B BRAUN
SHARING EXPERTISE

ORTHOPAEDIC
SURGERY

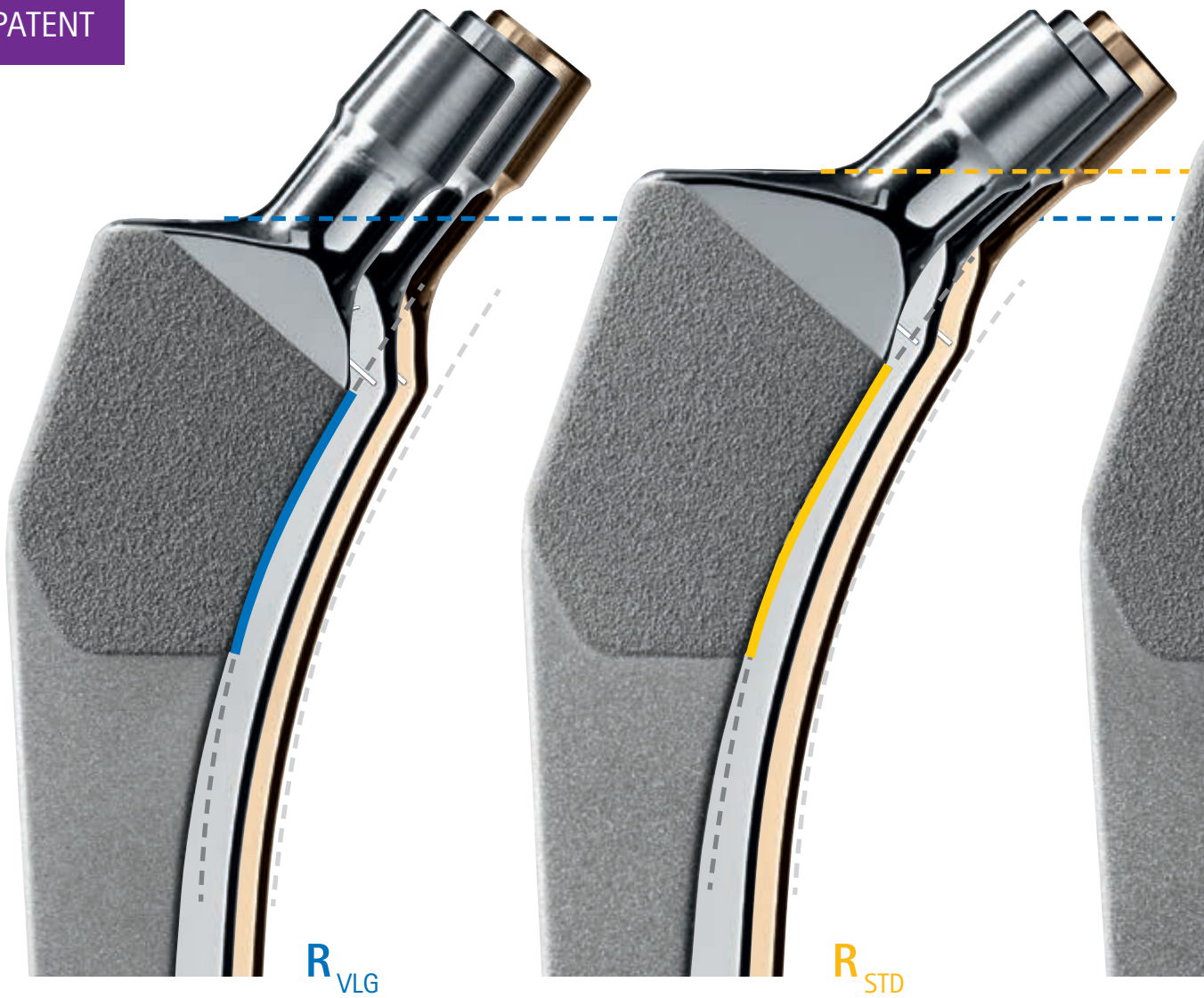
AESCULAP® CoreHip® SYSTEM

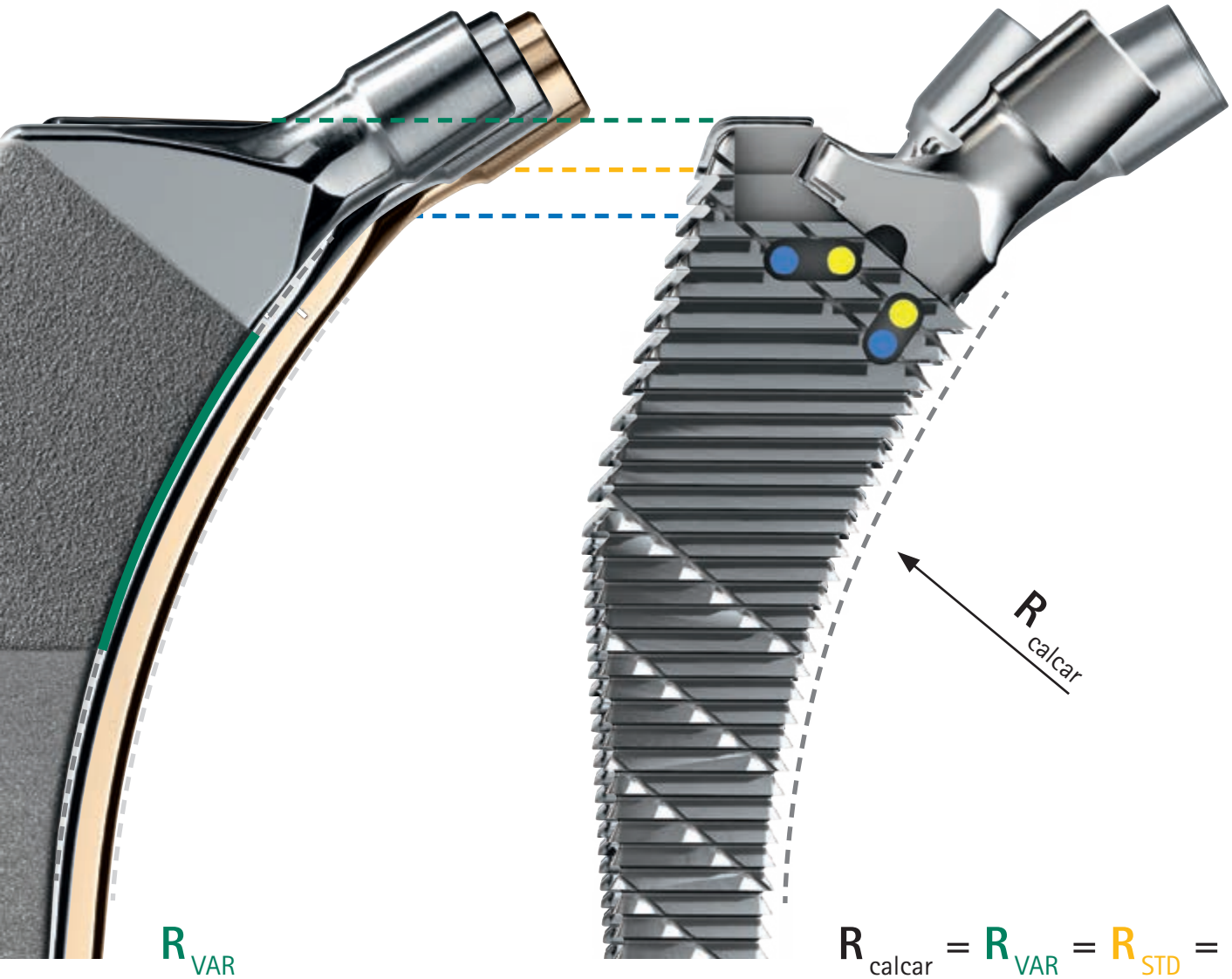
TEN LINES OF INDICATION. ONE INSTRUMENTATION. MORE INDIVIDUALITY.

AESCULAP® CoreHip® PRIMARY

TEN LINES OF INDICATION. ONE INSTRUMENTATION. MORE INDIVIDUALITY.

GLOBAL PATENT





ONE RADIUS
ONE RASP DESIGN
TEN INDICATION LINES

AESCULAP® CoreHip® PRIMARY CEMENTLESS

VARIOUS FEMUR SHAPES. FOUR LINES OF INDICATION.

THE STEMS

PRIMARY – CEMENTLESS

- **The cementless CoreHip® Primary System** consists of the indication lines Standard, Valgus, Varus and Dysplasia.
- **The four CoreHip® indication lines** take into consideration different anatomical curvatures of the calcar femoris.
- **The CoreHip® stem selection** separates stem anchorage and reconstruction of the joint center.
- **Each CoreHip® indication line** has a fixed offset range in relation to the position of the head center in varus, valgus, standard or dysplastic situations and grows laterally.
- **The patented CoreHip® system rasps** allow implantation of all three indication lines with one rasp line.
- **The CoreHip® color code** labels instruments and implants to assist in intraoperative orientation and stem selection.
- **The CoreHip® stem series** enables independent and separate realization of the individual offset and leg length, as well as reconstruction of the individual CCD angle as close to the patient's anatomy as possible.
- **The cementless CoreHip® stems** consist of a forged titanium alloy with a proximal PLASMAPORE® coating.

AESCULAP® CoreHip® PRIMARY CEMENTED

VARIOUS FEMUR SHAPES. THREE LINES OF INDICATION.

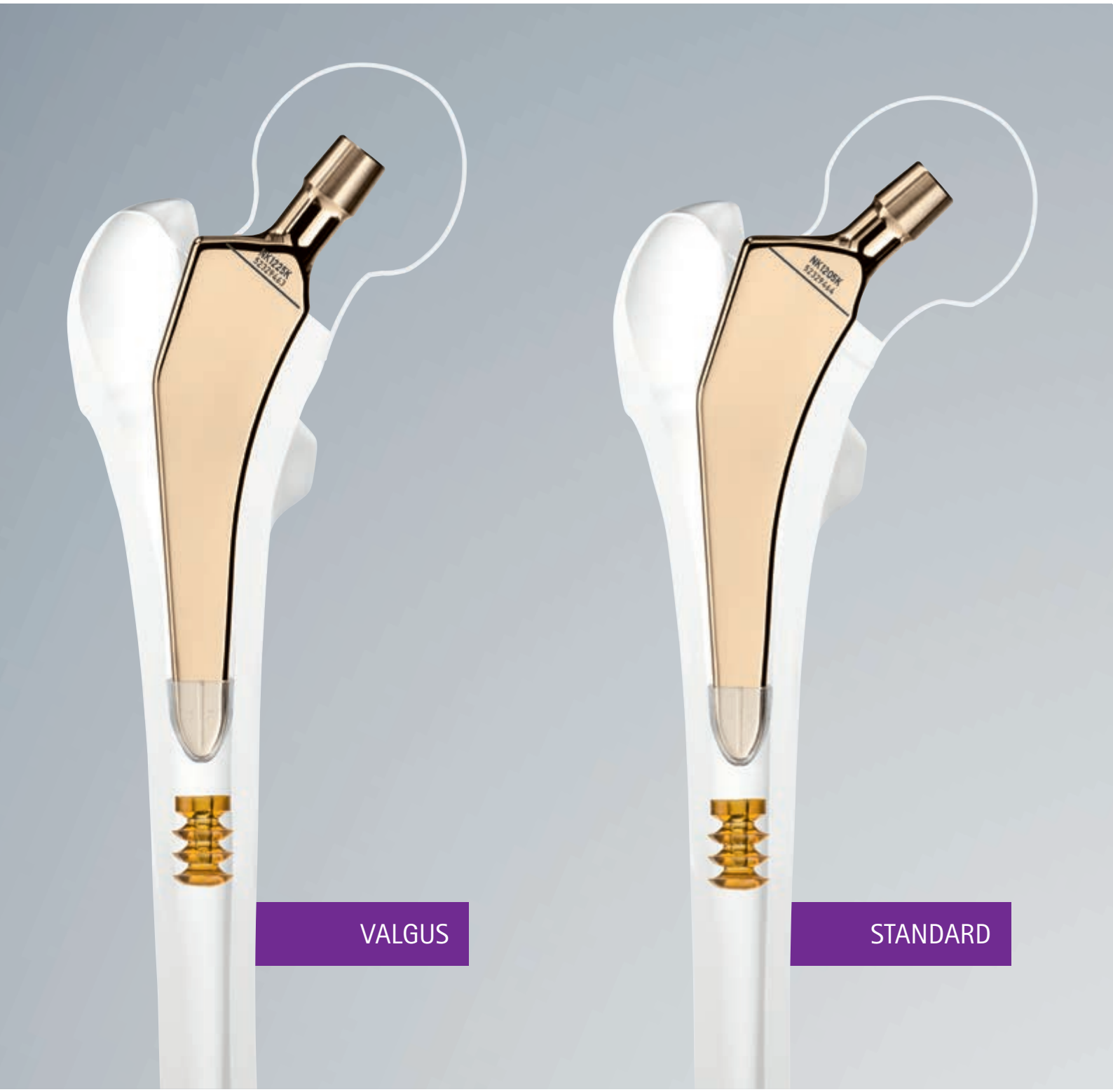
THE STEMS

PRIMARY – CEMENTED

- **The CoreHip® Primary stems**
  can also be used with cement.
- **The cemented CoreHip® system**
  combines the same properties and advantages as the cementless stems, even with the cemented CoreHip® AS version.
- **The CoreHip® surgical technique**
  allows for intra-operative decision for cementless or cemented implantation.
- **The CoreHip® stem selection**
  therefore takes different anatomical curvatures of the calcar femoris into consideration even with the cemented technique.
- **The cemented anchoring**
  of the polished surface is based on a triple conical stem design.
- **The CoreHip® Centralizer**
  supports the central distal stem position.
- **The cemented CoreHip® stems**
  are made of a cobalt-chrome forged alloy.

AESCULAP® AS CoreHip® PRIMARY CEMENTED

VARIOUS FEMUR SHAPES. THREE LINES OF INDICATION.



THE AS CoreHip® STEMS

PRIMARY – CEMENTED

- **The AS CoreHip® stems**
  show a high degree of reliability due to a reliable connection of the AS coating to the base material material (1, 2).

- **The AS CoreHip® Primary stems**
  combine the same properties and advantages as cemented stems.

- **The AS CoreHip® stems**
  show high resistance to metal ion release (1, 2).

- **The AS CoreHip® stem selection**
  takes into account different anatomical curves of the femoral calcar even with the cemented technique.

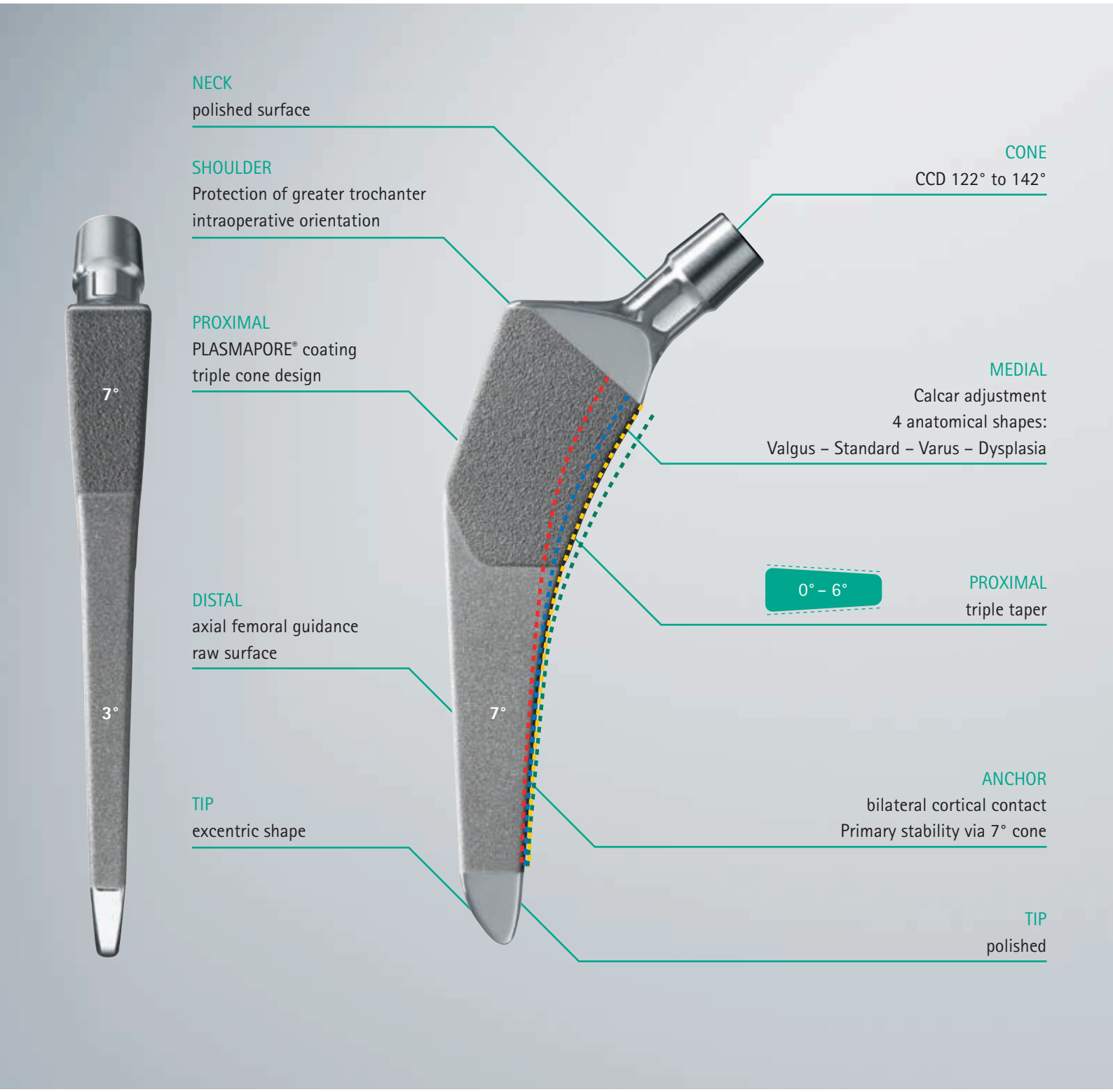
- **The surface of the AS CoreHip® stems**
  has similar properties to the polished surface of the CoreHip® stems.

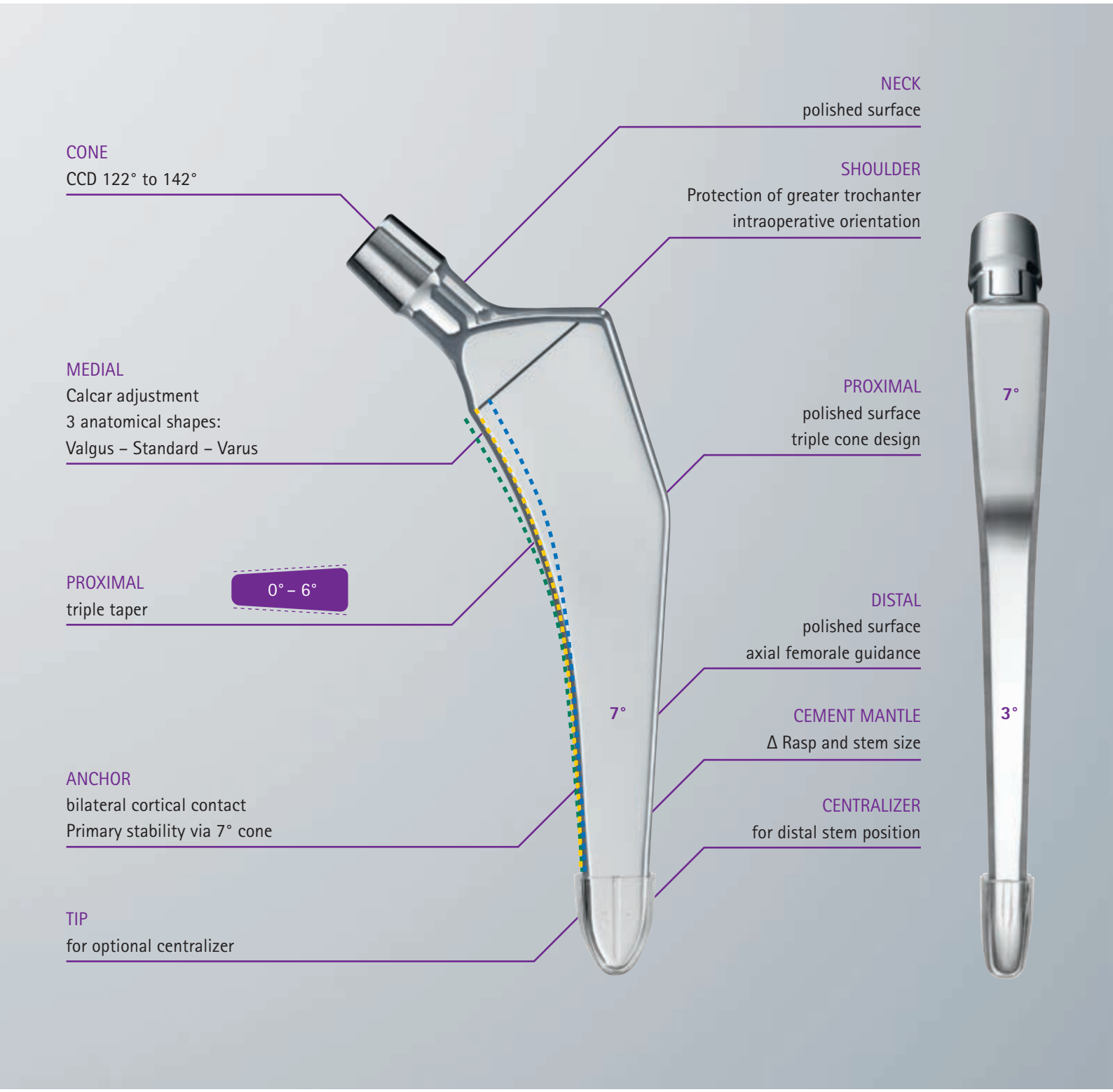
- **The Centralizers**
  are used for both CoreHip® and AS CoreHip® stems.

- **The cemented AS CoreHip® stems**
  are made of a cobalt-chromium forging alloy and coated with a multilayer layer system of chromium-nitride-chromium carbo-nitride-zirconium-nitride.

AESCULAP® CoreHip® PRIMARY

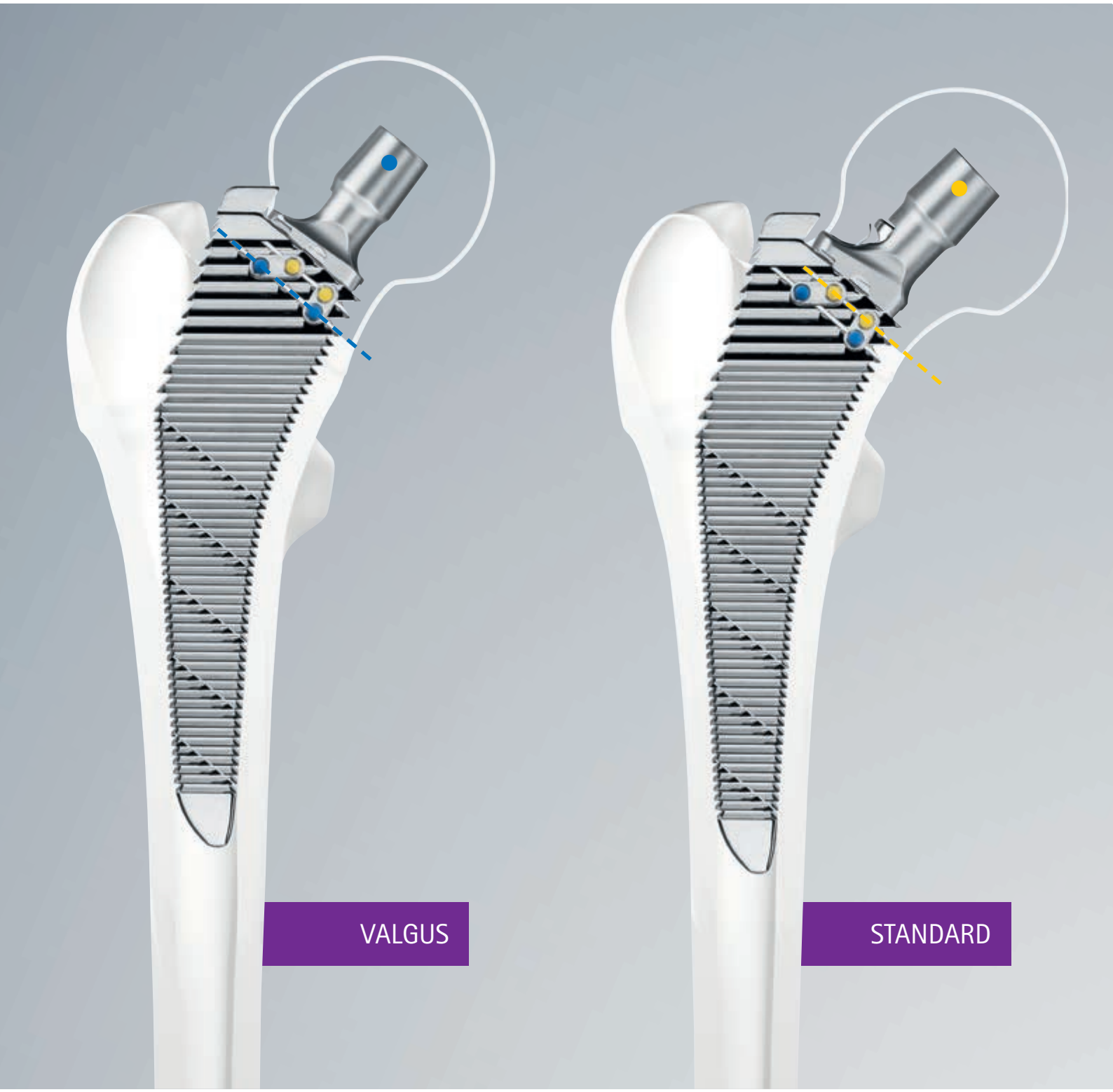
STEM DESIGN. CHARACTERISTICS AND ANCHORING.

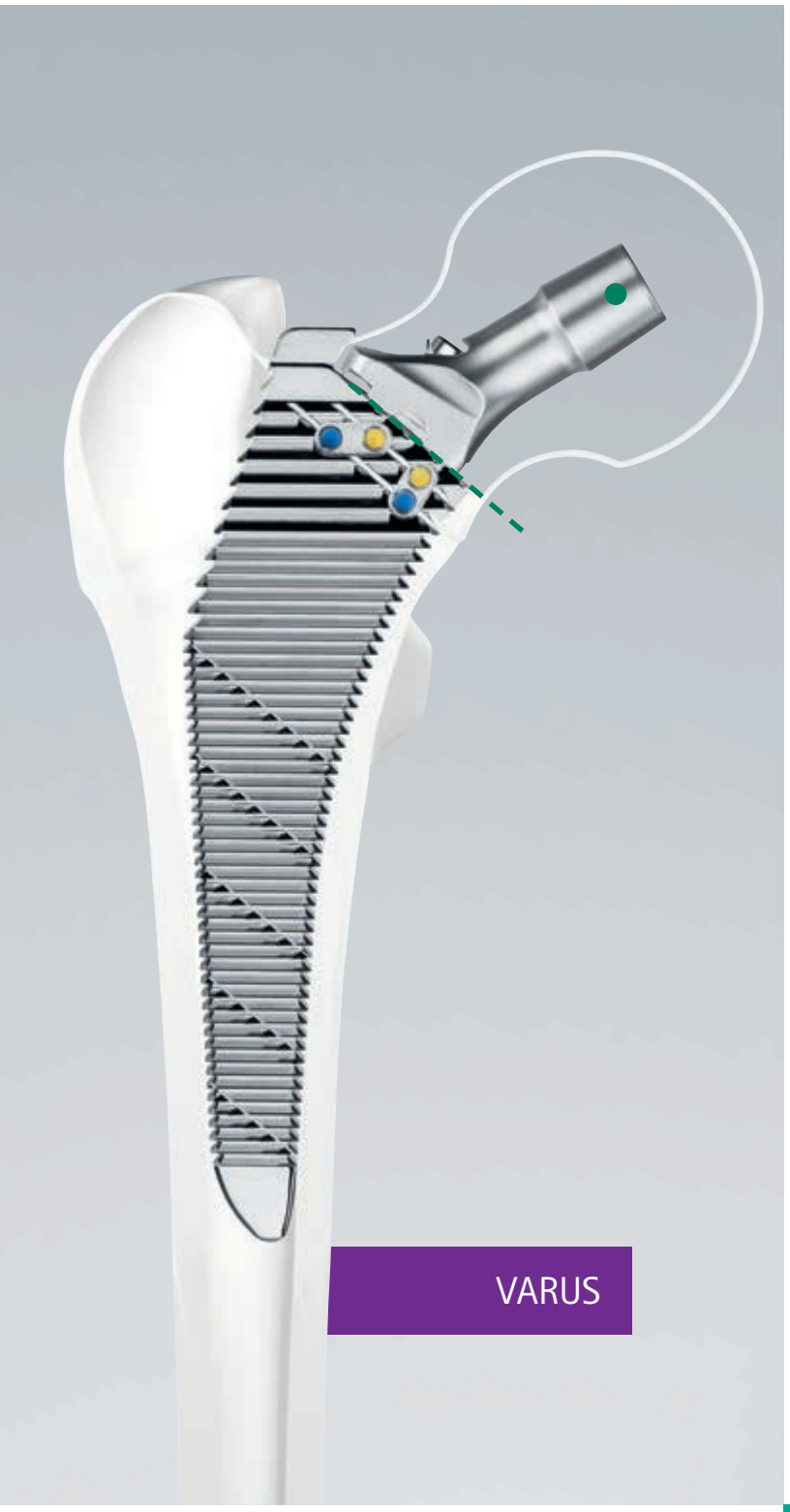



NECK
polished surface
CONE
CCD 122° to 142°
SHOULDER
Protection of greater trochanter
intraoperative orientation
MEDIAL
Calcar adjustment
3 anatomical shapes:
Valgus – Standard – Varus
PROXIMAL
polished surface
triple cone design
PROXIMAL
triple taper
0° – 6°
DISTAL
polished surface
axial femorale guidance
7°
CEMENT MANTLE
Δ Rasp and stem size
ANCHOR
bilateral cortical contact
Primary stability via 7° cone
CENTRALIZER
for distal stem position
TIP
for optional centralizer
7°
3°

AESCULAP® CoreHip® PRIMARY

TEN LINES OF INDICATION. ONE IMPLANTATION RASP.





THE RASPS

- **The CoreHip® Implantation Rasps**
  can be used universally for the three stem series in cementless or cemented techniques.

- **Three CoreHip® neck adapters**
  allow intraoperative selection of the stem best suited to the anatomical situation.

- **The CoreHip® Rasp Curvature**
  can be adapted to valgus, standard, varus or dysplasia conditions by a higher or lower position.

- **The CoreHip® system rasps**
  have different markers for the height of the prosthesis shoulder and femoral osteotomy.

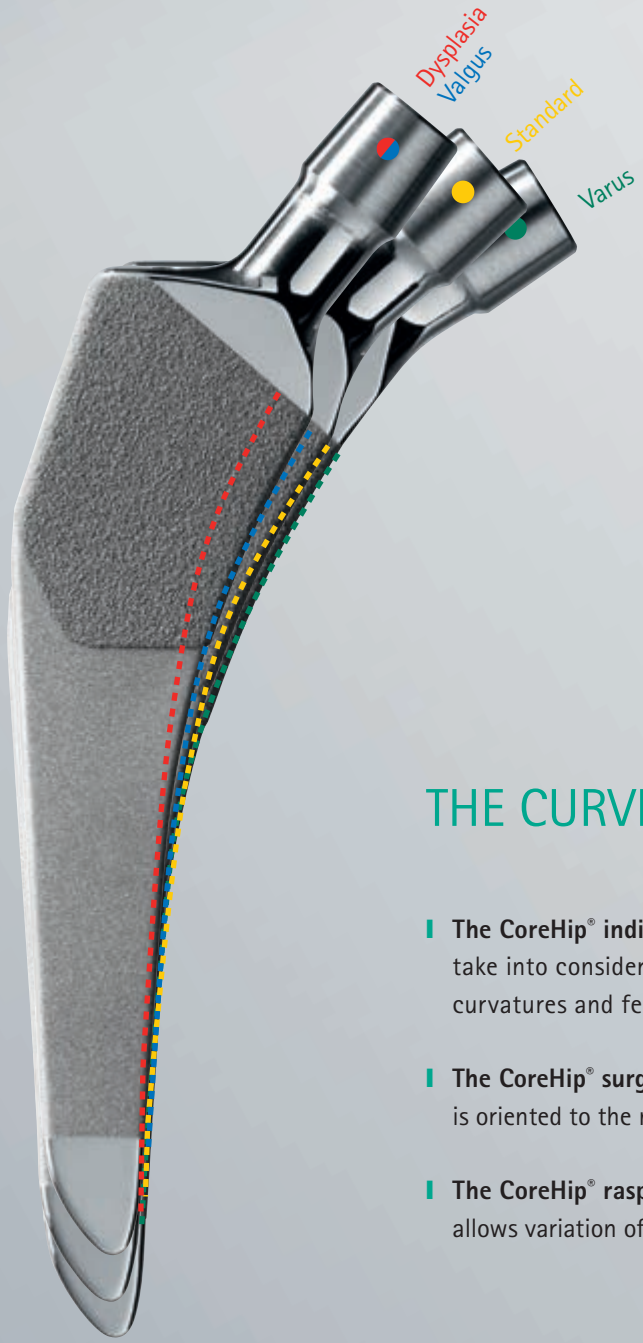
- **The CoreHip® rasp shoulder**
  indicates the height of the head center.

- **The CoreHip® osteotomy guide**
  influences the possible stem selection.

- **The CoreHip® color code**
  is yellow for standard stems and blue, green and red for valgus, varus and dysplastic deformities.

AESCULAP® CoreHip® PRIMARY

ONE SURGICAL TECHNIQUE. FOUR MEDIAL CURVES.



THE CURVES

- **The CoreHip® indication lines**
  take into consideration the relationship between different medial curvatures and femoral rotation centers.
- **The CoreHip® surgical technique**
  is oriented to the medial curvatures by a higher or lower rasp position.
- **The CoreHip® rasp position**
  allows variation of the head center (valgus, standard, varus, dysplasia)

ONE MEDIAL CURVE. THREE OFFSET VARIANTS.

THE OFFSET

- **The CoreHip® stems**
  can cover three different offset ranges for a given medial contour, stem size and leg length.
- **The CoreHip® surgical technique**
  supports this procedure with different osteotomy levels and three neck adapters.
- **The CoreHip® Offset characteristic**
  is independent of the stem size per indication line.

AESCULAP® CoreHip® DYSPLASIA

ONE SURGICAL TECHNIQUE. FOUR MEDIAL CURVES.

- **In preoperative planning, the CoreHip® indication lines** show a high degree of correlation between leg length and offset reconstruction due to the variability of the four stem systems.

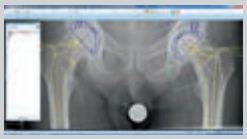
- **The CoreHip® head centers** are positioned with a femoral offset dependent on the medial resection point and a size growth dependent on the head center.

- **The CoreHip® dysplasia indication line** can achieve a leg length adjustment of 10 mm with the same valgus offset reconstruction and adaptation to the dysplastic femoral morphology.

- **The CoreHip® Dysplasia stem** can only be prepared with the corresponding ASIA rasp set (NT1154).





DIE EVIDENZ

For the design of the CoreHip® system, both two-dimensional (ap- and lateral X-rays) and three-dimensional data (> 500) from most ethnic sources in the world were used. This allowed the diversity of the femur to be established as the basis for the systemic compilation of all possible indications. In an iterative planning process, the initial CoreHip® design was optimized on the basis of two or three-dimensional X-ray material (> 250 femoral examples). With this approach, the CoreHip® system was able to achieve a high reconstruction potential for both offset and leg length.

Patient n = 250

♂ 36 % | ♀ 64 %

59 years (min. 43, max. 69)

67 %	primary coxarthrosis
23 %	dysplasia coxarthrosis
8 %	femoral head necrosis
2 %	rheumatoid arthritis

28 %	Valgus
65 %	Standard
17 %	Varus

Femur morphology

Typ A	23 %
Typ B	66 %
Typ C	11 %
Valgus	28 %
Standard	65 %
Varus	17 %

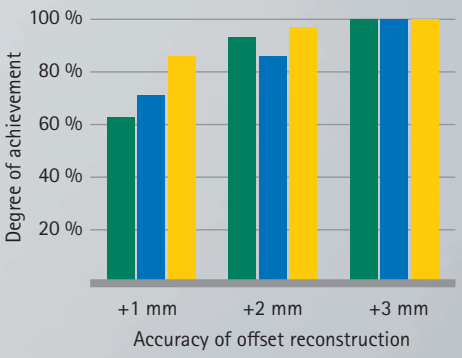
CoreHip® stem type

Valgus
Standard
Varus

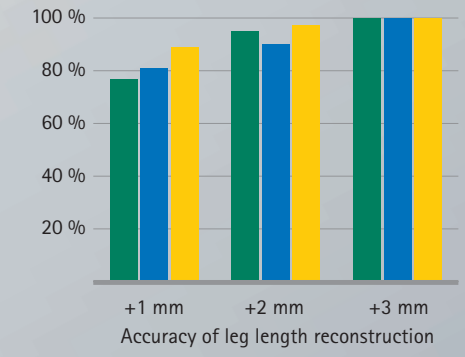
CoreHip® PRIMARY PREOPERATIVE PLANNING

Reconstruction of leg length and femoral offset*

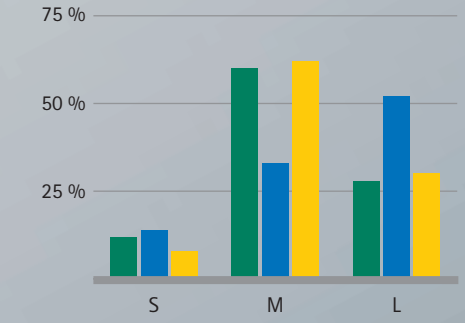
OFFSET



LEG LENGTH



PROSTHESIS HEADS USED



* Radiological evaluation of the CoreHip® stem system (AESCULAP® 2016)

AESCULAP® CoreHip® EXTENDED

VARIOUS FEMUR SHAPES. THREE LINES OF INDICATION. INDIVIDUALITY.

THE STEMS

EXTENDED – CEMENTLESS

- **The CoreHip® System Extended** is used cementless.
- **The CoreHip® Extended Stems** are based on the design concept of cementless Primary Stems with increased stem length.
- **The CoreHip® Extended** system rasps are correspondingly longer and are only used when necessary.
- **The CoreHip® surgical technique** supports an intraoperative change from Primary to Extended Stems.
- **The CoreHip® Extended Stems** extend the range of indications including cementless revision procedures with low-grade bone loss.

AESCULAP® CoreHip® SYSTEM

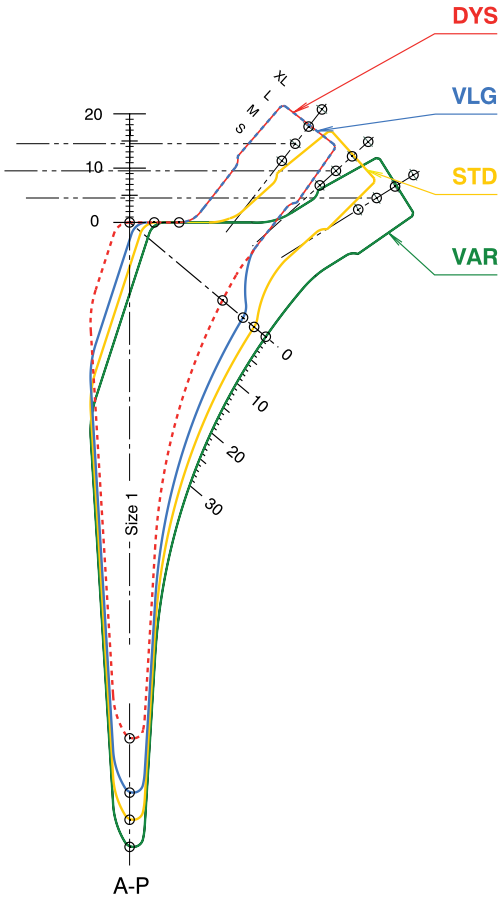
PREOPERATIVE PLANNING. PRIMARY AND EXTENDED.

GENERAL

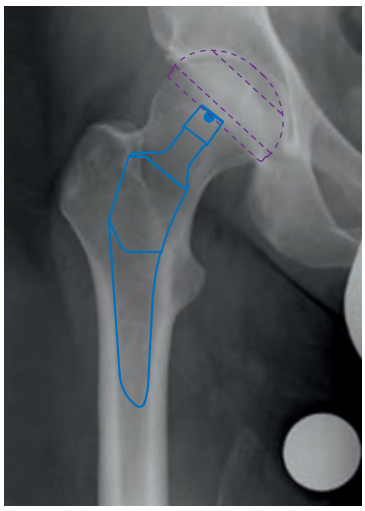
Preoperative planning leads to the position, sizes and stem series selection of the CoreHip® implants based on the indication.

The assessment of the anatomical conditions is made in a pelvic overview and the opposite side of the hip joint to be endoprosthetically treated. Bone quality, bone shape and joint center determine the offset and leg length ratios and the position of the femoral osteotomy.

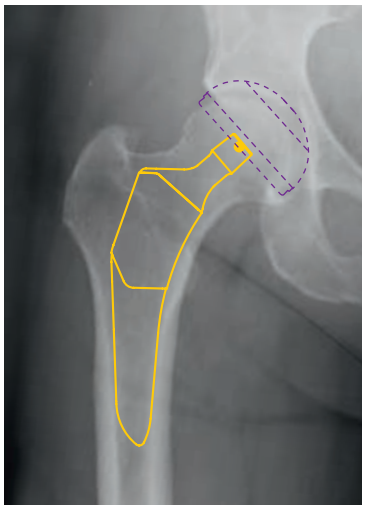
The CoreHip® Planning Templates contain colored outlines of the Primary or Extended stem series green (Varus), yellow (Standard), blue (Valgus) and red (Dysplasia).



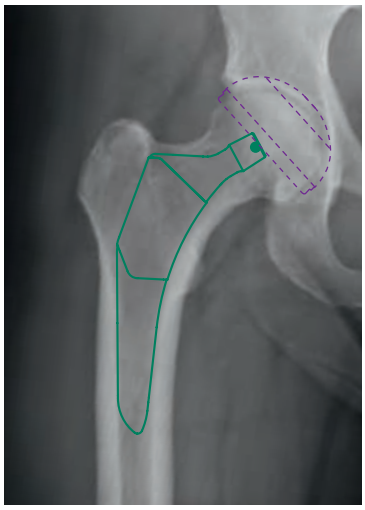
PRIMARY



Valgus

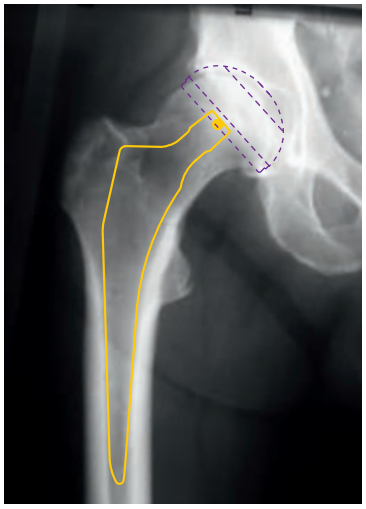


Standard

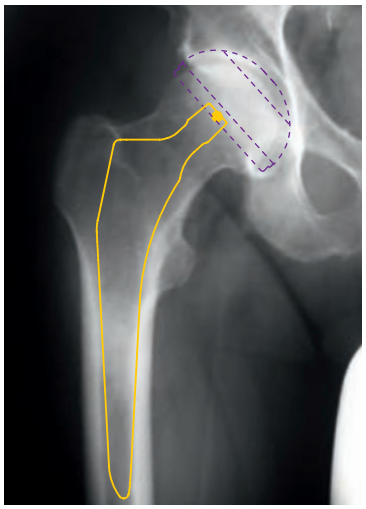


Varus

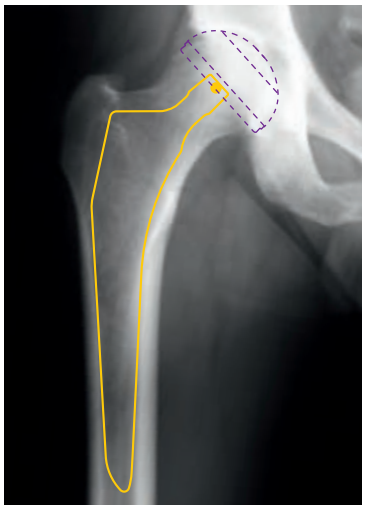
EXTENDED



Type Dorr A



Type Dorr B



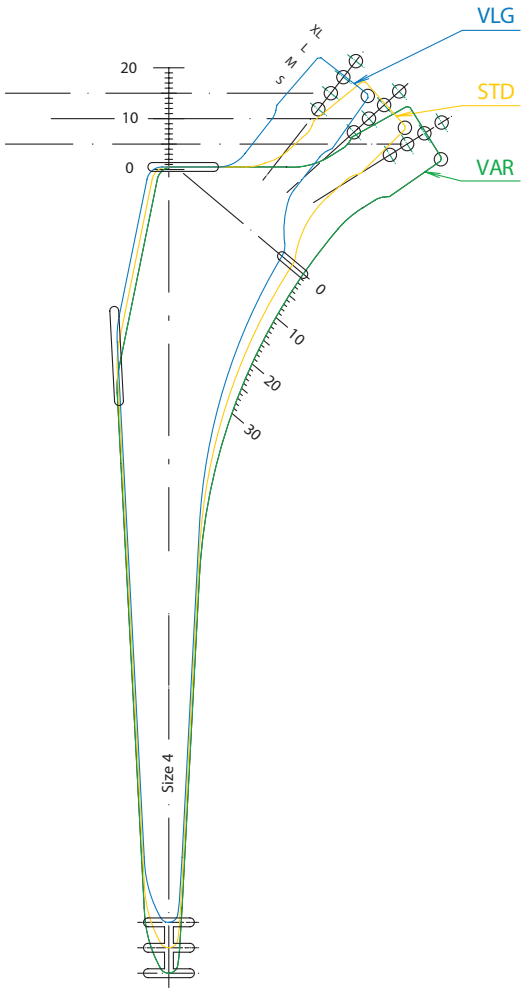
Type Dorr C

SIZE INDEPENDENT OFFSET

The CoreHip® System allows reconstruction of the femoral offset independent of stem size, because each stem series covers a specific and non-overlapping offset range.

Therefore, femoral medullary canals of different sizes with similar offset ratios can be treated with one CoreHip® stem series.

Three typical femoral morphologies of the Dorr classifications (Dorr LD et al. 1993) Types A, B and C are shown using the example of a CoreHip® Extended planning, which have the same femoral offset values (43 +/- 2 mm) (3).



AESCULAP® CoreHip® PRIMARY

SURGICAL TECHNIQUE

OSTEOTOMY

The starting point of the femoral resection plane results from the preoperative planning and can be positioned on the Trochanteric Fossa. The osteotomy is performed at 50° to the femoral axis and can be performed using the resection guide (NT1106R).

IMPORTANT NOTICE

The higher the osteotomy is positioned, the greater the risk of varus malpositioning of the implant.

OPENING OF THE MEDULLARY CAVITY

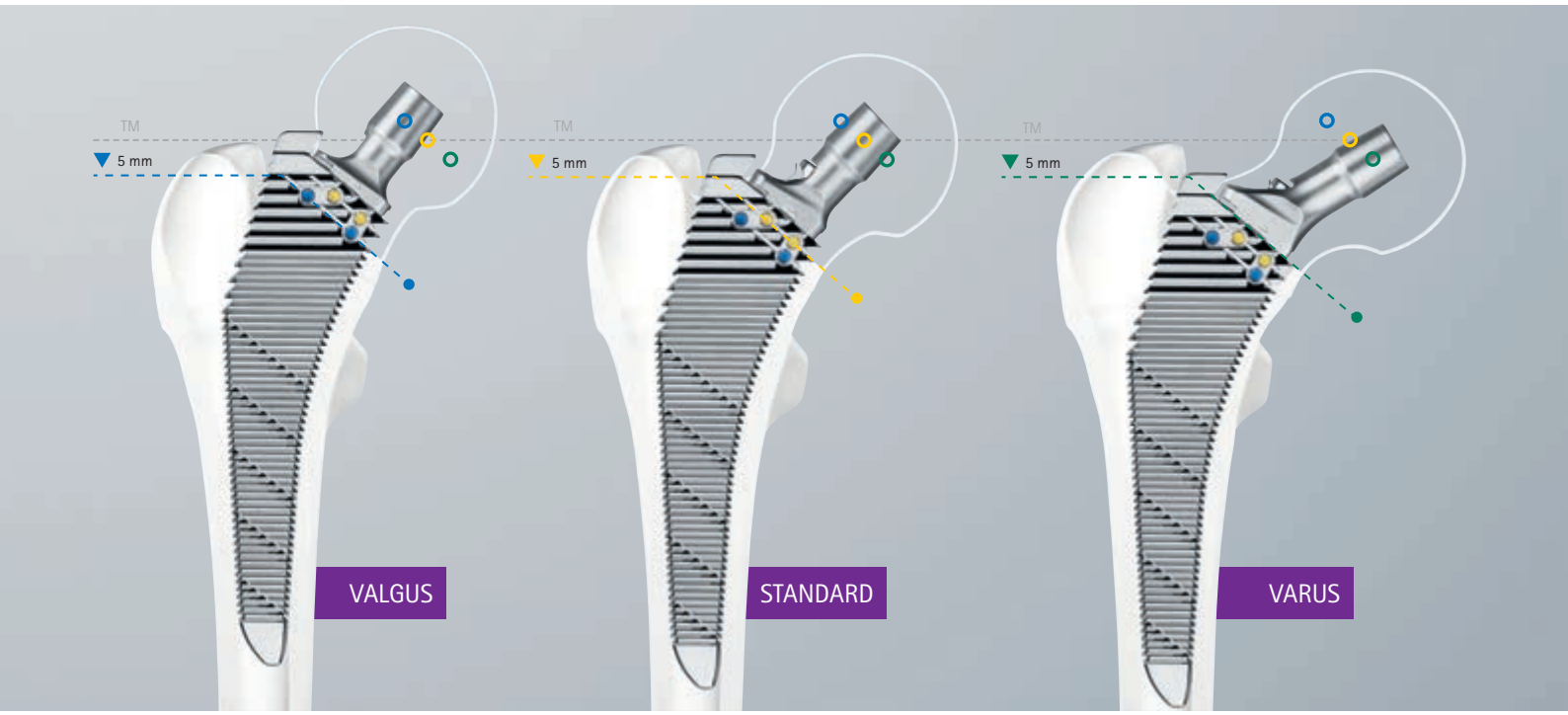
The medullary canal is opened with a box chisel (NT118R), which is attached to the rasp handle.

The box chisel is placed centrally and laterally with positive antetorsion and driven in until a sufficiently large opening is achieved for subsequent processing with the CoreHip® system rasp. It must be ensured that a varus rasp position can be avoided.

The cortical ring can be broken open laterally to prevent misalignment of the system rasp and implant.

The starter rasp (ND472R) can also be used.

POSITION OF THE RASP SHOULDER



PREPARATION OF THE MEDULLARY CAVITY

The medullary canal is prepared with the CoreHip® system rasp in increasing order. The insertion depth is indicated by three 50° markers (● ● ●) and the positions of the stem shoulder height (▼ ▼ ▼), which differ by 5 mm between the indication lines. The middle head centers are 15 mm (stem type Valgus ○), 10 mm (Standard ○) or 5 mm (Varus ○) above the highest shoulder point of the system rasp.

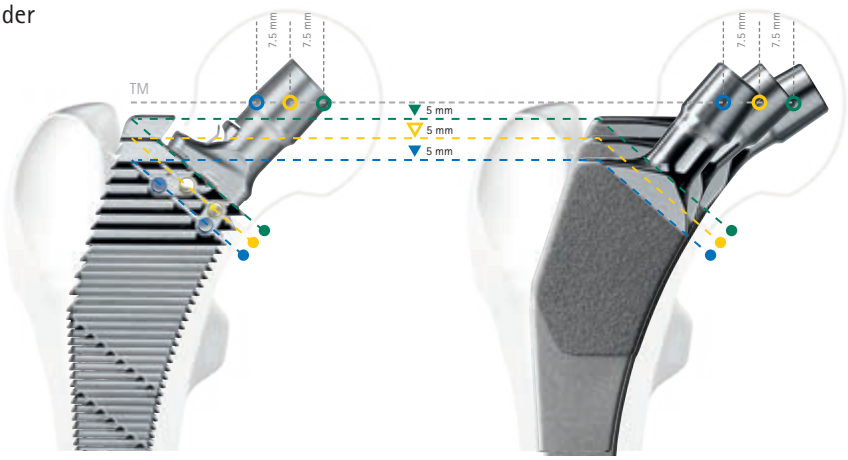
IMPORTANT NOTICE

The highest shoulder of the rasp always simulates the shoulder of the Varus stems.

In addition to the rasp shoulder, the medial tip of the teeth can also be used for orientation.
These always represent the medial edge of the indication lines, as well as the rasp shoulder of these planes.

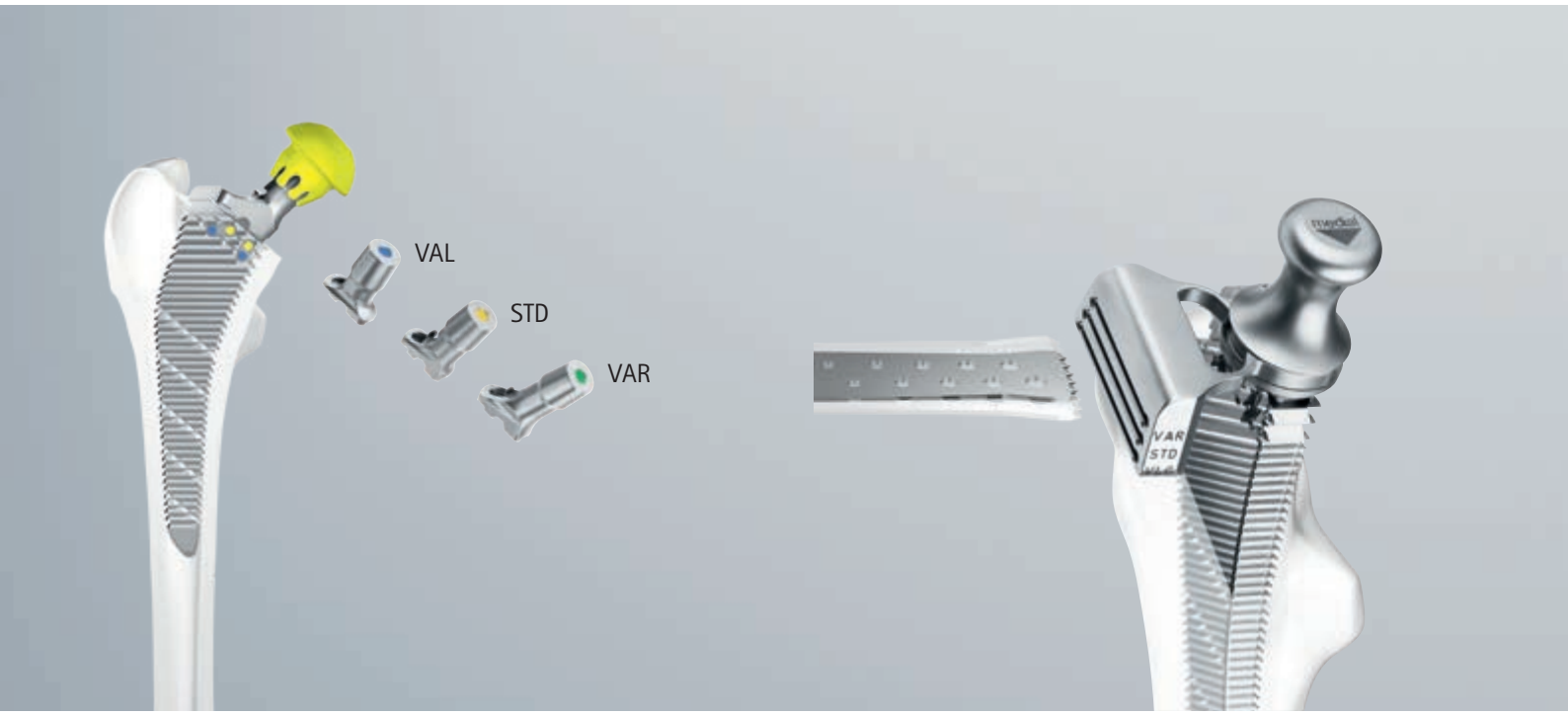
IMPORTANT NOTICE

The intraoperative x-ray image comparison between the rasp and the implant should be made with the center of the head not the rasp shoulder.



AESCULAP® CoreHip® PRIMARY

SURGICAL TECHNIQUE



TRIAL REDUCTION

The trial reduction is performed with the CoreHip® trial neck adapters, which are color-coded: Valgus blue, Standard yellow, Varus green and Dysplasia red as well as trial heads of neck lengths S to XXL.

Each trial neck adapter covers its own offset range and determines the selection of the corresponding CoreHip® Stem series.

For trial reconstruction for dysplastic treatment, the ASIA rasps must be used. The Dysplasia version allows a reduction of the leg length by 10 mm compared to the valgus treatment.

Dysplasia (DYS)
CCD 142°
Offset
30.5 – 38.0 mm

Valgus (VLG)
CCD 142°
Offset
30.5 – 38.0 mm

Standard (STD)
CCD 132°
Offset
38.0 – 45.5 mm

Varus (VAR)
CCD 122°
Offset
45.5 – 53.0 mm

OPTIONAL OSTEOTOMY PREPARATION

Optionally, the osteotomy can be completed with the Calcar Saw Block when the system rasp is inserted. The VAR, STD, VLG and DYS levels are defined for marking the corresponding osteotomy. After removal of the system rasp, the osteotomy can be performed.

IMPORTANT NOTICE

With the CoreHip® Primary System rasps, the VAR, STD and VLG indication lines can be prepared, while the ASIA System rasps cover the STD, VLG and DYS indications.

CEMENTLESS IMPLANTATION

The CoreHip® Stem size to be selected corresponds to the last system rasp used and the stem type defined by the trial neck adapter. The taper protection corresponds to the CoreHip® color coding, which is also found on the implant packaging.

The selected CoreHip® Stem is inserted with a straight (ND844R) or angled impactor (ND845R). The implant is then inserted at the same height as the final rasp.

The definitive prosthesis head is determined by a final trial position. Before implantation, the tapered head connection must be carefully cleaned and dried.

INTRAOPERATIVE EXPLANTATION

For direct intraoperative revisions, the inserted stem can be removed from the femur using the extraction adapter NT1114R with the plastic insert NT1115SU.

The plastic insert is declared as single use and must be replaced after use by a new one.

The revision adapter can be used with all rasp handles.

AESCULAP® CoreHip® PRIMARY

SURGICAL TECHNIQUE

CEMENTED IMPLANTATION

For cemented technique, the CoreHip® stem size to be selected depends on the last system rasp used, taking into account the cement mantle pursuant to the table below The distal centralizer corresponds to the prosthesis stem size.
The cement is applied after insertion of a distal medullary block and jet lavage irrigation. The cemented CoreHip® Primary stems are inserted with the impactor (ND844R or ND845R) without using a hammer.

The final prosthesis head is determined by a final trial reduction. Careful cleaning and drying of the tapered head connection must be ensured before implantation.

The supplementary CoreHip® AS version, consisting of the cemented version combined with the 7-layer coating of zirconium nitride, with a high abrasion resistance, shows a high barrier effect due to the multi-layer coating, especially against chromium, nickel and cobalt ions (1, 2).

CoreHip® STEM LENGTH										
Size system rasps	2	3	4	5	6	7	8	9	10	11
CoreHip® Stem		1		3		5		7		9
Cement mantle mm		1.0		1.0		1.0		1.0		1.0
Distal Centralizer	NK1281		NK1283		NK1285		NK1287		NK1289	

AESCULAP® CoreHip® EXTENDED

SURGICAL TECHNIQUE

MEDULLARY CAVITY PREPARATION

CoreHip® Extended stems are implanted cementless according to preoperative planning.

The osteotomy is performed analogous to the CoreHip® System. Thus, an intraoperative change from Primary to Extended Stems is also possible. The medullary canal is opened with a box chisel (NT118R), which is attached to the rasp handle. In contrast to the Primary System, the box chisel is placed posterolaterally and driven in until a sufficiently large opening is achieved for subsequent processing with the CoreHip® Extended system rasp.

The colored rasp markings for insertion depths, shoulder heights as well as head centers and offset areas with Valgus, Varus and Standard trial neck adapters are also identical to the CoreHip® System Primary.

IMPLANTATION CEMENTLESS

The CoreHip® Extended stem size to be selected is based on the last system rasp used and the stem type defined by the trial neck adapter with the corresponding CoreHip® color coding.

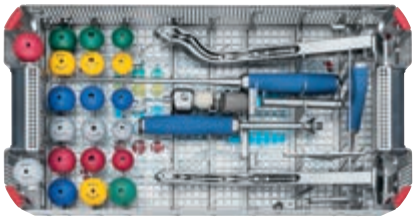
The CoreHip® Extended stems are also used with a straight ND844R or angled ND845R impactor. The implant is positioned at the same height as the last rasp.

The final prosthesis head is determined by a final trial reduction.

Before implantation, make sure that the tapered head connection is carefully cleaned and dried.

AESCULAP® CoreHip® SYSTEM

INSTRUMENTS AND AESCULAP® OrthoTray® STORAGE



NT1101 CoreHip® COMPACT SET PRIMARY

CoreHip® Basic Storage without tray insert for system rasps	ND1001R
Graphic template	TF100
Lid for AESCULAP® OrthoTray®	JA455R
Tray insert with CoreHip® Primary System Rasps	NT1134
Impact instrument for heads	ND060
Crossbar for handles	ND017R
Starter Rasp	ND472R
Extraction adapter 12/14 without insert	NT1114R
Insert for NT1114R – 12.7 mm (single use)	NT1115SU

NT1102 CoreHip® COMPACT SET ASIA

Equipped as NT1101 but with tray insert with system rasps NT1154.

NT1103 CoreHip® COMPACT SET EXTENDED

Equipped as NT1101 but with tray insert with system rasps NT1174.

PLEASE ORDER SEPARATELY X-RAY TEMPLATES 1.15: 1

CoreHip® Primary x-ray templates cementless	NT1116
CoreHip® Primary x-ray templates cemented	NT1117
CoreHip® Extended x-ray templates cementless	NT1118

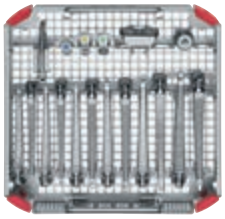
Note:
For the CoreHip® Sets NT1101, NT1102 and NT1103 an AESCULAP® sterile container 592 x 285 x 157 mm with an internal height of 120 mm can be used.

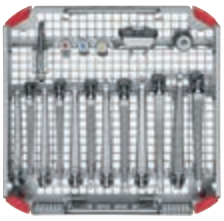
CoreHip® TRIAL PROSTHESIS HEADS

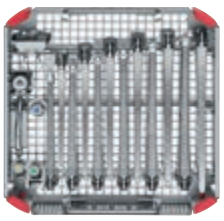
Trial prosthesis head 28 mm S	NT956
Trial prosthesis head 28 mm M	NT957
Trial prosthesis head 28 mm L	NT958
Trial prosthesis head 28 mm XL	NT959
Trial prosthesis head 28 mm XXL	NT960
Trial prosthesis head 32 mm S	NT966
Trial prosthesis head 32 mm M	NT967
Trial prosthesis head 32 mm L	NT968
Trial prosthesis head 32 mm XL	NT969
Trial prosthesis head 32 mm XXL	NT970

PLEASE ORDER SEPARATELY

Trial prosthesis head 22.2 mm M	NT947
Trial prosthesis head 22.2 mm L	NT948
Trial prosthesis head 36 mm S	NT976
Trial prosthesis head 36 mm M	NT977
Trial prosthesis head 36 mm L	NT978
Trial prosthesis head 36 mm XL	NT979
Trial prosthesis head 36 mm XXL	NT980
Trial prosthesis head 40 mm S	NT1186
Trial prosthesis head 40 mm M	NT1187
Trial prosthesis head 40 mm L	NT1188
Trial prosthesis head 40 mm XL	NT1189
Trial prosthesis head 40 mm XXL	NT1190
Femur head saw guide 50°	NT1106R
Stem impactor straight	ND844R
Stem impactor angled	ND845R







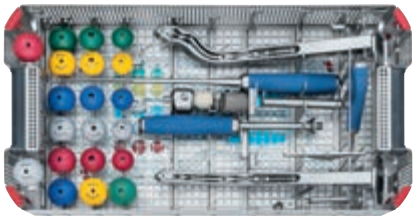
CoreHip® SYSTEM RASPS	NT1134 PRIMARY	NT1154 ASIA	NT1174 EXTENDED
Tray insert unloaded	NT1135R	NT1155R	NT1175R
System Rasp Size 1	NT1121R	NT1141R	NT1161R
System Rasp Size 2	NT1122R	NT1142R	NT1162R
System Rasp Size 3	NT1123R	NT1143R	NT1163R
System Rasp Size 4	NT1124R	NT1144R	NT1164R
System Rasp Size 5	NT1125R	NT1145R	NT1165R
System Rasp Size 6	NT1126R	NT1146R	NT1166R
System Rasp Size 7	NT1127R	NT1147R	NT1167R
System Rasp Size 8	NT1128R	NT1148R	NT1168R
System Rasp Size 9	NT1129R	NT1149R	NT1169R
System Rasp Size 10	NT1130R	NT1150R	NT1170R
Trial neck adapter STD	NT1136R	NT1156R	NT1136R
Trial neck adapter VLG	NT1137R	NT1157R	NT1137R
Trial neck adapter VAR	NT1138R	-	NT1138R
Trial neck adapter DYS	-	NT1159R	-
Box chisel	NT118R	NT118R	NT118R

PLEASE ORDER SEPARATELY			
System Rasp Size 0	NT1120R	NT1140R	NT1160R
System Rasp Size 11	NT1131R	NT1151R	NT1171R
CoreHip® Calcar Saw Block	NT1107R	NT1108R	NT1107R
Lid for Tray insert	JA395R	JA395R	JA395R

Note:
For the CoreHip® tray inserts NT1134, NT1154 or NT1174 an AESCULAP® sterile container 300 x 285 x 112 mm with an internal height of 75 mm can also be used.

AESCULAP® CoreHip® SYSTEM

HANDLES FOR SYSTEM RASPS



The CoreHip® tray contains storage spaces for any two handles or for two woodpecker adapters.

RASP HANDLES – PLEASE ORDER SEPARATELY		
HANDLES FOR DIFFERENT SURGICAL APPROACHES	STANDARD	LONG (+40 mm)
posteriorer Approach, straight	NT002M	NT992R
antero-lateral / lateral approach, straight	NT008M	NT988R
antero-lateral / lateral approach, Offset left	NT009M	NT989R
antero-lateral / lateral approach, Offset right	NT010M	NT990R
direct anterior approach, straight	NT008M	NT988R
direct anterior approach, Offset left	NT009M	NT989R
direct anterior approach, Offset right	NT010M	NT990R
WOODPECKER ADAPTOR	STANDARD	LONG (+40 mm)
Woodpecker connection, straight	NT115R	NT985R
Woodpecker connection, Offset left	NT116R	-
Woodpecker connection, Offset right	NT117R	-

RASP HANDLE WITH QUICK RELEASE FASTENER

Rasp handle with improved mechanics and locking mechanism

The CoreHip® rasp handles allow the preparation of the implant bed over all hip approaches in supine and lateral position.

AP VIEW OF THE RASP HANDLES

NT988R straight

NT989R Offset – Left

NT990R Offset – Right

LATERAL VIEW OF THE RASP HANDLES

NT989R Offset – Left

NT988R straight

NT990R Offset – Right

WOODPECKER ADAPTER IN AP- AND LATERAL VIEW

NT115R straight

NT117R Left

NT115R straight

NT116R Right

AESCULAP® CoreHip® PRIMARY CEMENTLESS

IMPLANT OVERVIEW

SIZE	DYSPLASIA	VALGUS	STANDARD	VARUS	STEM LENGTH* (mm)
0	NK1060T**	NK1020T**	NK1000T**	NK1040T**	119.5
1	NK1061T**	NK1021T	NK1001T	NK1041T	121.5
2	NK1062T	NK1022T	NK1002T	NK1042T	123.5
3	NK1063T	NK1023T	NK1003T	NK1043T	125.5
4	NK1064T	NK1024T	NK1004T	NK1044T	127.5
5	NK1065T	NK1025T	NK1005T	NK1045T	129.5
6	NK1066T	NK1026T	NK1006T	NK1046T	131.5
7	NK1067T	NK1027T	NK1007T	NK1047T	133.5
8	NK1068T	NK1028T	NK1008T	NK1048T	135.5
9	NK1069T	NK1029T	NK1009T	NK1049T	137.5
10	NK1070T	NK1030T	NK1010T	NK1050T	139.5
11	NK1071T	NK1031T	NK1011T	NK1051T	141.5

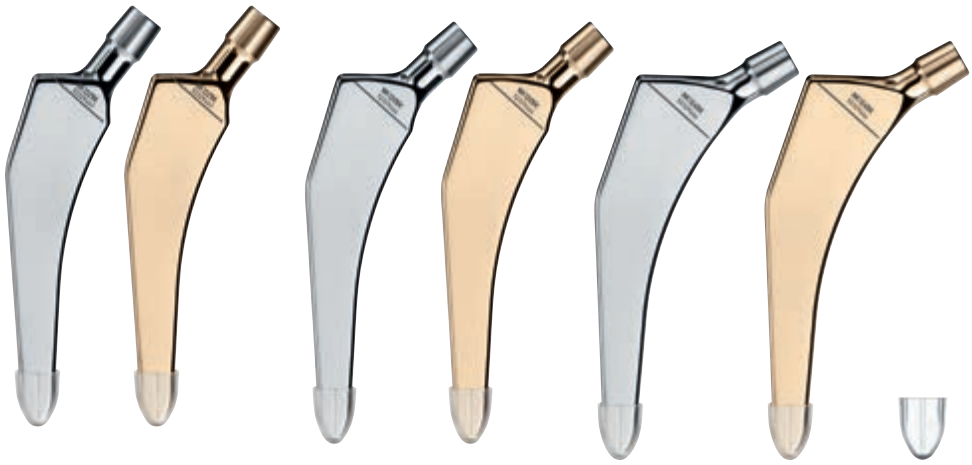
* The stem length is the distance from the head midpoint to the tip of the stem.
The CoreHip® dysplasia implants are 10 mm shorter and also allow 10 mm less leg length compared to VLG line.

**The CoreHip® Dysplasia Size 1 and Primary Size 0 are for all indication lines weight limited with 60 kg.

Implant materials:
Cementless stems of ISOTAN®$_F$ titanium forging alloy (Ti6Al4V / ISO 5832-3) with surface coating PLASMAPORE® pure titanium (Ti / ISO 5832-2)

AESCULAP® CoreHip® PRIMARY CEMENTED

IMPLANT OVERVIEW



SIZE	VALGUS	AS	STANDARD	AS	VARUS	AS	CENTRALIZER	STEM LENGTH* (mm)
1	NK1221K	NK1221Z	NK1201K	NK1201Z	NK1241K	NK1241Z	NK1281	121.5
3	NK1223K	NK1223Z	NK1203K	NK1203Z	NK1243K	NK1243Z	NK1283	125.5
5	NK1225K	NK1225Z	NK1205K	NK1205Z	NK1245K	NK1245Z	NK1285	129.5
7	NK1227K	NK1227Z	NK1207K	NK1207Z	NK1247K	NK1247Z	NK1287	133.5
9	NK1229K	NK1229Z	NK1209K	NK1209Z	NK1249K	NK1249Z	NK1289	137.5

*The stem length is the distance from the center of the head to the tip of the stem.

IMSET® RESORBABLE MARKER	
8 mm	NK908
10 mm	NK910
12 mm	NK912
14 mm	NK914
16 mm	NK916
18 mm	NK918

Implant materials:

Cemented stems of ISODUR®$_F$ cobalt-chrome forged alloy (CoCrMo/ISO 5832-12) Centralizer of polymethyl methacrylate PMMA

IMSET® medullary blocks of gelatin (porcine), glycerin, water and methylparahydroxy benzonate

AS (Advanced Surface) variant with multilayer coating system of chrome-nitride-chrome-carbo-nitride-zirconium-nitride

AESCULAP® CoreHip® EXTENDED CEMENTLESS

IMPLANT OVERVIEW

SIZE	VALGUS	STANDARD	VARUS	STEM LENGTH* (mm)
0	NK1120T	NK1100T	NK1140T	150.5
1	NK1121T	NK1101T	NK1141T	154.5
2	NK1122T	NK1102T	NK1142T	158.5
3	NK1123T	NK1103T	NK1143T	162.5
4	NK1124T	NK1104T	NK1144T	166.5
5	NK1125T	NK1105T	NK1145T	170.5
6	NK1126T	NK1106T	NK1146T	174.5
7	NK1127T	NK1107T	NK1147T	178.5
8	NK1128T	NK1108T	NK1148T	182.5
9	NK1129T	NK1109T	NK1149T	186.5
10	NK1130T	NK1110T	NK1150T	190.5
11	NK1131T	NK1111T	NK1151T	194.5

*The stem length is the distance from the center of the head to the tip of the stem.

Implant materials:
Cementless stems of ISOTAN®$_F$ titanium forged alloy (Ti6Al4V / ISO 5832-3)
with PLASMAPORE® pure titanium (Ti / ISO 5832-2) surface

Biolox® CERAMIC HEAD

SIZE	28 mm	32 mm	36 mm
S	NK460D	NK560D	NK650D
M	NK461D	NK561D	NK651D
L	NK462D	NK562D	NK652D
XL	-	NK563D	NK653D

Biolox® Delta Aluminum Oxide–Matrix-Ceramic (Al_2O_3/ZiO_2/ISO 6474-2)

METAL HEAD

SIZE	28 mm	32 mm	36 mm
S	NK429K	NK529K	NK669K
M	NK430K	NK530K	NK670K
L	NK431K	NK531K	NK671K
XL	NK432K	NK532K	NK672K
XXL	NK433K	NK533K	NK673K

ISODUR®$_F$ Cobalt-Chrome forged alloy (CoCrMo/ISO 5832-12)

Isocer® CERAMIC HEAD

SIZE	28 mm	32 mm	36 mm
S	NK324	NK424	NK524
M	NK325	NK425	NK525
L	NK326	NK426	NK526
XL	-	NK427	NK527

Isocer® Aluminum Oxide-Matrix-Ceramic (Al_2O_3/$Zr0_2$/ISO 6474-2) only for PE/XLPE articulations, no ceramic

Literature

1. Reich J, Hovy L, Lindenmaier HL, Zeller R, Schwiesau J, Thomas P, Grupp TM. Preclinical evaluation of coated knee implants for allergic patients. Orthopade (2010) (18).
2. Puente Reyna AL, Fritz B, Schwiesau J, Schilling C, Summer B, Thomas P, Grupp TM. Metal ion release barrier function and biotribological evaluation of a zirconium nitride multilayer coated knee implant under highly demanding activities wear simulation. Journal of Biomechanics (2018) 79 (8896).
3. Structural and cellular assessment of bone quality of proximal femur. Dorr LD, Faugere MC, Mackel AM, Gruen TA, Bognar B, Malluche HH. (1993). Bone, 14(3), 231242.

AESCULAP® – a B. Braun brand

Aesculap AG | Am Aesculap-Platz | 78532 Tuttlingen | Germany
Phone +49 7461 95-0 | Fax +49 7461 95-2600 | www.aesculap.com

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