Surgical Technique

obelisc™

vertebral body replacement

ulrich medical

100 years of reliability and German precision

Spinal systems by ulrich medical® stand for quality "Made in Germany".
They are the successful result of systematic development activities and many years of experience in medical technology.
For more than 100 years, we have done our best every day for our customers and for patient health with our proprietary and innovative products.

Leading-edge technology and competence from one source

Contents

Introduction

1

General information

This surgical technique describes the use of sterile and non-sterile packed implants.

The country-specific availability of articles must be taken into consideration.

The user has to ensure that the most current versions of the complete product materials provided as overall documentation of the system are on hand and considered. The required product materials are: system-related instructions for use, surgical technique and, if applicable, supplements, system configuration, assembly and disassembly instructions, as well as "Processing manual implants and instruments" UH 1100.

These are also available at:
www.ifu.ulrichmedical.com
A printed copy may be delivered within 7 days, upon request.

This surgical technique describes the implant, the instruments and the steps involved in the application of the obelisc system. It is not sufficient as the sole basis for a successful application of the system. It is recommended to master the surgical technique with an experienced surgeon.

The obelisc vertebral body replacement is intended for surgical reconstruction of substance defects of the anterior thoracic and lumbar spine. Defect expansion can be performed in situ with the obelisc implant. The obelisc center pieces are continuously expandable, so enabling a defect height of up to 132 mm to be bridged. Thus one or more vertebral bodies can be replaced. The required height of the obelisc implant is adjusted precisely in situ via a bevel gear drive in the inserter. The implant maintains the set height, which can only be changed by turning the bevel gear further. Final fixation is conveniently achieved using the inserter. Thanks to its space-saving expansion mechanism, the obelisc implant can be used in a minimally invasive manner.

obelisc consists of a center piece with corresponding end pieces and is available in various sizes. The different obelisc end pieces enable a maximum supporting surface. A free choice of approach is possible thanks to the variable assembly of the end pieces. The teeth on the end pieces facilitate an improved grip in the vertebral body end plates. The implant must always be used in combination with a posterior or anterior stabilization system.

The small pictures at the bottom of the page show the step-by-step application of the instruments that are used as per the surgical steps on the double page. Pictures with instruments that had been used before are colored dark gray.

CE 0123


Product no.


Product no.

Labeling, symbols and additional general information

www.ifu.ulrichmedical.com	Consult electronic instructions for use
	Caution
	Consult assembly and disassembly instructions with special cleaning instructions
MR	**MR Conditional** – A product which does not demonstrate any deliberate hazards in the specific MRI environment
CE 0123	CE mark with identification number of the notified body
STERILE R	Sterilized using irradiation
NON STERILE	Non-sterile

Information for the use of non-sterile packed implants

The article numbers for the non-sterile packed implants end without a letter "S" (example: CS 2920-17), see obelisc components "Non-sterile packed implants" pages 33-34.

MR Conditional

Non-clinical testing has demonstrated that all implant components of the obelisc system are MR conditional.
www.ifu.ulrichmedical.com For further information please refer to the respective IFU:
www.ifu.ulrichmedical.com

Information for the use of sterile packed implants

The article numbers for the sterile packed implants end with a letter "S" (example: CS 2920-17-S), see obelisc components "Sterile packed implants" pages 35-36.

Additional information for processing, assembly and disassembly

The user has to ensure that the latest version of the "Processing manual implants and instruments" UH 1100 is on hand and considered. For individual instruments which are correspondingly marked in the surgical technique, the "Assembly and disassembly instructions with special cleaning instructions" have to be considered.
www.ifu.ulrichmedical.com These are also available at:
www.ifu.ulrichmedical.com

System application

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Intended use

The obelisc vertebral body replacement is used for surgical reconstruction of substance defects of the anterior, thoracic and lumbar spine in humans.
Additional stabilizing instrumentation is necessary, for example, with a pedicle screw-rod-system.

Indications

Complete or incomplete corpectomy due to destruction of a vertebral body by e.g. tumor, fracture or inflammation.

Contraindications

- Patients with acute infection, whether superficial or deep
- Patients with fever or leukocytosis
- Patients with obesity (according to WHO – World Health Organization)
- Patients with a history of material allergy or who tend to react to foreign bodies
- The physician must consider carefully before treating patients who are in a generally unfavorable medical or psychological state and who could be made worse by the procedure
- Patients with inadequate bone quality or quantity (e.g. severe osteoporosis, osteopenia, osteomyelitis)
- Pregnancy

Use of original products

Implants of the corresponding ulrich medical systems must be used exclusively with the system-specific instruments intended for this purpose, unless otherwise indicated. Connecting ulrich medical implants to implant components of other manufacturers is not permitted.

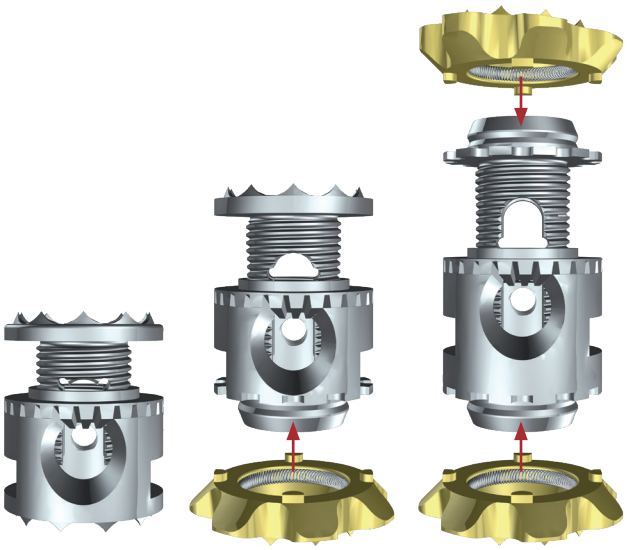
obelisc™ implants

CS 2920-17/-20/-23/-27/-32/-40/-53/-76
obelisc center piece

The center piece has a diameter of 20 mm. The smallest implant (CS 2920-17) with a height of 17 to 23 mm has two fixed end pieces. The second smallest implant (CS 2920-20) with a height of 20 to 28 mm is equipped with one fixed end piece, while the second end piece can be selected as required. For the other center pieces, both end pieces can be freely selected. The center piece defines the minimum and maximum expansion range. The range of expansion is between 17 and 132 mm. The required height can be set precisely using a bevel gear drive. The set height locks in place and is then fixed with a locking screw.

CS 2901
obelisc locking screw

The purpose of the locking screw is to fix the set height of the center piece.



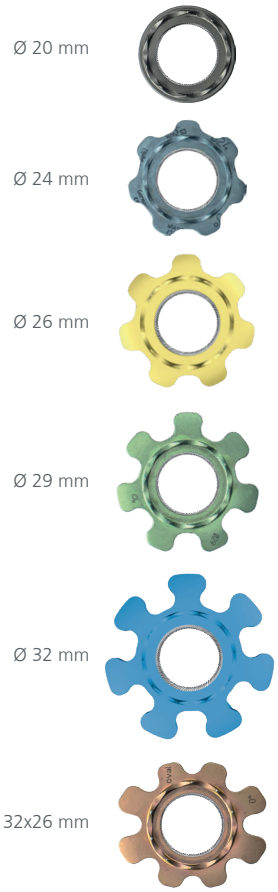
Center piece with fixed or variable end pieces

Information on sterile packed implants: To order sterile packed implants, add an "-S" to the end of the article number, see obelisc components "Sterile packed implants" pages 35-36.

obelisc™ implants

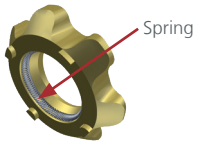
CS 2925-XX, CS 2926-XX, CS 2927-XX, CS 2928-XX, CS 2929-XX, CS 2930-XX obelisc round and oval end piece

The round end piece is available in the diameters 20 mm, 24 mm, 26 mm, 29 mm and 32 mm as well as in the angles 0°, 5°, 10° and 15°. The oval end piece is 32x26 mm in size and is available in the angles 0°, 5°, 10°, 15° and 20°. The different end piece sizes are color-coded for easy identification.



CS 2902
Spring for obelisc end piece

The spring CS 2902 is a spare part. The round and oval end pieces each come with a mounted spring.



Information on sterile packed implants: To order sterile packed implants, add an "-S" to the end of the article number, see obelisc components "Sterile packed implants" pages 35-36.

Optional

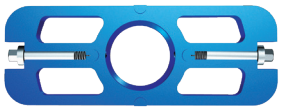
CS 2914-XX, CS 2915-XX, CS 2916-XX
obelisc lateral end piece

The rectangular end pieces are designed for the lateral approach, and each has a locking screw laterally with which the end piece is secured to the center piece. The lateral end pieces are available in the lengths 35 mm, 45 mm and 55 mm, and each is 20 mm wide. The angulations are 0°, 5°, 10° and 15°.

35x20 mm

45x20 mm

55x20 mm



Information on sterile packed implants: To order sterile packed implants, add an "-S" to the end of the article number, see obelisc components "Sterile packed implants" pages 35-36.

obelisc™ implants

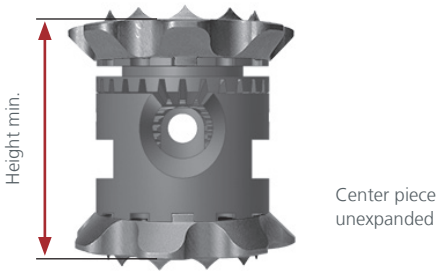
Effective heights

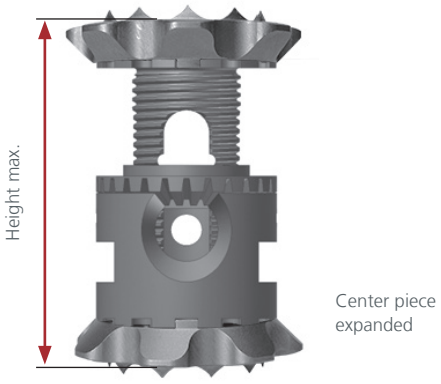
The height of the required implant is determined using the height measuring instrument CS 2936-XX-XX. The minimum and maximum heights of the center piece correspond to the height of the implant with non-angled end pieces. The effective height of the implant can be determined using the following tables.

Center pieces

Product no.	Height min. including non-angled end pieces	Height max.
CS 2920-17*	17 mm	23 mm
CS 2920-20**	20 mm	28 mm
CS 2920-23	23 mm	31 mm
CS 2920-27	27 mm	38 mm
CS 2920-32	32 mm	47 mm
CS 2920-40	40 mm	62 mm
CS 2920-53	53 mm	87 mm
CS 2920-76	76 mm	132 mm

* two fixed end pieces
** one fixed end piece, one variable end piece

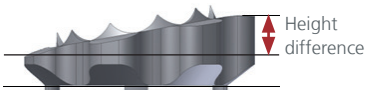




Information on sterile packed implants: To order sterile packed implants, add an "-S" to the end of the article number, see obelisc components "Sterile packed implants" pages 35-36.

The height of the end pieces depends on the respective angulation. Depending on the selected end piece, the height difference of angled end pieces should be added to the height of the center piece.

Example: the unexpanded center piece CS 2920-32 has a height of 32 mm. When using two end pieces Ø 24 mm with angulation 5° (CS 2926-05), add 2x 2 mm to the height of the center piece in order to determine the total height. Thus the total height of the implant is: 32 mm + 2x 2 mm = 36 mm



Round and oval end pieces

Product no.	End piece size	End piece angulation	Height difference
CS 2925-05	Ø 20 mm	5°	2 mm
CS 2925-10	Ø 20 mm	10°	4 mm
CS 2925-15	Ø 20 mm	15°	5 mm
CS 2926-05	Ø 24 mm	5°	2 mm
CS 2926-10	Ø 24 mm	10°	4 mm
CS 2926-15	Ø 24 mm	15°	6 mm
CS 2927-05	Ø 26 mm	5°	2 mm
CS 2927-10	Ø 26 mm	10°	4 mm
CS 2927-15	Ø 26 mm	15°	6 mm
CS 2928-05	Ø 29 mm	5°	2 mm
CS 2928-10	Ø 29 mm	10°	4 mm
CS 2928-15	Ø 29 mm	15°	6 mm
CS 2929-05	Ø 32 mm	5°	2 mm
CS 2929-10	Ø 32 mm	10°	4 mm
CS 2929-15	Ø 32 mm	15°	6 mm
CS 2930-05	32x26 mm	5°	2 mm
CS 2930-10	32x26 mm	10°	4 mm
CS 2930-15	32x26 mm	15°	6 mm
CS 2930-20	32x26 mm	20°	8 mm

Optional

Lateral end pieces

Product no.	End piece size	End piece angulation	Height difference
CS 2914-05	20x35 mm	5°	1 mm
CS 2914-10	20x35 mm	10°	4 mm
CS 2914-15	20x35 mm	15°	5 mm
CS 2915-05	20x45 mm	5°	1 mm
CS 2915-10	20x45 mm	10°	4 mm
CS 2915-15	20x45 mm	15°	5 mm
CS 2916-05	20x55 mm	5°	1 mm
CS 2916-10	20x55 mm	10°	4 mm
CS 2916-15	20x55 mm	15°	5 mm

Information on sterile packed implants: To order sterile packed implants, add an "-S" to the end of the article number, see obelisc components "Sterile packed implants" pages 35-36.

obelisc™ instruments

CS 2931-01, -06

Holder,
length 450 mm (CS 2931-01),
length 360 mm (CS 2931-06)

CS 2931-02, -07

Expansion rod,
length 450 mm (CS 2931-02),
length 360 mm (CS 2931-07)

CS 2931-03, -08

Locking rod,
length 450 mm (CS 2931-03),
length 360 mm (CS 2931-08)

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CS 2931-04

Turning knob

CS 2932-1

Handle for screwdriver, hex 3.5 mm

CS 2932-2

Shaft for screwdriver, hex 3.5 mm

CS 2933

Forceps for end pieces

CS 2936-17-20

Height measuring instrument,
for height 17 and 20 mm

CS 2936-23-27

Height measuring instrument,
for height 23 and 27 mm

CS 2936-32-40

Height measuring instrument,
for height 32 and 40 mm

CS 2936-53-76

Height measuring instrument,
for height 53 and 76 mm

CS 2937-00

Measuring instrument for end
pieces, oval 0° and 90°

CS 2937-20-24

Measuring instrument for end pieces, Ø 20 and 24 mm

CS 2937-26-29

Measuring instrument for end pieces, Ø 26 and 29 mm

CS 2937-32

Measuring instrument for end pieces, Ø 32 mm and oval 45°

Optional

CS 2256-02

Assembly Assistant

Optional

CS 2917

Measuring instrument for lateral end pieces,
20x35 mm and 20x45 mm

Optional

CS 2918

Measuring instrument for lateral end pieces, 20x55 mm

Optional

CS 2931-10

Holder curved,
length 450 mm

Optional

CS 2931-11

Expansion rod flexible,
length 450 mm

Optional

CS 2931-12

Locking rod flexible,
length 450 mm

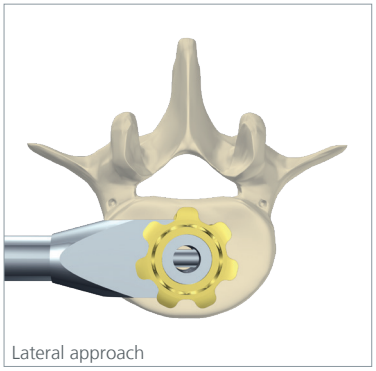
Optional

CS 2932-3

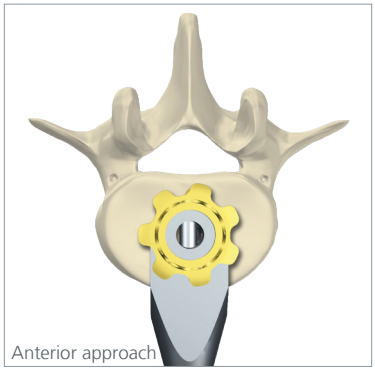
Shaft flexible for screwdriver,
hex 3.5 mm

5

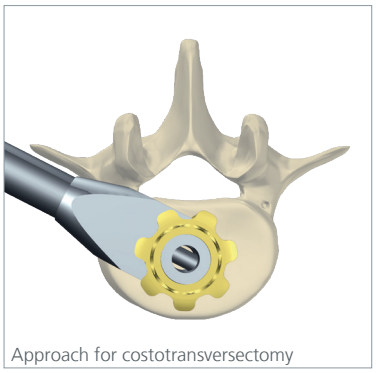
Surgical approach possibilities



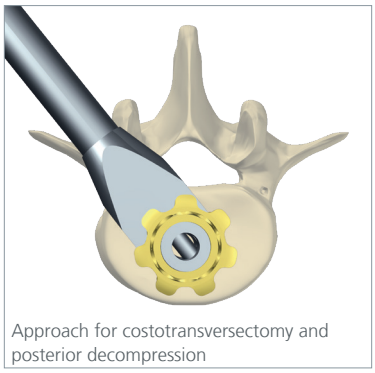
Lateral approach



Anterior approach



Approach for costotransversectomy

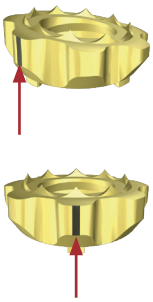


Approach for costotransversectomy and posterior decompression

Approach examples

The obelisc implantation approach can be freely selected. Any approach is possible thanks to the design of the instrument and the expansion mechanism.

The angled end pieces are secured in the required position on the center piece, depending on the selected approach.



Height marking

The highest point of the round and oval end pieces is marked with a vertical line. The end pieces can be variably mounted on the center piece, in 30-degree increments, so that they are at the required angle to the instrument, thus enabling anatomically correct placement of obelisc.

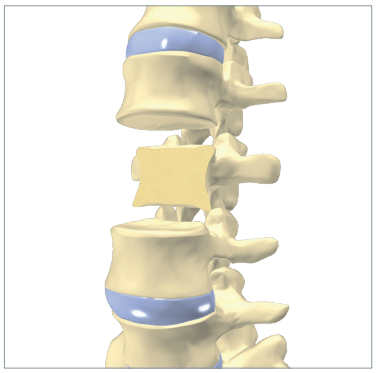
CS 2936-XX-XX

CS 2937-XX-XX

CS 2917

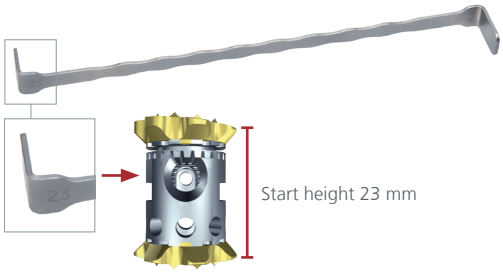
CS 2918

Surgical technique



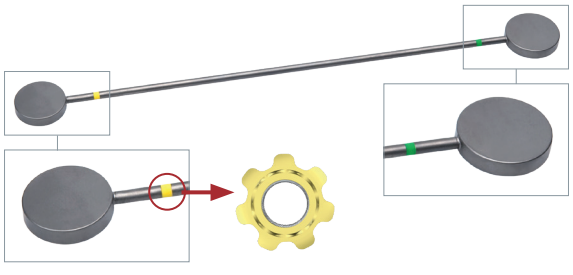
Preparation

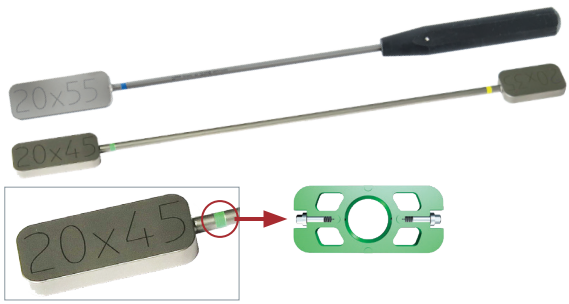
Firstly, the appropriate approach is selected. The affected spinal segment(s) is/are visualized. The vertebral body is resected together with the adjacent disks.



Implant selection

The height of the implant in its unexpanded state is determined using the height measuring instrument (CS 2936-XX-XX). The effective height of the implant can be determined using the tables on pages 10 and 11. The diameter of the round and oval end pieces can be determined using the measuring instrument for end pieces (CS 2937-XX-XX). The color marking of the instruments corresponds to the color of the respective end pieces. The required angulation of the end pieces should be calculated during the preoperative planning.



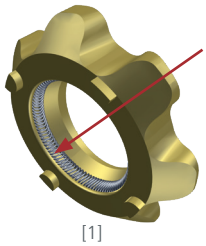


Optional

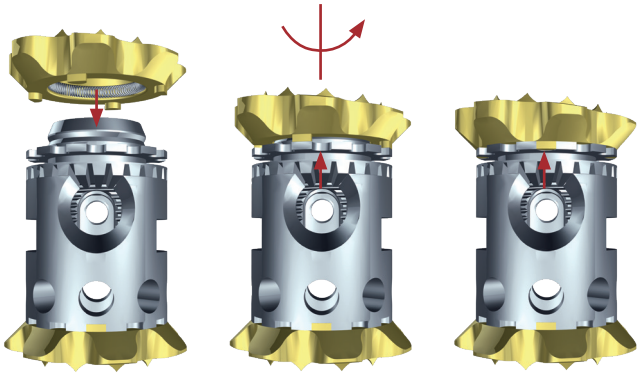
Selection of the lateral end pieces

The length of the lateral end pieces is determined using the measuring instrument for lateral end pieces (CS 2917 or CS 2918). The color marking of the instruments corresponds to the color of the respective end pieces.

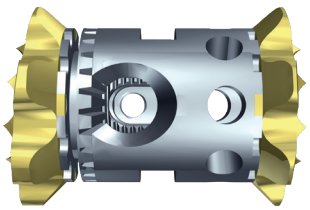
Surgical technique



[1]



[2] [3] [4]



Implant assembly

Round and oval end pieces

obelisc is assembled outside the surgical site. The round and oval end pieces are equipped with a spring for installation on the center piece. Prior to assembly, check that the spring (CS 2902) is present in the round and oval end pieces [1] and is undamaged. If the spring is damaged or missing, it must be replaced. It is important to handle it carefully. The spring should not be compressed too much.

The round and oval end pieces are now attached to the center piece [2]. It must be ensured that the lugs of the end piece are first placed parallel onto the surface [3] and then rotated to securely engage them in the recesses of the center piece [4]. The forceps (CS 2933) can be used to help assemble the end pieces.

The end pieces are fully engaged on the center piece. Depending on the anatomical requirements, end pieces with straight or angled (5°, 10°, 15° or 20°) surfaces can be fitted.

Disassembly of the implant

If required, the end piece can be released from the center piece again using a lever movement.

CS 2933

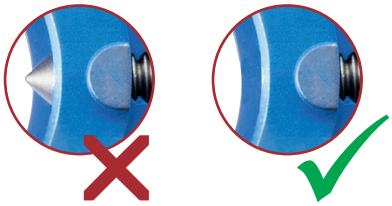
CS 2256-02

Optional

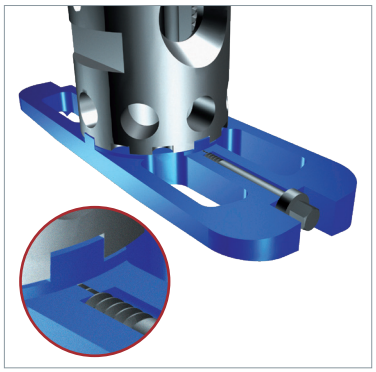
Implant assembly

Lateral end pieces

The lateral end pieces have a locking screw on two sides. Prior to assembly, check that both of the locking screws are present in the end piece. In order to attach the lateral end pieces to the center piece, the locking screws on the sides must be unscrewed with the assembly assistant (CS 2256-02) far enough to allow the lugs of the end piece to be located in the recesses on the center piece.



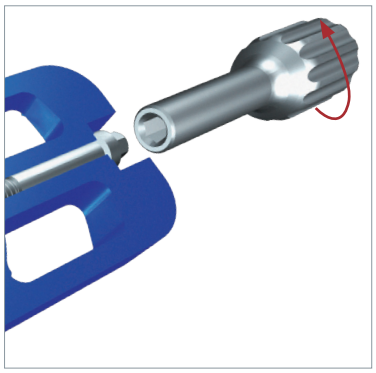
⚠ **Important:** The screws must be completely unscrewed from the central opening for the center piece in order to guarantee correct assembly of the lateral end pieces.



The end pieces are then attached to the center piece. It must be ensured that the lugs of the end pieces are securely engaged in the recesses of the center piece.

⚠ **Important:** The alignment of the lateral end pieces depends on the surgical approach. For a lateral approach, the end piece should be an extension of the instrument and be placed with the correct angulation over the entire width of the vertebral body.

Surgical technique



Tightening the locking screws

Once the lateral end pieces have been properly attached to the center piece, the locking screws on both sides of the end pieces are firmly tightened using the assembly assistant (CS 2256-02).

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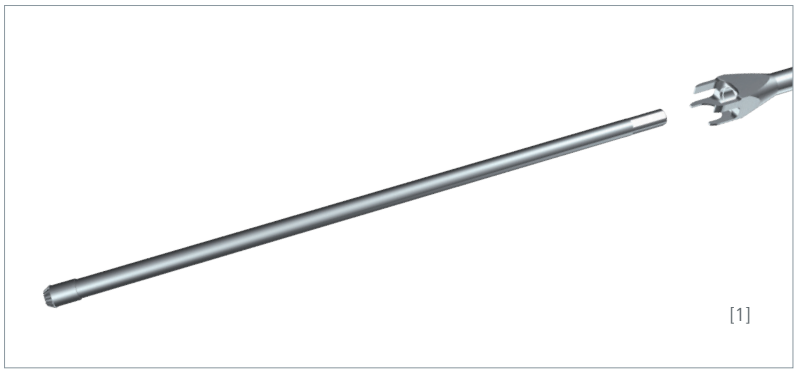


Assembling the inserter

The holder (CS 2931-01,-06) is pushed over the expansion rod (CS 2931-02, -07) [1].

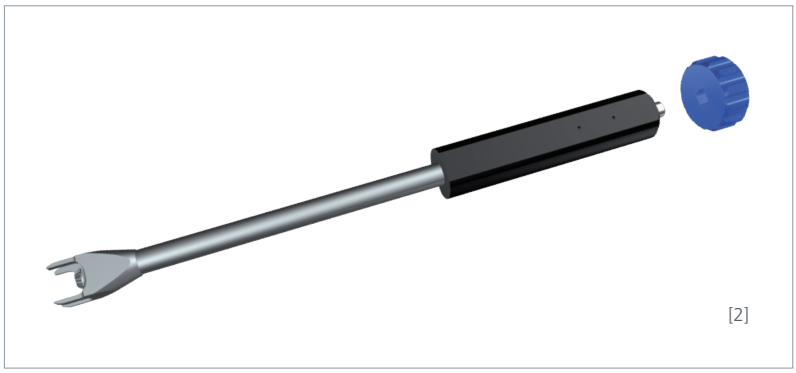

CS 2256-02


CS 2931-01, -06

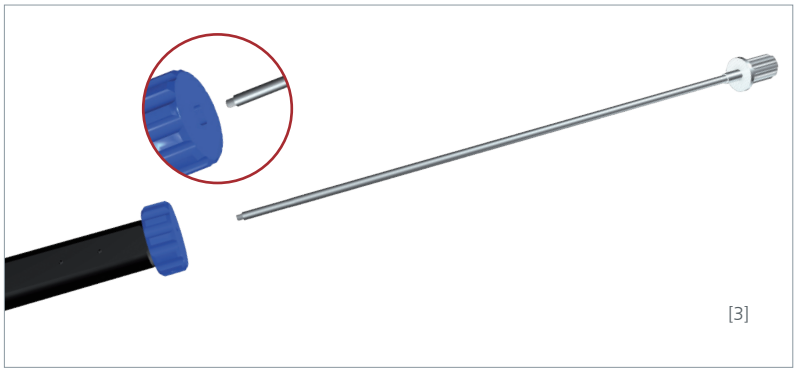

CS 2931-02, -07


CS 2931-04

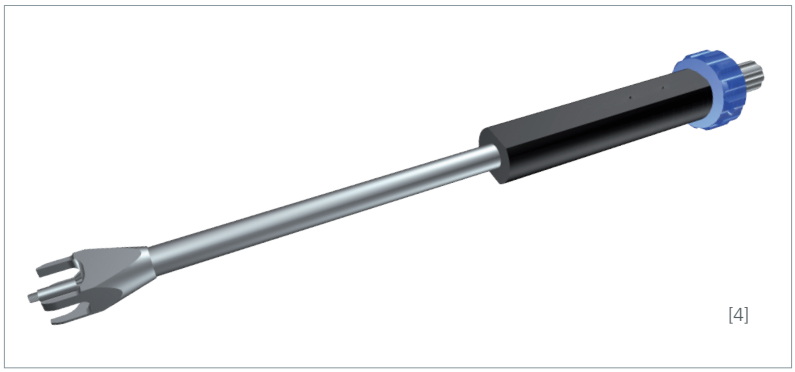

CS 2931-03, -08



[2]



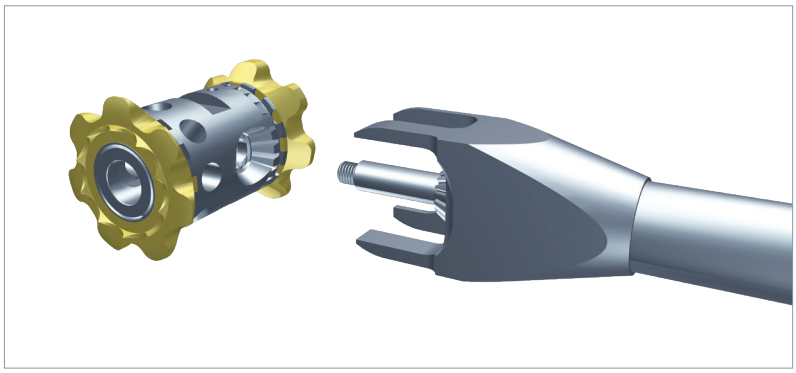
[3]

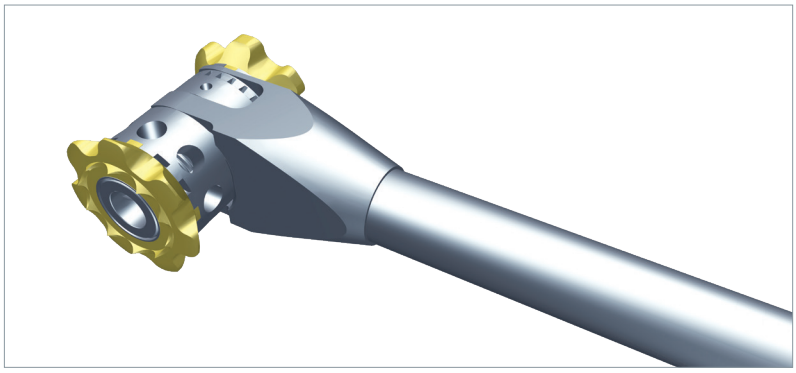


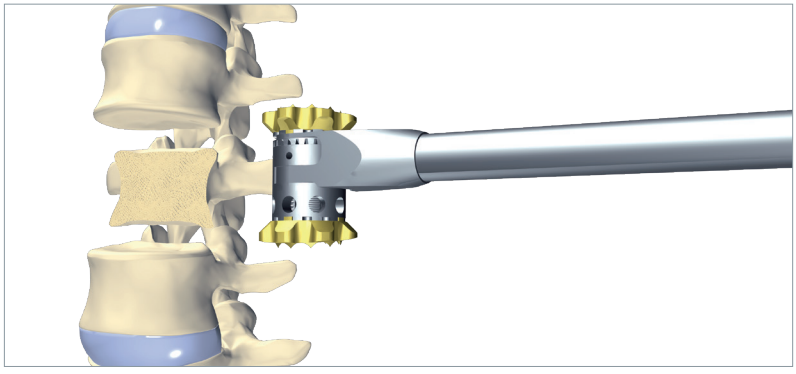
[4]

The turning knob (CS 2931-04) is attached to the back of the expansion rod [2], while securing the expansion rod at the distal working end to prevent it falling out. Then the locking rod (CS 2931-03, -08) is inserted [3]. The instrument is now fully assembled [4].

Surgical technique







Securing the inserter

The working end of the preassembled inserter is inserted fully into the lateral recesses of the center piece. Ensure that the corresponding bevel gears of the instrument and the implant are securely engaged with each other. The implant is fixed to the instrument by screwing in the locking rod (CS 2931-03, -08).

⚠ **Important:** Check that the expansion mechanism is functioning correctly and easily by rotating the turning knob (CS 2931-04) counter-clockwise (see the figure on page 21).

Implant placement

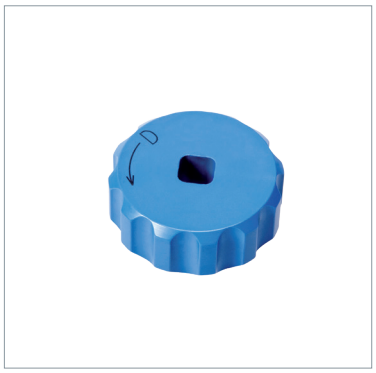
obelisc is inserted into the site.

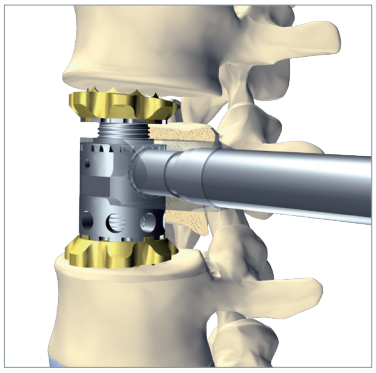
⚠ **Important:** The inserter must not be used as an impactor.

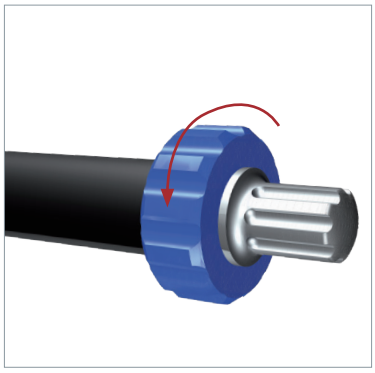
CS 2931-03, -08

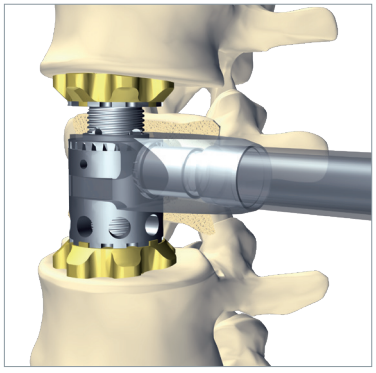
CS 2931-04

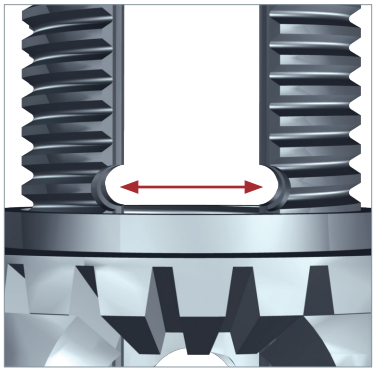
CS 2931-01, -06











Expansion

The implant is expanded by rotating the turning knob (CS 2931-04) counter-clockwise (see the arrow on the turning knob and on the holder CS 2931-01, -06).

During the expansion, check that the implant is correctly seated so as to avoid over-expansion. The position of the implant is checked by carefully pulling on the inserter toward the surgeon.

⚠ **Important:** Use C-arm control

Implant placement

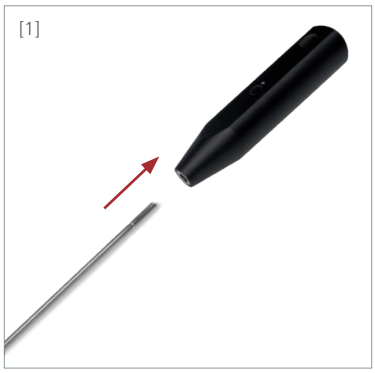
The locking rod (CS 2931-03, -08) is removed from the implant following expansion by turning it counter-clockwise and pulling it out of the inserter.

The achieved height of the implant is already secured thanks to the bevel gear drive. The slots indicate the maximum expansion width (see the arrows in the picture detail).

⚠ **Important:** Use C-arm control

Surgical technique

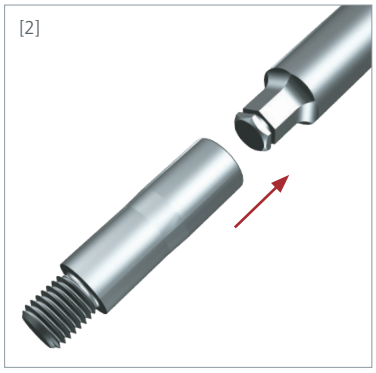
[1]



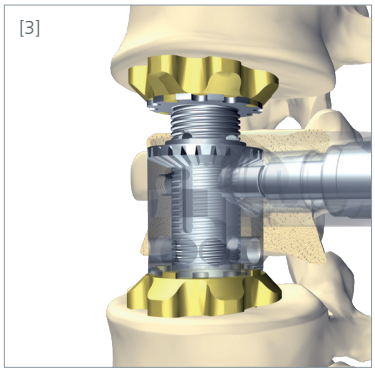
Assembling screwdriver for locking screw

In order to assemble the screwdriver, the shaft (CS 2932-2) is inserted into the handle (CS 2932-1) until it clicks into place [1]. Check that the grip is secure.

[2]



[3]



Locking the implant

The locking screw (CS 2901) is placed on the screwdriver (CS 2932-1 and CS 2932-2) [2]. The screwdriver with the locking screw is introduced through the holder (CS 2931-01, -06) and the expansion rod (CS 2931-02, -07). The center piece is additionally fixed by screwing in the locking screw in a clockwise direction [3].

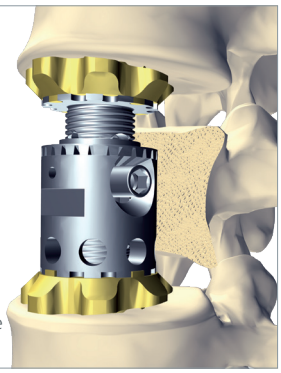
CS 2932-2

CS 2932-1

CS 2931-01/-06

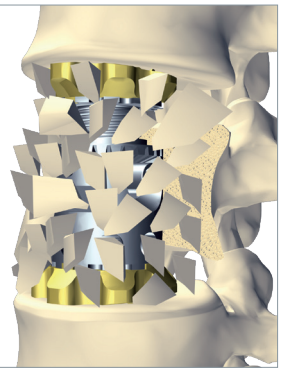
CS 2931-02/-07

[4]



Complete assembly

[5]



Removing the instruments

The screwdriver for locking screw, the holder with expansion rod and the turning knob are removed [4].

Bone grafting

In order to achieve fusion, bone or bone graft material should be grafted onto the implant. This is facilitated by the narrow design of obelisc [5].

Surgical technique

[1]

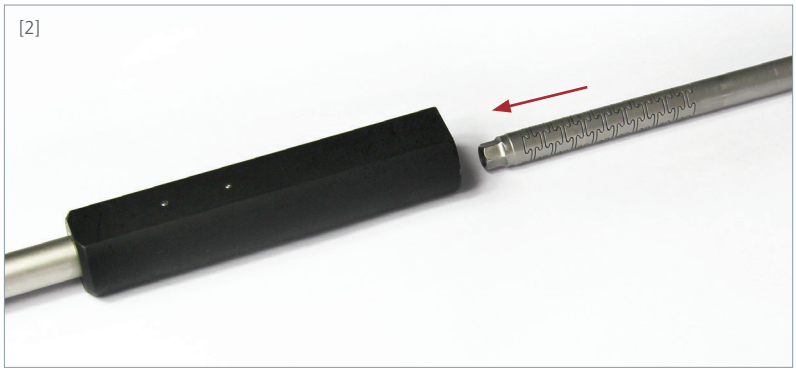
Optional

Using the inserter curved

Surgical approach possibilities

The inserter curved was specially developed for the requirements of a posterior approach for costotransversectomy.

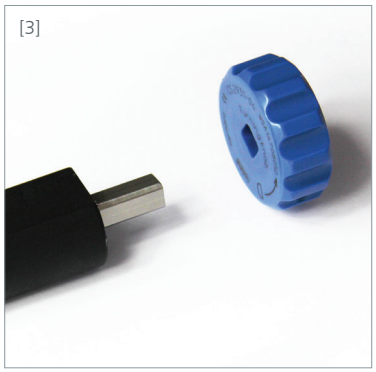
[2]



Assembling the inserter

The expansion rod flexible (CS 2931-11) is pushed into the back of the holder curved (CS 2931-10) [2]. The turning knob (CS 2931-04) is attached to the back of the expansion rod flexible (CS 2931-11) [3].

[3]



CS 2931-11

CS 2931-10

CS 2931-04

CS 2931-12

[4]

Then the locking rod flexible (CS 2931-12) is inserted [4]. The instrument is now fully assembled [1].

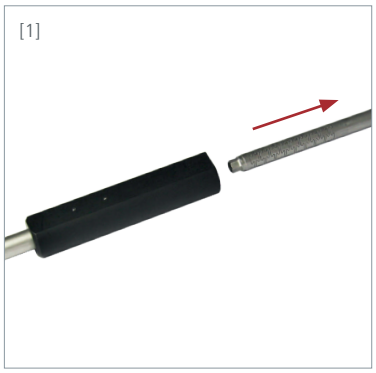
Then the following steps
- Securing the inserter
- Implant placement
- Expansion

are carried out as described on pages 20 and 21.

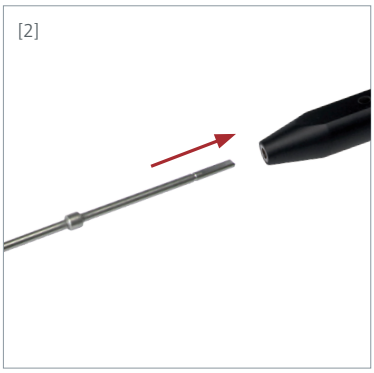
Note: The inserter curved (CS 2931-10, -11, -12 with CS 2931-04) is not designed to be used with the lateral end pieces.

Surgical technique

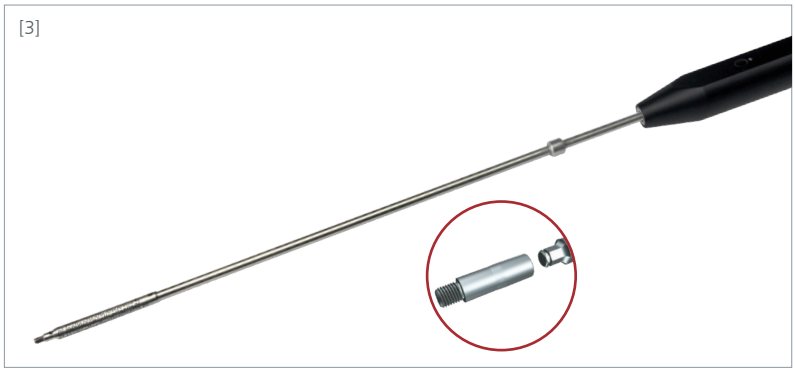
[1]



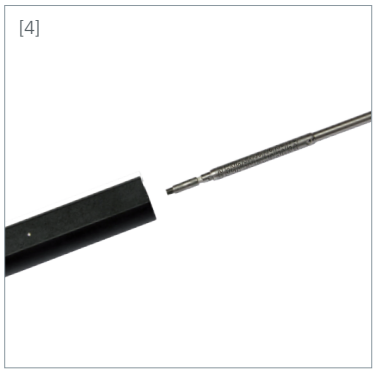
[2]



[3]



[4]



Optional

Using the inserter curved

Locking the implant

The locking rod flexible (CS 2931-12) and the expansion rod flexible (CS 2931-11) are removed from the holder curved (CS 2931-10) [1]. The shaft flexible for screwdriver (CS 2932-3) and the handle (CS 2932-1) are fitted together [2]. The obelisc locking screw (CS 2901) is placed on the shaft flexible for screwdriver (CS 2932-3) [3]. Then the shaft flexible with the locking screw is introduced through the holder curved (CS 2931-10) [4].

⚠ **Important:** The locking rod flexible (CS 2931-12) **and** the expansion rod flexible (CS 2931-11) must first be pulled out of the holder curved (CS 2931-10) (in contrast to the using the inserter straight, see page 21).

CS 2931-12

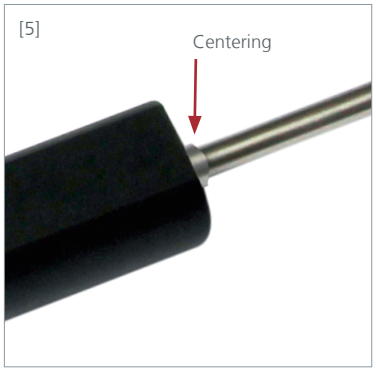
CS 2931-11

CS 2931-10

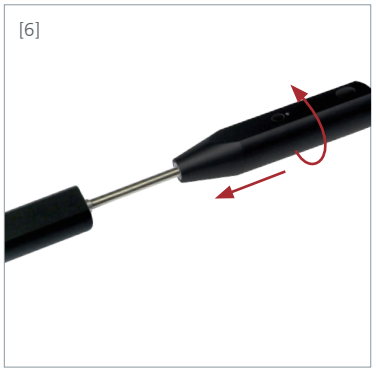
CS 2932-3

CS 2932-1

[5]



[6]

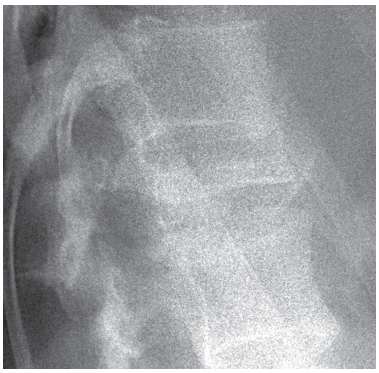


As soon as the centering [5] of the shaft flexible has been inserted into the holder curved, the handle is rotated to insert the shaft the rest of the way [6]. The center piece is then additionally fixed by screwing in the locking screw in a clockwise direction.

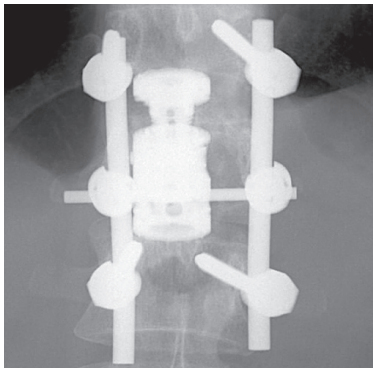
Note: Due to the flexible components of the instrument, a rubbing noise and a slight resilience of the shaft flexible may occur when the locking screw is being screwed in. These are design-related characteristics of the instrument. The function is not impaired.

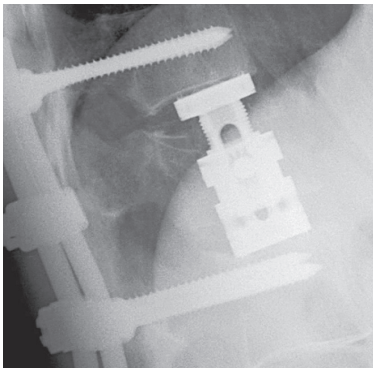
⚠ **Important:** Excessive bending of the flexible parts outside of the holder should be avoided.

Surgical technique



F, 34 years old, rotational burst fracture L1

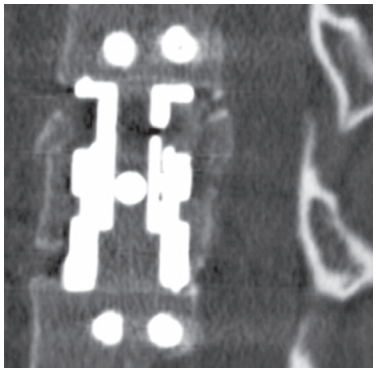


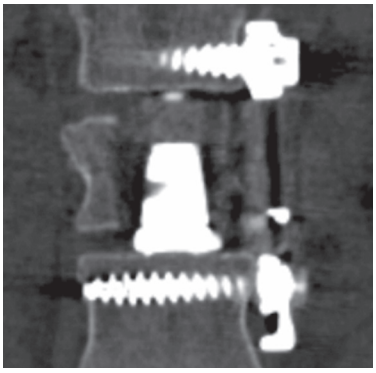


Posterior decompression and fixation, thoracoscopic anterior spinal fusion T12 to L2, vertebral body replacement L1 with obelisc

Department for Trauma Surgery, University Hospital Regensburg, Germany

F, 19 years old, incomplete cranial burst fracture T12 (A 3.1)

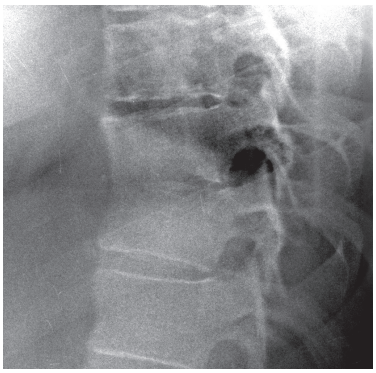




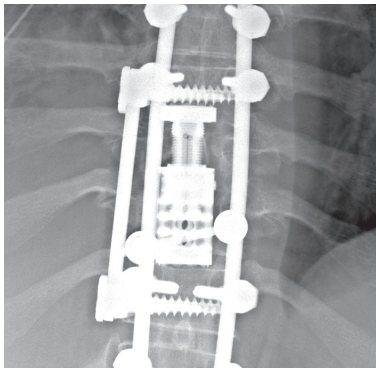
Stabilization with obelisc and plate

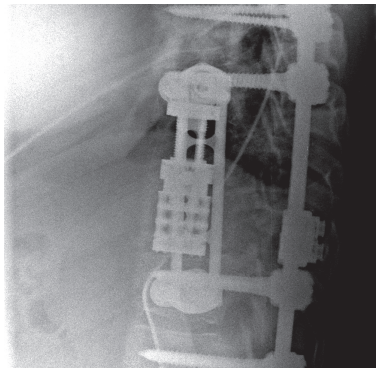
Kantonsspital Winterthur, Switzerland

Surgical technique



F, 25 years old, spondylodiscitis, T9/T10, pedicle dysplasia





Posterior stabilization T7 to T12, anterior stabilization with plate and obelisc vertebral body replacement T9 and T10

Department of Traumatology and Reconstructive Surgery, Campus Virchow Klinikum, Charité, Berlin, Germany

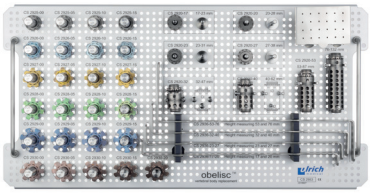
Implant removal

Removal of the implant

The implant is not intended for removal unless there are complications, implant failure or a delayed healing phase (no fusion within 2 years). If an implant removal is necessary, the doctor must specify the procedure individually for each patient.

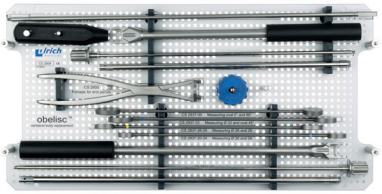
obelisc™ trays

When using non-sterile packed implants



CS 2953

Layer for obelisc implants



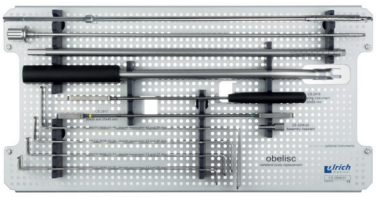
CS 2954

Layer for obelisc instruments

CS 2912-01

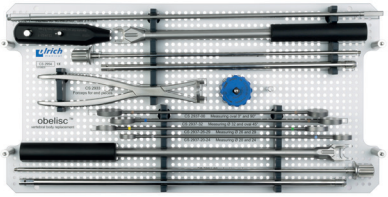
Layer 1 for obelisc lateral end piece, implants and instruments

When using sterile packed implants



CS 2954-01

Layer for obelisc instruments



CS 2954

Layer for obelisc instruments

obelisc™ components

Non-sterile packed implants	Product no.
obelisc locking screw	CS 2901
Spring for obelisc end piece	CS 2902
obelisc center piece, Ø 20 mm, height 17-23 mm, two fix end pieces	CS 2920-17
obelisc center piece, Ø 20 mm, height 20-28 mm, one fix end piece, one variable end piece	CS 2920-20
obelisc center piece, Ø 20 mm, height 23-31 mm, two variable end pieces	CS 2920-23
obelisc center piece, Ø 20 mm, height 27-38 mm, two variable end pieces	CS 2920-27
obelisc center piece, Ø 20 mm, height 32-47 mm, two variable end pieces	CS 2920-32
obelisc center piece, Ø 20 mm, height 40-62 mm, two variable end pieces	CS 2920-40
obelisc center piece, Ø 20 mm, height 53-87 mm, two variable end pieces	CS 2920-53
obelisc center piece, Ø 20 mm, height 76-132 mm, two variable end pieces	CS 2920-76
obelisc end piece, grey, Ø 20 mm, angle 0°	CS 2925-00
obelisc end piece, grey, Ø 20 mm, angle 5°	CS 2925-05
obelisc end piece, grey, Ø 20 mm, angle 10°	CS 2925-10
obelisc end piece, grey, Ø 20 mm, angle 15°	CS 2925-15
obelisc end piece, light blue, Ø 24 mm, angle 0°	CS 2926-00
obelisc end piece, light blue, Ø 24 mm, angle 5°	CS 2926-05
obelisc end piece, light blue, Ø 24 mm, angle 10°	CS 2926-10
obelisc end piece, light blue, Ø 24 mm, angle 15°	CS 2926-15
obelisc end piece, yellow, Ø 26 mm, angle 0°	CS 2927-00
obelisc end piece, yellow, Ø 26 mm, angle 5°	CS 2927-05
obelisc end piece, yellow, Ø 26 mm, angle 10°	CS 2927-10
obelisc end piece, yellow, Ø 26 mm, angle 15°	CS 2927-15
obelisc end piece, green, Ø 29 mm, angle 0°	CS 2928-00
obelisc end piece, green, Ø 29 mm, angle 5°	CS 2928-05
obelisc end piece, green, Ø 29 mm, angle 10°	CS 2928-10
obelisc end piece, green, Ø 29 mm, angle 15°	CS 2928-15
obelisc end piece, blue, Ø 32 mm, angle 0°	CS 2929-00
obelisc end piece, blue, Ø 32 mm, angle 5°	CS 2929-05
obelisc end piece, blue, Ø 32 mm, angle 10°	CS 2929-10
obelisc end piece, blue, Ø 32 mm, angle 15°	CS 2929-15
obelisc end piece, bronze, oval, 32x26 mm, angle 0°	CS 2930-00
obelisc end piece, bronze, oval, 32x26 mm, angle 5°	CS 2930-05
obelisc end piece, bronze, oval, 32x26 mm, angle 10°	CS 2930-10
obelisc end piece, bronze, oval, 32x26 mm, angle 15°	CS 2930-15
obelisc end piece, bronze, oval, 32x26 mm, angle 20°	CS 2930-20

obelisc™ components

Optional

Non-sterile packed implants	Product no.
obelisc lateral end piece, yellow, length 35 mm, angle 0°	CS 2914-00
obelisc lateral end piece, yellow, length 35 mm, angle 5°	CS 2914-05
obelisc lateral end piece, yellow, length 35 mm, angle 10°	CS 2914-10
obelisc lateral end piece, yellow, length 35 mm, angle 15°	CS 2914-15
obelisc lateral end piece, green, length 45 mm, angle 0°	CS 2915-00
obelisc lateral end piece, green, length 45 mm, angle 5°	CS 2915-05
obelisc lateral end piece, green, length 45 mm, angle 10°	CS 2915-10
obelisc lateral end piece, green, length 45 mm, angle 15°	CS 2915-15
obelisc lateral end piece, blue, length 55 mm, angle 0°	CS 2916-00
obelisc lateral end piece, blue, length 55 mm, angle 5°	CS 2916-05
obelisc lateral end piece, blue, length 55 mm, angle 10°	CS 2916-10
obelisc lateral end piece, blue, length 55 mm, angle 15°	CS 2916-15

Sterile packed implants	Product no.
obelisc locking screw, sterile	CS 2901-S
obelisc center piece, sterile, Ø 20 mm, height 17-23 mm, two fix end pieces	CS 2920-17-S
obelisc center piece, sterile, Ø 20 mm, height 20-28 mm, one fix end piece, one variable end piece	CS 2920-20-S
obelisc center piece, sterile, Ø 20 mm, height 23-31 mm, two variable end pieces	CS 2920-23-S
obelisc center piece, sterile, Ø 20 mm, height 27-38 mm, two variable end pieces	CS 2920-27-S
obelisc center piece, sterile, Ø 20 mm, height 32-47 mm, two variable end pieces	CS 2920-32-S
obelisc center piece, sterile, Ø 20 mm, height 40-62 mm, two variable end pieces	CS 2920-40-S
obelisc center piece, sterile, Ø 20 mm, height 53-87 mm, two variable end pieces	CS 2920-53-S
obelisc center piece, sterile, Ø 20 mm, height 76-132 mm, two variable end pieces	CS 2920-76-S
obelisc end piece, sterile, grey, Ø 20 mm, angle 0°	CS 2925-00-S
obelisc end piece, sterile, grey, Ø 20 mm, angle 5°	CS 2925-05-S
obelisc end piece, sterile, grey, Ø 20 mm, angle 10°	CS 2925-10-S
obelisc end piece, sterile, grey, Ø 20 mm, angle 15°	CS 2925-15-S
obelisc end piece, sterile, light blue, Ø 24 mm, angle 0°	CS 2926-00-S
obelisc end piece, sterile, light blue, Ø 24 mm, angle 5°	CS 2926-05-S
obelisc end piece, sterile, light blue, Ø 24 mm, angle 10°	CS 2926-10-S
obelisc end piece, sterile, light blue, Ø 24 mm, angle 15°	CS 2926-15-S
obelisc end piece, sterile, yellow, Ø 26 mm, angle 0°	CS 2927-00-S
obelisc end piece, sterile, yellow, Ø 26 mm, angle 5°	CS 2927-05-S
obelisc end piece, sterile, yellow, Ø 26 mm, angle 10°	CS 2927-10-S
obelisc end piece, sterile, yellow, Ø 26 mm, angle 15°	CS 2927-15-S
obelisc end piece, sterile, green, Ø 29 mm, angle 0°	CS 2928-00-S
obelisc end piece, sterile, green, Ø 29 mm, angle 5°	CS 2928-05-S
obelisc end piece, sterile, green, Ø 29 mm, angle 10°	CS 2928-10-S
obelisc end piece, sterile, green, Ø 29 mm, angle 15°	CS 2928-15-S
obelisc end piece, sterile, blue, Ø 32 mm, angle 0°	CS 2929-00-S
obelisc end piece, sterile, blue, Ø 32 mm, angle 5°	CS 2929-05-S
obelisc end piece, sterile, blue, Ø 32 mm, angle 10°	CS 2929-10-S
obelisc end piece, sterile, blue, Ø 32 mm, angle 15°	CS 2929-15-S
obelisc end piece, sterile, bronze, oval, 32x26 mm, angle 0°	CS 2930-00-S
obelisc end piece, sterile, bronze, oval, 32x26 mm, angle 5°	CS 2930-05-S
obelisc end piece, sterile, bronze, oval, 32x26 mm, angle 10°	CS 2930-10-S
obelisc end piece, sterile, bronze, oval, 32x26 mm, angle 15°	CS 2930-15-S
obelisc end piece, sterile, bronze, oval, 32x26 mm, angle 20°	CS 2930-20-S

obelisc™ components

Optional

Sterile packed implants	Product no.
obelisc lateral end piece, sterile, yellow, length 35 mm, angle 0°	CS 2914-00-S
obelisc lateral end piece, sterile, yellow, length 35 mm, angle 5°	CS 2914-05-S
obelisc lateral end piece, sterile, yellow, length 35 mm, angle 10°	CS 2914-10-S
obelisc lateral end piece, sterile, yellow, length 35 mm, angle 15°	CS 2914-15-S
obelisc lateral end piece, sterile, green, length 45 mm, angle 0°	CS 2915-00-S
obelisc lateral end piece, sterile, green, length 45 mm, angle 5°	CS 2915-05-S
obelisc lateral end piece, sterile, green, length 45 mm, angle 10°	CS 2915-10-S
obelisc lateral end piece, sterile, green, length 45 mm, angle 15°	CS 2915-15-S
obelisc lateral end piece, sterile, blue, length 55 mm, angle 0°	CS 2916-00-S
obelisc lateral end piece, sterile, blue, length 55 mm, angle 5°	CS 2916-05-S
obelisc lateral end piece, sterile, blue, length 55 mm, angle 10°	CS 2916-10-S
obelisc lateral end piece, sterile, blue, length 55 mm, angle 15°	CS 2916-15-S

Instruments	Product no.
Holder, length 450 mm	CS 2931-01
Expansion rod, length 450 mm	CS 2931-02
Locking rod, length 450 mm	CS 2931-03
Turning knob	CS 2931-04
Holder, length 360 mm	CS 2931-06
Expansion rod, length 360 mm	CS 2931-07
Locking rod, length 360 mm	CS 2931-08
Handle for screwdriver, hex 3.5 mm	CS 2932-1
Shaft for screwdriver, hex 3.5 mm	CS 2932-2
Forceps for end pieces	CS 2933
Height measuring instrument, for height 17 and 20 mm	CS 2936-17-20
Height measuring instrument, for height 23 and 27 mm	CS 2936-23-27
Height measuring instrument, for height 32 and 40 mm	CS 2936-32-40
Height measuring instrument, for height 53 and 76 mm	CS 2936-53-76
Measuring instrument for end pieces, oval 0° and 90°	CS 2937-00
Measuring instrument for end pieces, Ø 20 and 24 mm	CS 2937-20-24
Measuring instrument for end pieces, Ø 26 and 29 mm	CS 2937-26-29
Measuring instrument for end pieces, Ø 32 mm and oval 45°	CS 2937-32

Optional

Instruments	Product no.
Assembly Assistant	CS 2256-02
Measuring instrument for lateral end pieces, 20x35 mm and 20x45 mm	CS 2917
Measuring instrument for lateral end pieces, 20x55 mm	CS 2918
Holder curved, length 450 mm	CS 2931-10
Expansion rod flexible, length 450 mm	CS 2931-11
Locking rod flexible, length 450 mm	CS 2931-12
Shaft flexible for screwdriver, hex 3.5 mm	CS 2932-3

Notes

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