CTD CEMENTED STRAIGHT STEM PROSTHESIS

ENG

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CTD CEMENTED
STRAIGHT STEM PROSTHESIS

GENERAL FEATURES

CTD Straight Stem hip prosthesis is primarily designed for use in total hip arthroplasty. 9 different stem sizes provide stronger adhesion between the prosthesis and the medullary canal using minimal cement support.

The metaphyseal region has a triangular cross-section to avoid varus force and has an anti-rotation effect. The rounded section located distal to the stem helps optimal adhesion within the medullary canal

Made of certified CoCrMo alloy in accordance with ISO 5832-4 standard

CoCrMo			
Stem Size	**Stem Diameter**	**Stem Length**	**Code**
0	6,01 mm	124 mm	10268123000
1	7,10 mm	130,5 mm	10268123001
2	8,06 mm	136,5 mm	10268123002
3	9,41 mm	142,5 mm	10268123003
4	11,20 mm	148,5 mm	10268123004
5	11,75 mm	153,5 mm	10268123005
6	12,37 mm	160 mm	10268123006
7	12,87 mm	165,5 mm	10268123007
8	13,42 mm	171 mm	10268123008

Note: Read the instructions for use carefully and if you have any questions regarding product compatibility, please contact your TIPSAN representative.

This document is intended as a guide for surgeons, but there are multiple techniques for its application and, as with any surgical procedure, the surgeon must be thoroughly trained and ensure that the procedure is appropriate for the patient.

STEM DISTAL CENTRALIZER

- PE-UHMW -CrNiMo
- Diameter : 8 mm - 10 mm - 12 mm - 14 mm - 16 mm

PE-UHMW - CrNiMo		
Diameter	**Stem Size**	**Code**
Ø8	Size 1 -2	10246007001
Ø10	Size 2 -3	10246007002
Ø12	Size 4 -5	10246007003
Ø14	Size 6 -7-8	10246007004
Ø16	Size 9 -10-11	10246007005

CEMENT PLUG

- PE-UHMW
- Diameter : 9 mm - 10 mm - 11 mm - 12 mm - 13 mm - 14 mm
  15 mm - 16 mm - 17 mm - 19 mm - 21 mm

PE-UHMW	
Diameter	**Code**
Ø9	10247007001
Ø10	10247007002
Ø11	10247007003
Ø12	10247007004
Ø13	10247007005
Ø14	10247007006
Ø15	10247007007
Ø16	10247007008
Ø17	10247007009
Ø19	10247007011
Ø21	10247007013

Surgical Technical Document

Indications

The CTD Straight Stem Hip Replacement Prosthesis is intended for use with cement in total or partial hip arthroplasty in primary surgery. The patient's condition must meet one or more of the following:

- Severe painful and/or disabling joint disease resulting from osteoarthritis, traumatic arthritis, rheumatoid arthritis, or congenital hip dysplasia,
- Avascular necrosis of the femoral head,
- Acute traumatic fracture of the femur or neck,
- Failure of previous surgical procedures such as joint reconstruction, internal fixation, arthrodesis, hemiarthroplasty, surface replacement arthroplasty, or total hip replacement,
- Specific arthrodesis status

Contraindications

Total or partial hip arthroplasty is contraindicated in the following situations:

- Acute, systemic or chronic infection.
- Muscular, neurological or vascular insufficiency in the affected limb.
- Bone destruction or loss of bone properties that may compromise the stability of the implant.
- Pathologies that may compromise the functionality of the implant in any way.

Mental or neuromuscular disorders may pose an unacceptable risk to the patient and may be a source of postoperative complications. It is the surgeon's responsibility to ensure that the patient is not allergic to the materials used.

Preoperative Planning

Careful preoperative planning is essential. It will help the operator to predetermine the size of the femoral implant in order to restore the architecture appropriate to the patient's anatomy. Additionally, using X-ray beam at a scale of 1.15:1, it will be possible to determine:

- Implant size.
- Neck cut level.
- Neck length.
- Prosthesis rotation center.

Additional Information:

The implant to be used will be selected during surgery due to possible differences between actual conditions and information obtained with X-rays.

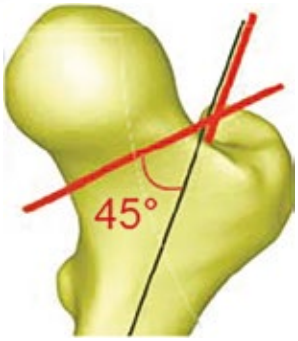
Surgical Method (Approach)

The surgery set has been developed for the posterior approach.

Femoral Neck Osteotomy

Due to the normal anteversion of the femoral neck, the remaining part of the neck should not be more than 1 cm medially for the correct axial positioning of the prosthesis.

The important point here is to open the medullary cavity in a trapezoidal shape. Use a power saw in this procedure. This procedure should reach the tip of the greater trochanter. Then the femoral head is removed using a corkscrew. The cut cancellous bone pieces are removed with the help of curettes, exposing the medullary canal.



Femoral Preparation

To access the medullary canal, the femur is held in a position that best exposes the diaphyseal axis.

Guide the chisel with a slight anteversion: This step is crucial for the correct application of the rasp and implant. This removes the cancellous bone block. If necessary, the endomedullary cancellous bone can be reamed using the metaphyseal reamer Reamer Awl, which is combined with the T-shaped handle for the reamer.

The rasps are used after assembly with the Modular Rasp Handle.

Starting from the lowest size, the rasps are tried in order, increasing until a complete locking with the bone is achieved; the first rasp used determines the position of the other rasps.

Check the anteversion of the rasp. The rasps should be placed at the optimum level determined by the 45° cut.

Check the axis and ensure cortical continuity. Care should be taken to ensure that the rasp creates a slight groove on the neck surface or the trochanteric process. If necessary, the deposits on the rasp can be cleaned.

! Never force impact when the rasp is blocked in the diaphysis. The final rasp used must be rotationally stable to ensure stability of the implant.

Attempt

After the rasp is completely locked in the diaphysis, the rasp handle is removed. There are 3 options for the acetabulum side.

- Bipolar Set
- Press Fit Cup Multi Hole Set
- Acetabular Cup Set

For proper positioning, the Test Sphere is selected from these sets and is attached by pressing on the cone of the Rasp. To facilitate the assembly of the Test Spheres, wet the sphere before assembly. After the trial placement, leg length, muscle tension, balance and range of motion should be checked.

The Test Sphere and Rasp are removed.

! To remove the Test Sphere, simply grab and pull.

Additional Information: The Prosthetic Driver should only be used for implant installation and should not be used to correct the acetabular component position.

Cement Application

For preparation, clean the excess and non-supporting cancellous bone residues in the canal with the help of Guj Curette, Spoon Curette and Spatula Curette - Swan Neck.

Mount the Bone Plug Reamer with the Plug Holder in the Bone Plug set. Starting from the smallest size, perform the reaming process until the appropriate size is determined in the medullary canal. Mount the Bone Plug Test with the Plug Holder and ensure the size control. Place the determined Bone Plug with the Plug Holder to the distal part of the canal.

Close the distal canal with the Cement Plug at least 1 cm below the stem end. Be careful when choosing the Distal Cement Plug, make sure that it can resist the pressure that the cement will apply.

Clean and dry the medullary canal. Keep the canal ready until the cement is injected.

Send the cement into the canal using the cement gun. The pressure in the cement column ensures that the cement is clamped into the cancellous bone.

Implantation

The prosthesis corresponds to the last used rasp. Be careful not to damage the micro-surface structure of the tapered part when placing the selected implant.

To ensure the centering of the stem in the canal, a Centerilizer of appropriate size is inserted into the slot underneath.

Insert the implant into the femoral cavity using the Driving Pin to push it downwards. The anteversion of the CTD Straight Stem is guided by the space left by the rasps in the femur. Under no circumstances should the implant anteversion be changed at this stage.

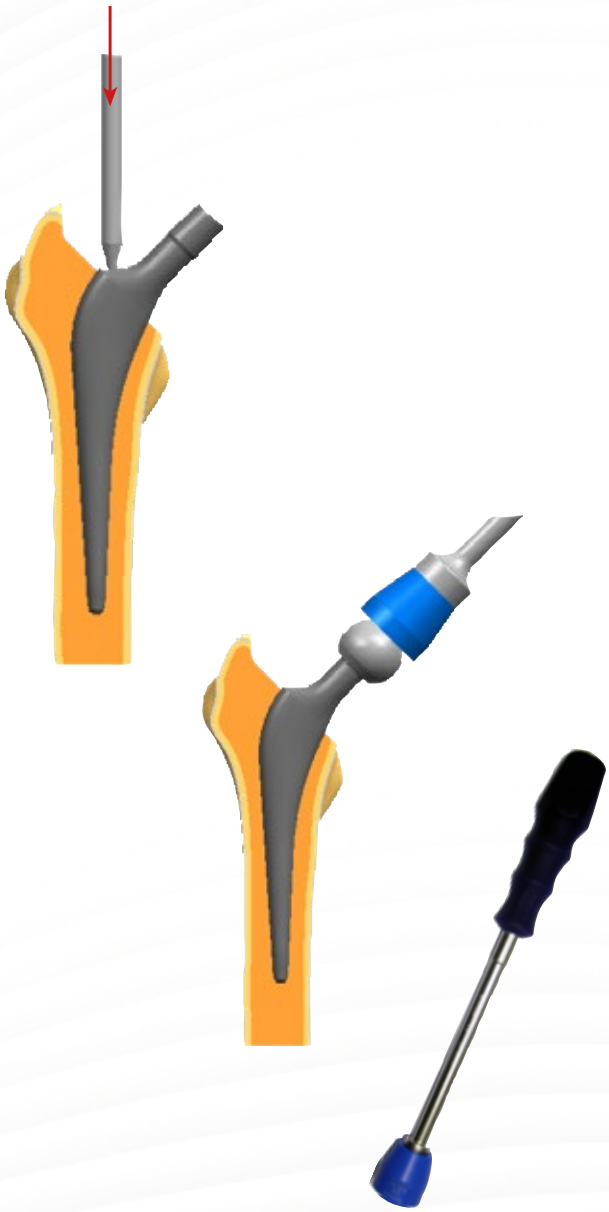
The CTD Straight Stem is driven into the space opened by the rasp with the Driving Pin until the collar section of the prosthesis is aligned with the cutting level.

The final driving is done carefully with the driver. At this stage, you can check the neck length by inserting the Test Sphere and then thoroughly clean the conical part of the stem before driving the modular sphere.

Clean any bone cement residue with a curette.

The specified Taper Adjustment Modular Sphere is placed into the taper of the CTD Straight Stem with a slight circular motion and is compressed and secured into the taper by tapping with the Denture Driver.

Check for fit and function.



Removal of the Stem

Use the ejection hole located under the neck and the Impact and Ejection Pin to remove the stem.

Combination Chart

TRAY 1

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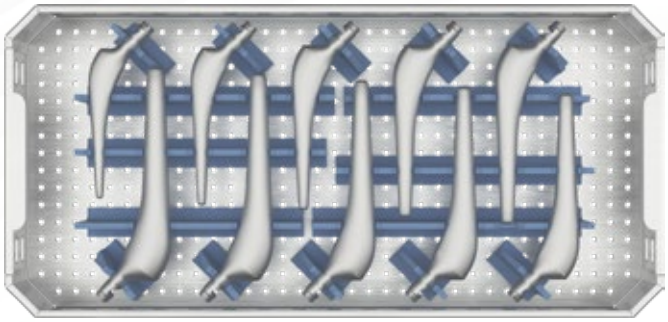

Code	Description	Unit
10610360000	CT STRAIGHT STEM RASP / 0	1
10610360001	CT STRAIGHT STEM RASP / 1	1
10610360002	CT STRAIGHT STEM RASP / 2	1
10610360003	CT STRAIGHT STEM RASP / 3	1
10610360004	CT STRAIGHT STEM RASP / 4	1
10610360005	CT STRAIGHT STEM RASP / 5	1
10610360006	CT STRAIGHT STEM RASP / 6	1
10610360007	CT STRAIGHT STEM RASP / 7	1
10610360008	CT STRAIGHT STEM RASP / 8	1
10610360009	CT STRAIGHT STEM RASP / 9	1

TRAY 2

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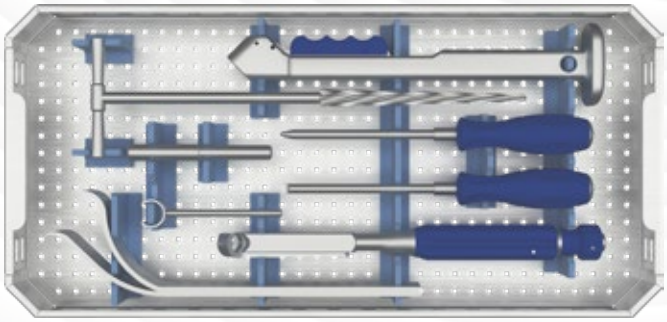

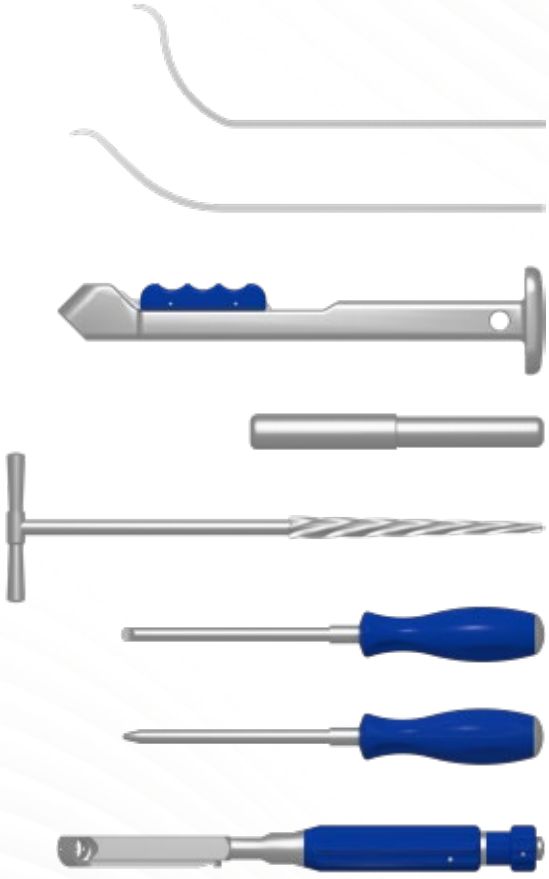

Code	Description	Unit
10602101101	HOHMANN RETRACTOR / TIP 1	1
10602101102	HOHMANN RETRACTOR / TIP 2	1
10610011050	MODULAR RASP HANDLE	1
10610001001	RASP BAR	1
10610331003	MEDULLARY AWL REAMER	1
10607031317	IMPACTOR PIN FOR CTPH	1
10607031321	IMPACTOR PIN	1
10601330001	HANDLE FOR SETTING DEVICE	1

TRAY 3

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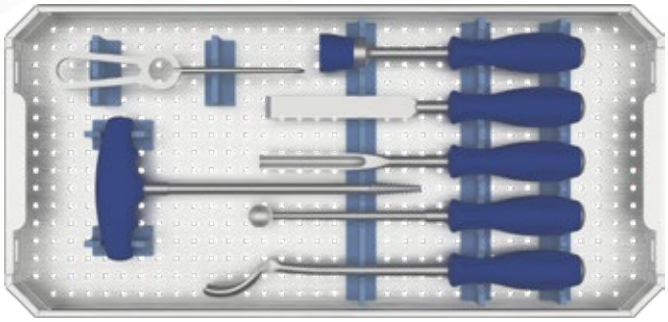

	Code	Description	Unit
	10607020003	FEMORAL HEAD IMPACTOR	1
	10605210002	STRAİGHT CHİSEL	1
	10605210103	GUJ CURETTE	1
	10605210005	SPOON CURETTE	1
	10605210025	SPATUL CURETTE SWAN NECK	1
	10602041002	BONE HOOK BLUNT	1
	10606100001	FEMORAL HEAD EXTRACTOR	1

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