damaging the vertebral body endplates.

PLEASE NOTE

- Make certain that the endplates of the neighboring vertebral bodies are not weakened, in order to minimize the risk of migration.
- Make certain that the implant bed is properly prepared to avoid damage to the implant when it is driven in.

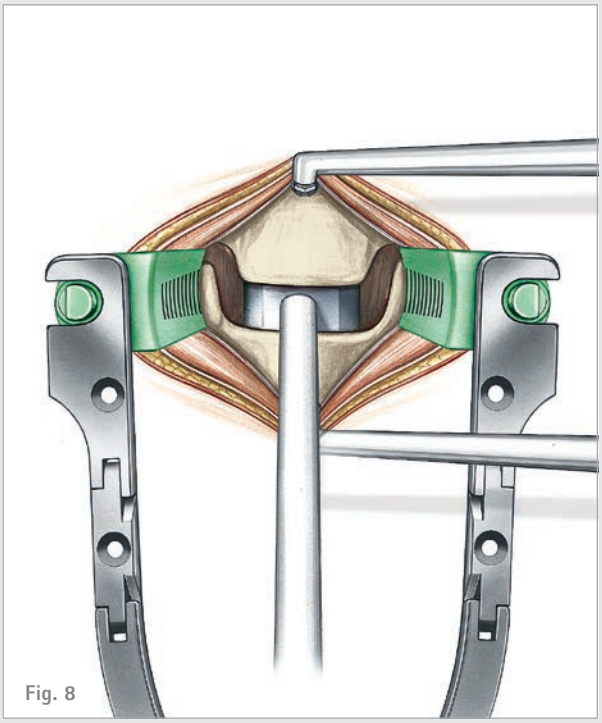


Fig. 8

B.4. IMPLANT SELECTION

- The correct implant size can be established using the trial implants (Fig. 8).
- Specific trials respecting the implant geometry are available for the CeSPACE® TITANIUM implants. Laser markings on the handle as well as on the trial itself indicate the cranial and caudal side of the trial.

DETERMINATION OF IMPLANT SIZE OF CeSPACE® TITANIUM

- The height of the CeSPACE® TITANIUM trials is inclusive of the fixation crown.

PLEASE NOTE

The trials are essential to ensure the correct implant size to be used.

AESCULAP® CeSPACE® TITANIUM

B | SURGICAL TECHNIQUE

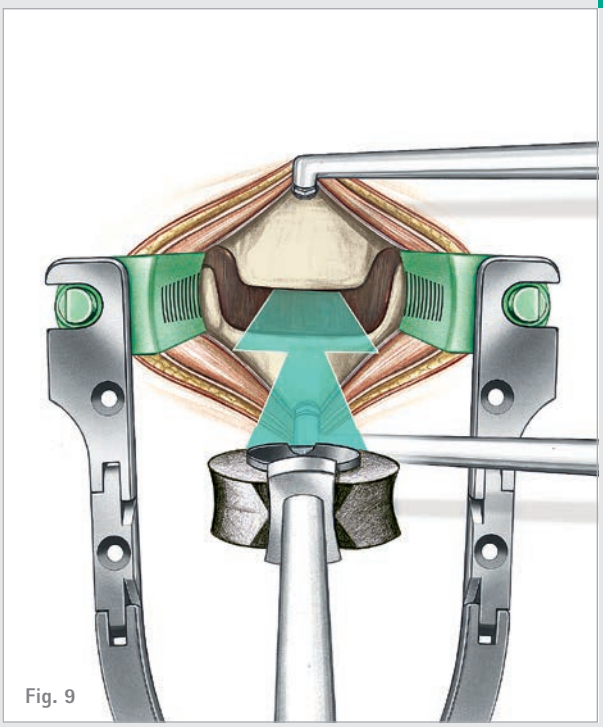


Fig. 9

B.5. FILLING OF CAGE

- The CeSPACE® TITANIUM implant is to be removed from packaging with the inserter.
- Optionally, the cage can be filled with bone or bone substitute.

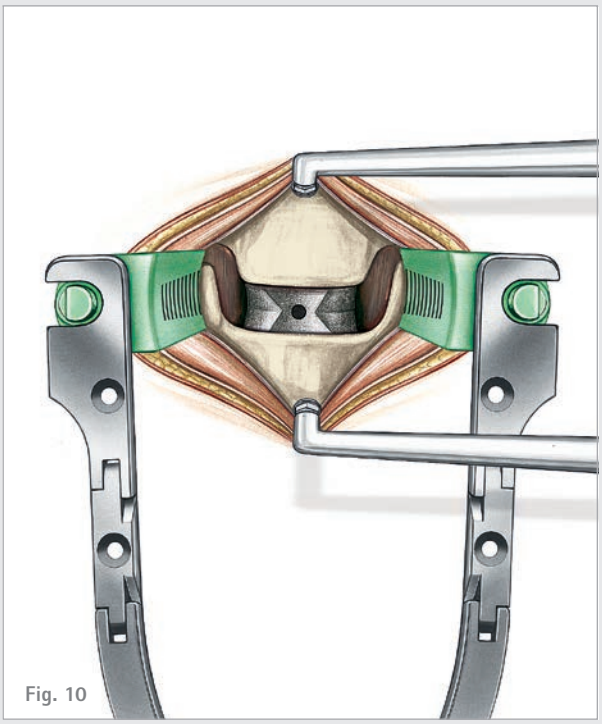


Fig. 10

B.6. CeSPACE® TITANIUM INSERTION

- The titanium implant is held securely and firmly onto the CeSPACE® TITANIUM inserter by means of a screw joint. The flexible sheath on the inserter has a stop at the front end which prevents the implant from being inserted too deeply into the intervertebral disc compartment.
- Once CeSPACE® TITANIUM is attached to the inserter, it can be introduced into the intervertebral space using image converter monitoring (Fig. 9).
- The implant should be inserted centrally in AP and with a distance of approximately 1-2 mm to both the anterior and posterior rim (Fig. 10).
- For additional stabilization, a cervical plate may be necessary.

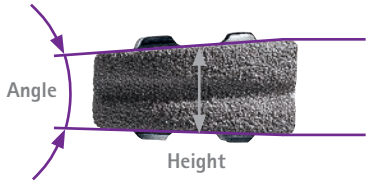
PLEASE NOTE

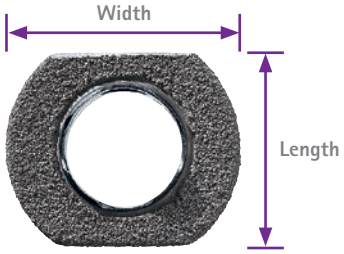
Use CeSPACE® TITANIUM inserter with depth stop sleeve.

AESCULAP® CeSPACE® TITANIUM

C | IMPLANT & INSTRUMENT OVERVIEW

CeSPACE® TITANIUM IMPLANTS, 5°





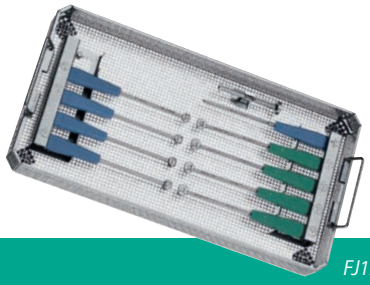
Article No.	Size (Length x Width x Height)
FJ134T	11.5 x 14 x 4 mm
FJ135T	11.5 x 14 x 5 mm
FJ136T	11.5 x 14 x 6 mm
FJ137T	11.5 x 14 x 7 mm
FJ144T	13.5 x 16 x 4 mm
FJ145T	13.5 x 16 x 5 mm
FJ146T	13.5 x 16 x 6 mm
FJ147T	13.5 x 16 x 7 mm

Implant materials

ISOTAN®$_F$ Titanium forged alloy (Ti6Al4V / ISO 5832-3)
PLASMAPORE® Pure titanium (Ti / ISO 5832-2)

The specified height for the lordotic implant refers to the average height, which means the anterior section of the implant is higher than the posterior section.
All CeSPACE® TITANIUM implants are single sterile packed.

FJ170 – CeSPACE® TITANIUM Instrumentation



FJ170
CeSPACE® TITANIUM Instrumentation

INSTRUMENTS	Article No.	Description	Quantity
	**FJ164R**	CeSPACE® TITANIUM trial implant, 5°, 14 x 4 mm, blue	1
	FJ165R	CeSPACE® TITANIUM trial implant, 5°, 14 x 5 mm, blue	1
	FJ166R	CeSPACE® TITANIUM trial implant, 5°, 14 x 6 mm, blue	1
	FJ167R	CeSPACE® TITANIUM trial implant, 5°, 14 x 7 mm, blue	1
	**FJ174R**	CeSPACE® TITANIUM trial implant, 5°, 16 x 4 mm, green	1
	FJ175R	CeSPACE® TITANIUM trial implant, 5°, 16 x 5 mm, green	1
	FJ176R	CeSPACE® TITANIUM trial implant, 5°, 16 x 6 mm, green	1
	FJ177R	CeSPACE® TITANIUM trial implant, 5°, 16 x 7 mm, green	1
	**FJ100R**	Inserter	1
	FJ171R	Storage Tray	1

Recommended container for tray FJ171R: JK440 (without perforation) / JN440 (with perforation)
Recommended lid: JK489

AESCULAP® CeSPACE® TITANIUM

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