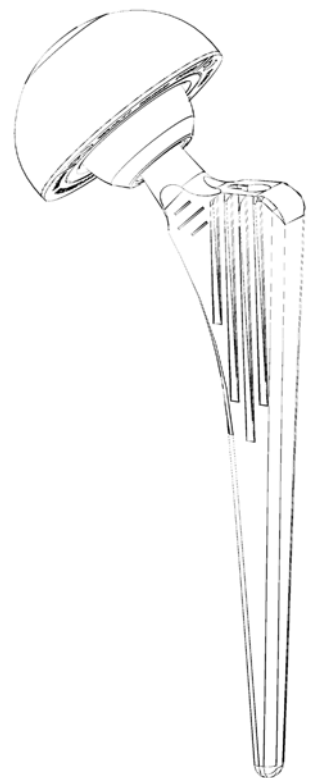
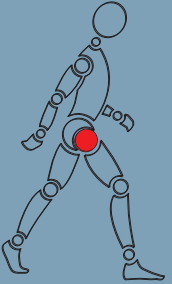




Costa Stem *(standard / lateral)*

Surgical technique
by Professor Dr. med. Georg Köster



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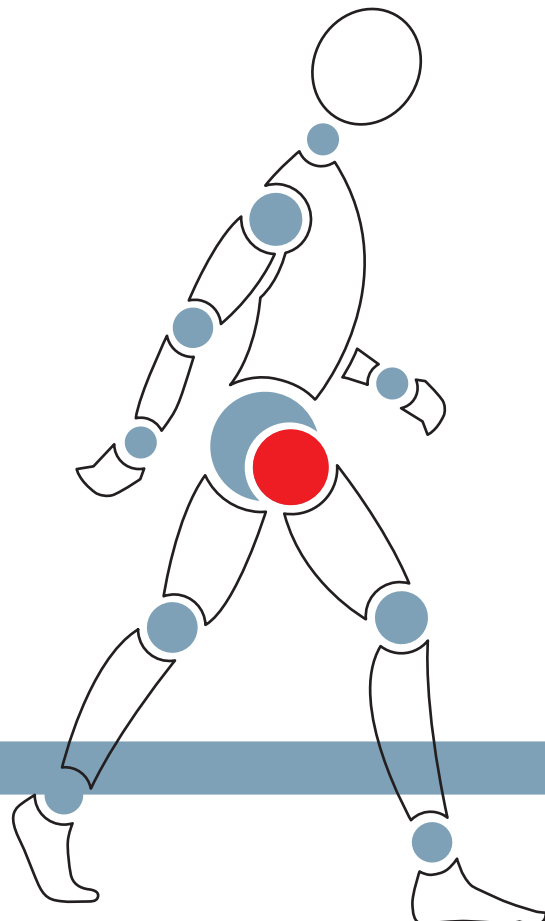
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1. Introduction

The Costa Stem is a modern conical straightstem with a Ti6Al7Nb forged alloy. The external form has been optimised according to biometric measurements.

The clinical concept from the cementless anchoring with metaphysial application of force is approved for more than 30 years and could be integrated and implemented with other perceptions in a innovative product.

Two different Offset versions allow an anatomically adapted reconstruction and with that a corresponding setting of lever and muscle forces.

The Costa Stem standard and lateral is available in 10 sizes which allow a suitable supply with different femur sizes.

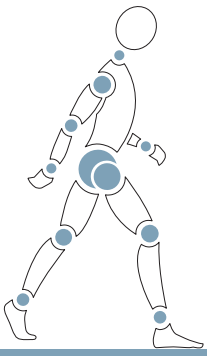
With the named characteristics the Costa Stem connect a classical anchoring concept with the newest perceptions of the cementless hip arthroplasty.

Professor Dr. med. Georg Köster, Lorsch



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2. System description

Prosthesis design

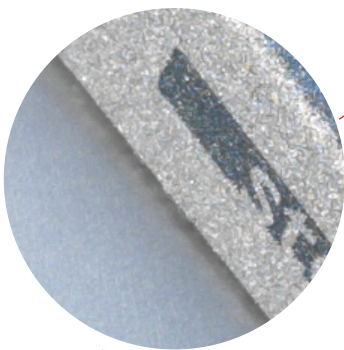
- standard and lateralised design
- 12/14 Eurocone
- Material: forged alloy Ti6Al7Nb, ISO 5832-11
- Corundum-blasted surface with a roughness Ra of 4 - 6 μm

Costa Stem standard

- 10 Größen (1-10)
- CCD angle 135°

Costa Stem lateral

- 10 sizes (1-10)
- CCD angle 126°



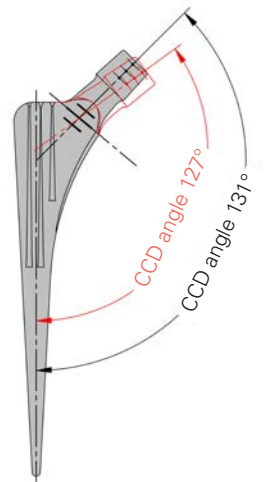
The Costa Stem system is manufactured from a titanium alloy Ti6AlNb (ISO 5832-11). The corundum-blasted surface has a roughness Ra of 4-6 μm .

Calcarbow

The special shaping from the calcarbow is in this range good for the langstreckige application of force. The facet allow an anatomically adapted form to the medial cortical bone.

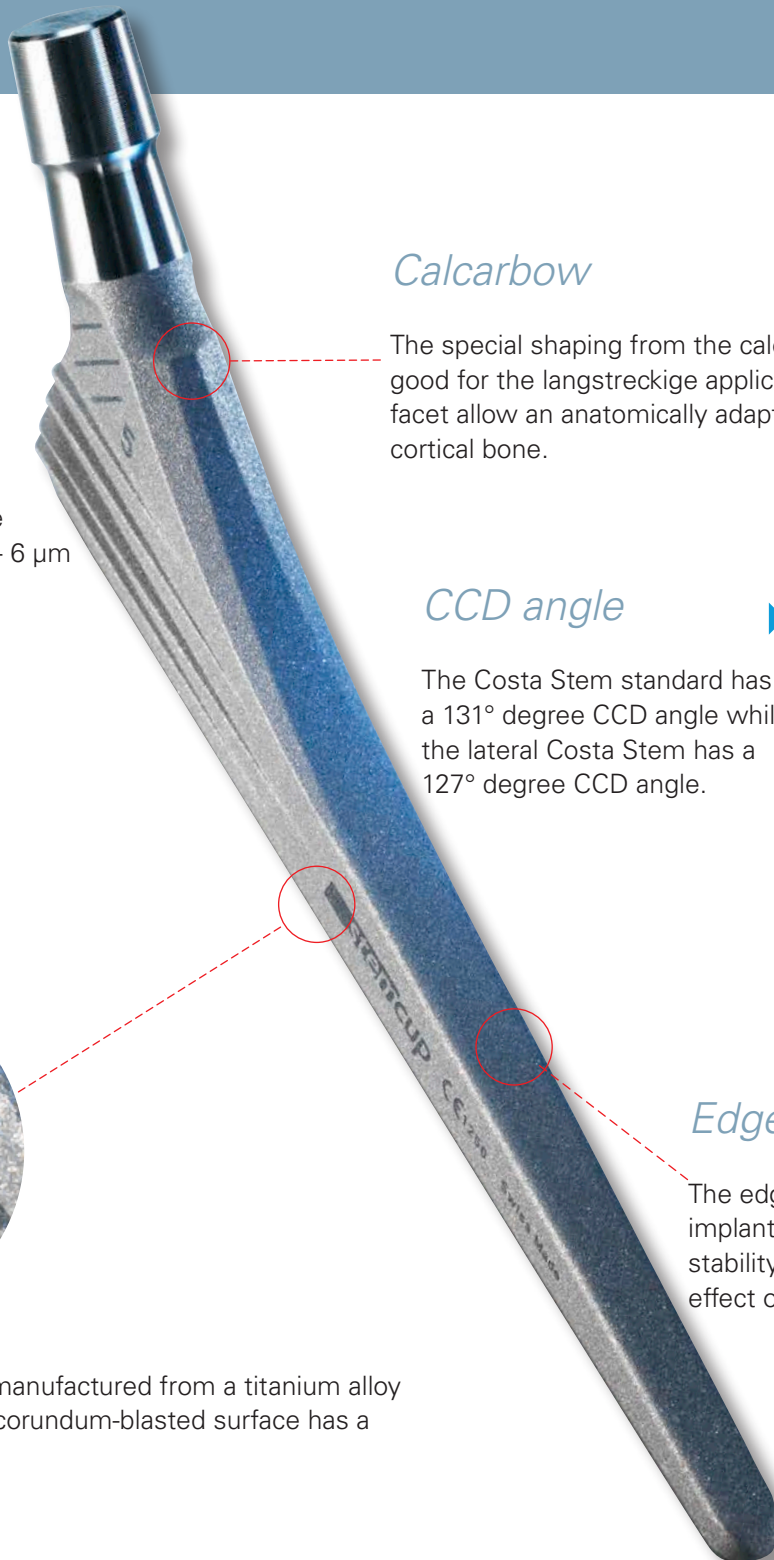
CCD angle

The Costa Stem standard has a 131° degree CCD angle while the lateral Costa Stem has a 127° degree CCD angle.



Edge radius

The edge radius from the implant saved the rotation stability and prevent the stress effect on the cortical bone.





2. System description



Base body from the Costa Stem

The base body from the stem is lateral wider than medial and the trapezoid-shaped profile is adjusted with the anatomical form from a proximal medullary space.

Ribs

The ribs in the metaphyseal area are arranged parallel. These ribs amplify the stability of the rotation and lead to a surface enlargement.

Both improves the primary stability and also the secondary osseointegration from the implant.

The form of the ribs allow an impaction from the spongiosa and also a lancing into harder and bony structures. The danger from a bone sprinkling is reduced.

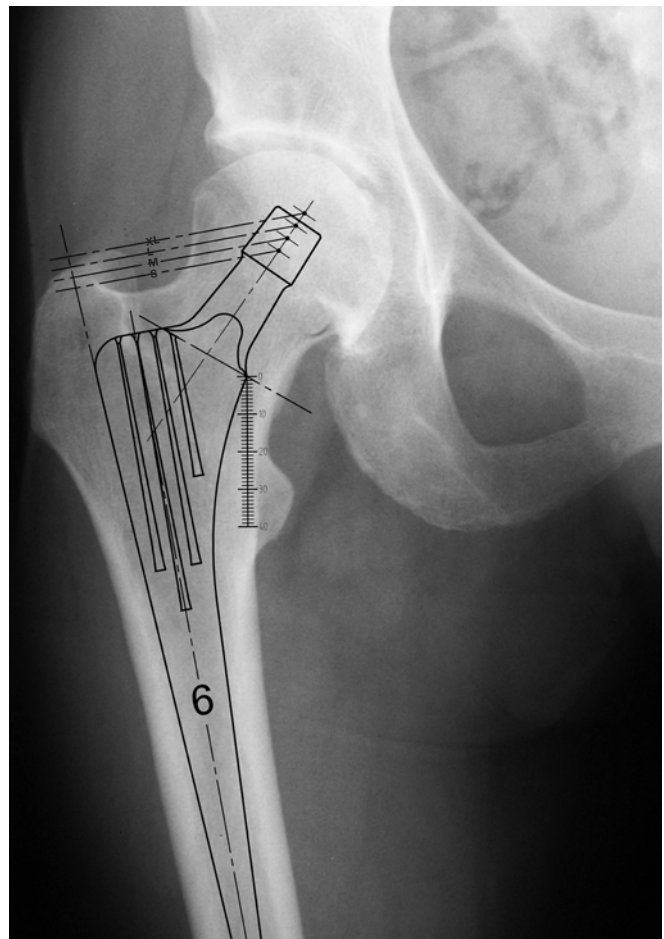
The distance between the ribs allow an engraftment of the bones in the critical scope.

The quantity and the length of the ribs grows with the increase in size of the stem.

3. Preoperative Planning

Using the available X-ray templates, it is possible to plan the stem size, the stem position as well as the resection height.

The X-ray films are also available in digital formats.



4. Surgical technique

4.1 Box chisel

Open the medullary canal with the box chisel.



4.2 Rasp handle

1. Rasp the femur stepwise to the suitable implant size.

2. Detach the adapter from the rasp by pressing the lever.



4.3 Stem trial

The rasp serves as trial implant.
Additional marks of the resection level on the rasp enable to ascertain which length must have the trial head.

1. Put on the trial taper.
There is a choice of trial tapers for the Costa Stem standard (CCD angle 135°) or Costa Stem lateral (CCD angle 126°)
Wahlweise Manipuliererkonus für Costa Schaft standard (CCD-Winkel 135°) Costa Schaft lateral (CCD-Winkel 126°).
2. Put a trial head on the rasp. (ø28 mm, ø32 mm, ø36 mm and ø40 mm in different neck length.)
3. Perform a trial reduction.
4. Put on the rasp handle and knock out the rasp.



4.4 Inserterion of the original stem

1. Screw the setting device into the costa stem.
2. Insert the original stem with the setting device.
Additional marks of the resection level on the rasp enable to ascertain which length must have the trial head.
(The protective cap should remain on the taper when the stem is driven in).



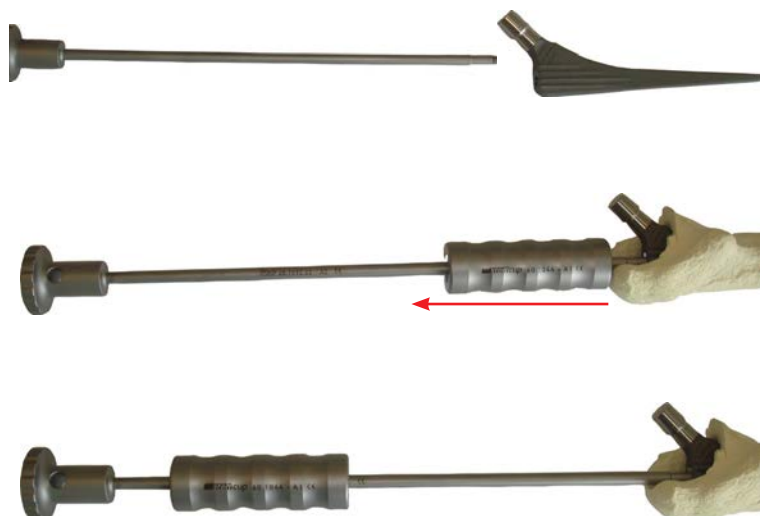
4.5 Femoral head impactor

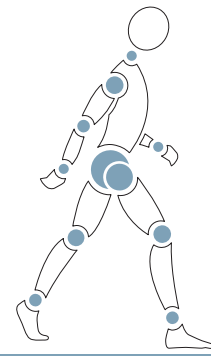
1. Screw the impactor attachment onto the impactor.
2. Put on the femoral head.
3. Fix the head by lightly tapping on the mounted impactor. (Alternatively, the femoral head can be fixed by rotating it clockwise.)



4.6 Removal the original

1. Screw the threaded rod for setting device into the stem.
2. Knock out the stem by use of the slide weight to the threaded rod.





5. Ordering information

5.1 Implants

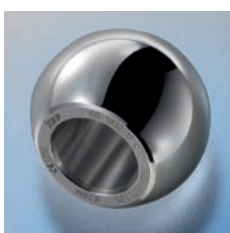


Costa Stem (standard / lateral)

Size	Costa Stem standard	Costa Stem lateral
1	110.00.01	111.00.01
2	110.00.02	111.00.02
3	110.00.03	111.00.03
4	110.00.04	111.00.04
5	110.00.05	111.00.05
6	110.00.06	111.00.06
7	110.00.07	111.00.07
8	110.00.08	111.00.08
9	110.00.09	111.00.09
10	110.00.10	111.00.10

Ceramic femoral heads

Ceramic femoral heads Stemox, BIOLOX[®]forte, BIOLOX[®]delta und BIOLOX[®]OPTION are available in diameters ø28 mm, ø32 mm, ø36 mm and ø40 mm in sizes S, M and L (XL in BIOLOX[®]delta und BIOLOX[®]OPTION). In case of a possible replacement, a BIOLOX[®]OPTION femoral head should be used. Ceramic/ceramic pairs only from the same manufacturer may be used.



Metal femoral heads

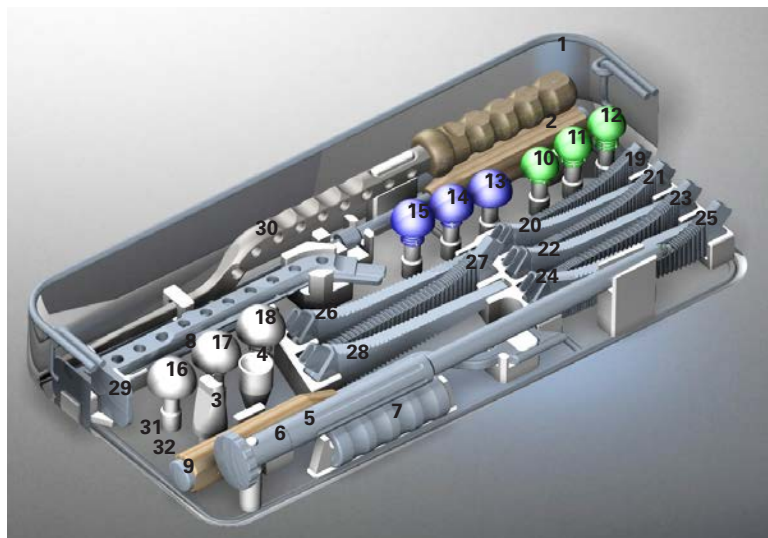
Metal femoral heads are available in diameters ø28 mm, ø32 mm, ø36 mm and ø40 mm in sizes S, M, L, XL and XXL.

Sterility

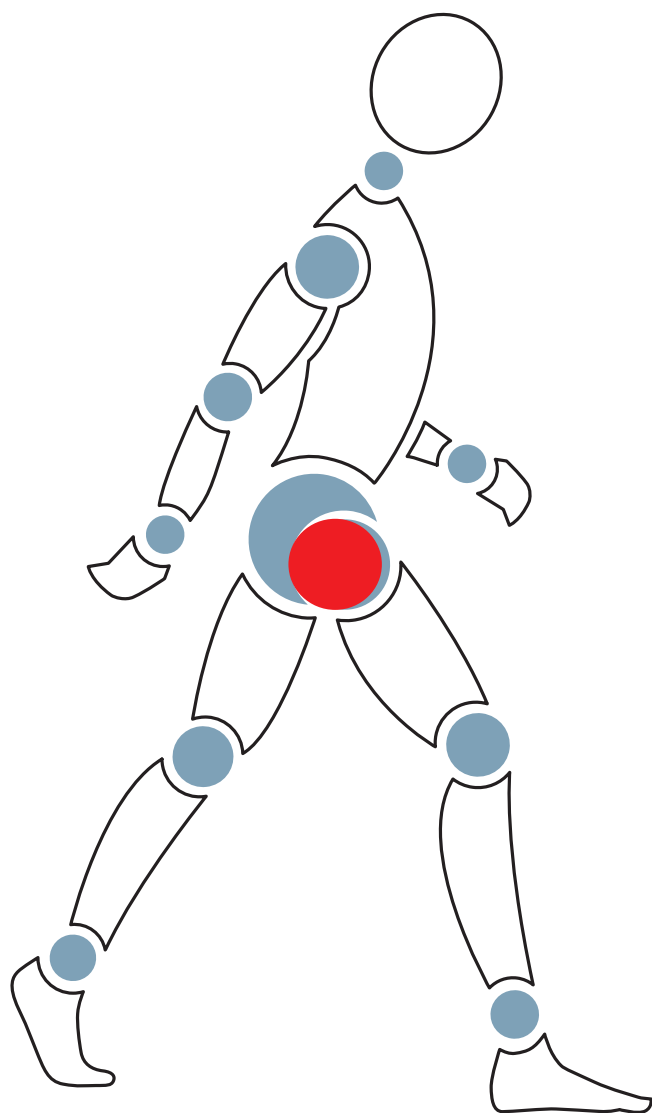
The instruments and tray items are supplied non-sterile. Prior to use, they should be sterilised by usual methods in autoclaves in accordance with the hospital guidelines. The correct settings such as sterilisation temperature and cycle time should be taken from the user manual of the autoclave manufacturer. Instrument manufacturers and sellers assume no responsibility for the sterilisation of products by the buyer.

5.2 Instruments, trial rasp tray - Costa Stem

Pos.	Ref. No.	Description	Pos.	Ref. No.	Description
1	60.110.800.01-80	Empty tray with inserts	17	60.36.12	Trial head 36 M for stem taper
2	60.1006	Impactor handle	18	60.36.13	Trial head 36 L for stem taper
3	60.1007	Impactor attachment - stem	19	1960.110.01	Costa Stem trial rasp, size 1
4	60.1008	Impactor attachment – ball	20	2060.110.02	Costa Stem trial rasp, size 2
5	60.1012.01	Impactor shaft	21	60.110.03	Costa Stem trial rasp, size 3
6	60.1012.02	Impactor threaded rod	22	60.110.04	Costa Stem trial rasp, size 4
7	60.1044	Slide weight for extractor	23	60.110.05	Costa Stem trial rasp, size 5
8	60.1045	Crossbar (8mm) for rasp handle	24	60.110.06	Costa Stem trial rasp, size 6
9	60.1046	MI-Box chisel	25	60.110.07	Costa Stem trial rasp, size 7
10	60.28.11	Trial head 28 S for stem taper	26	60.110.08	Costa Stem trial rasp, size 8
11	60.28.12	Trial head 28 M for stem taper	27	60.110.09	Costa Stem trial rasp, size 9
12	60.28.13	Trial head 28 L for stem taper	28	60.110.10	Costa Stem trial rasp, size 10
13	60.32.11	Trial head 32 S for stem taper	29	60.110.16	Costa Stem rasp handle
14	60.32.12	Trial head 32 M for stem taper	30	60.110.18	MI rasp lateral
15	60.32.13	Trial head 32 L for stem taper	31	60.110.19	Trial taper standard
16	60.36.11	Trial head 36 S for stem taper			



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We are there when you need us:

Switzerland Headquarters
Stemcup Medical Products AG
Aargauerstrasse 180
CH- 8048 Zürich
Tel. +41 (0)43 311 85 00
Fax. +41 (0)43 311 85 09
info@stemcup.ch
www.stemcup.ch

Germany
Stemcup Medical Products GmbH
Wallbrunnstrasse 24
D-79539 Lörrach
Tel. +49 (0) 7621 162 00 49
Fax. +49 (0) 7621 161 97 78
info@stemcup.de
www.stemcup.de

Austria
Stemcup Medical Products Austria GmbH
Schwindgasse 20/1/4
A-1040 Wien
Tel. +43 (0) 1 890 40 53
Fax. +43 (0) 1 890 40 54
info@stemcup.at
www.stemcup.at

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