MATHYS
European Orthopaedics

Surgical technique

optimys

Preservation in motion

Building on our heritage
Moving technology forward
Step by step with our clinical partners
Towards a goal of preserving mobility

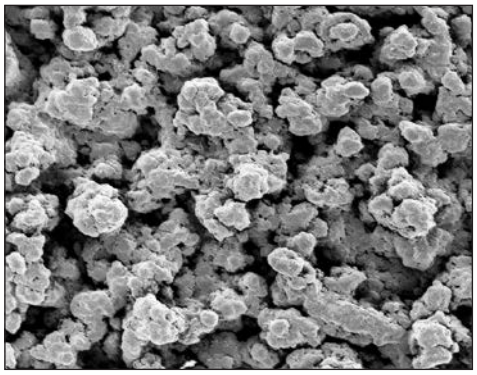
***Preservation** in motion*

As a Swiss company, Mathys is committed to this guiding principle and pursues a product portfolio with the goal of further developing traditional philosophies with respect to materials or design in order to address existing clinical challenges. This is reflected in our imagery: traditional Swiss activities in conjunction with continuously evolving sporting equipment.

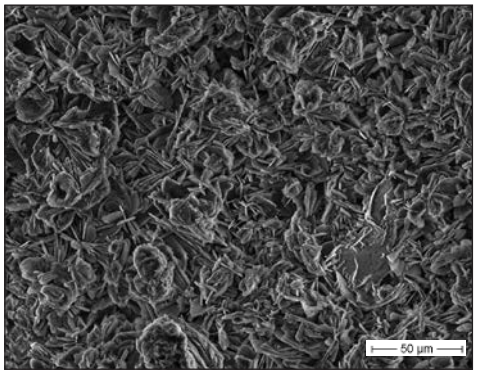
Table of contents

Remark
Please make yourself familiar with the handling of the instruments, the product-related surgical technique and the warnings, the safety notes as well as the recommendations of the instruction leaflet before using an implant manufactured by Mathys Ltd Bettlach. Make use of the Mathys user training and proceed according to the recommended surgical technique.

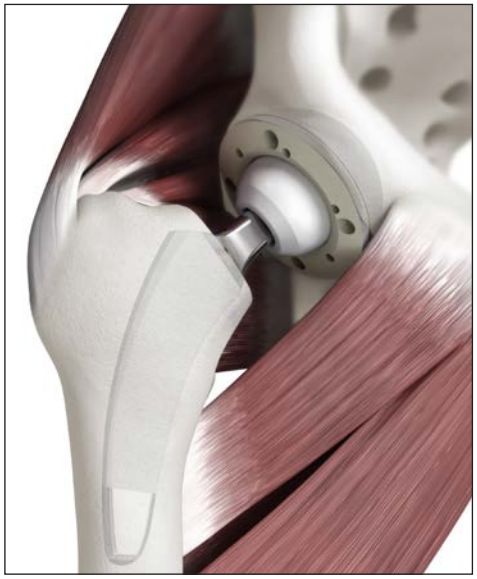
Introduction



Titanium Plasma Spray (TPS)



Calcium Phosphate (CaP)



The philosophy of the optimys stem is to reflect the medial curvature of the femur. This allows the stem to adapt to the individual anatomical conditions of the patient with the aim of restoring the centre of rotation and the offset in accordance with the initial situation (varus or valgus position of the femoral neck). [1, 2] With the help of the pronounced triply conical design, good primary stability is to be achieved in order to reduce the risk of postoperative subsidence. [2, 3, 4, 5] In addition, a double coating of titanium plasma spray and calcium phosphate promotes bone ongrowth on the stem.

In combination with a Mathys ceramic head and the RM Pressfit vitamys cup, optimys is known as the «bonepreservation» system.

For further information on the «bonepreservation» system, please see www.bonepreservation.com.

1. Indications and contraindications

Indications

- Primary or secondary osteoarthritis of the hip
- Femoral head and femoral neck fractures

Contraindications

- Presence of factors jeopardising stable anchoring of the implant:
  – Bone loss or bone defects
  – Insufficient bone substance
  – Lack of primary stability
  – Medullary canal not suitable for the implant
- Presence of factors preventing osseointegration:
  – Irradiated bone (exception: preoperative irradiation for ossification prophylaxis)
  – Devascularisation
- Hypersensitivity to materials used
- Severe soft tissue, nerve or vessel insufficiency that jeopardises the function and long-term stability of the implant
- Local and/or general infection
- Patients for whom a different type of reconstruction surgery or treatment is likely to be successful

For further information, please refer to the instructions for use or ask your Mathys representative.

2. Preoperative planning

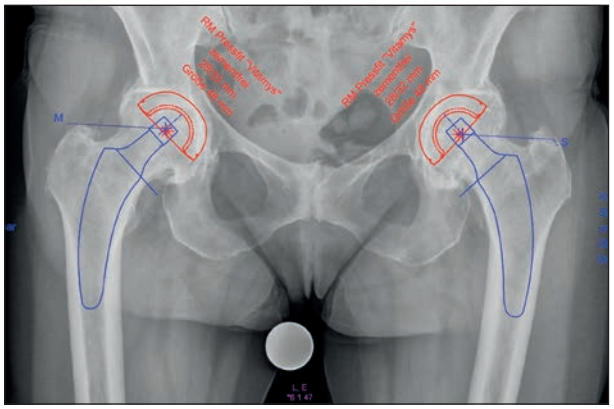


Fig. 1

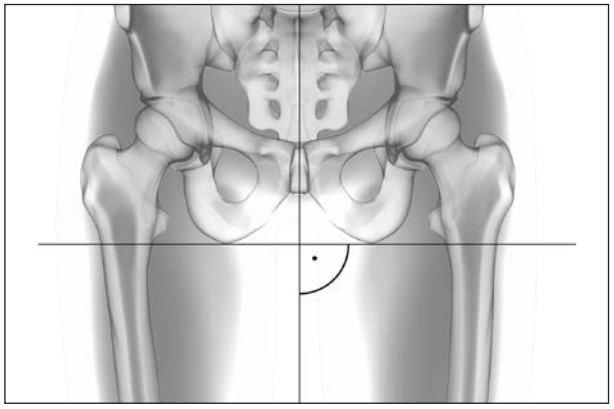


Fig. 2

Preoperative planning can be performed using standard radiographs or a digital planning system (Fig. 1). The main goal of planning is to determine the suitable implant, its size and position, with the objective of restoring the individual biomechanics of the hip joint. Thus, possible problems can be identified even before surgery. [7] Moreover, the preoperative planning serves as a basis for intraoperative reconciliation using fluoroscopic control. [6]

It is recommended to document the preoperative planning in the patient's file.

The planning is ideally performed on a pelvic X-ray image that is taken with the patient in a supine or standing position. In doing so, the central beam is focused onto the symphysis, with 20-degree internal rotation of the femurs. The scale is calculated with the known options, that is, either with a defined calibration object or using a known and reconstructable film-to-focus distance (Fig. 2).

Remark

In case of significantly deformed hips, planning on the healthy side should be considered in order to transfer this subsequently to the affected side.

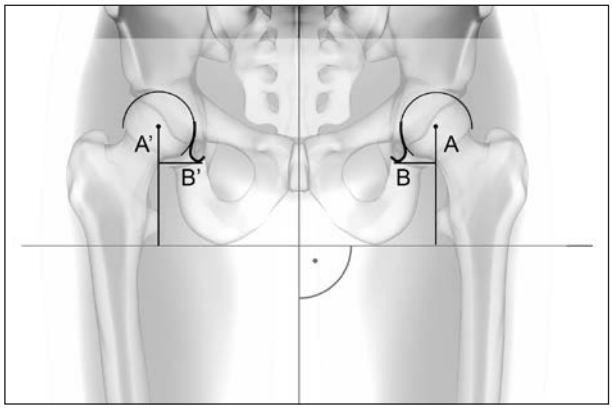


Fig. 3

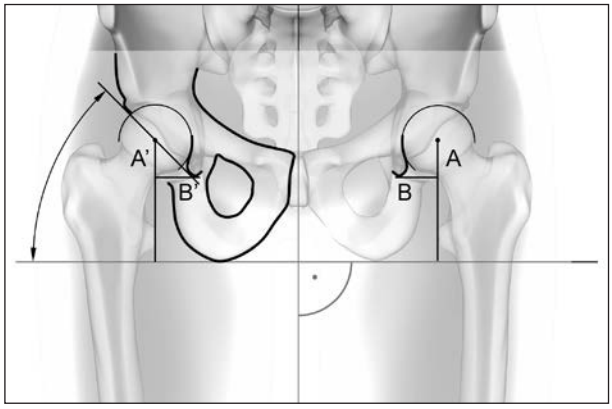


Fig. 4

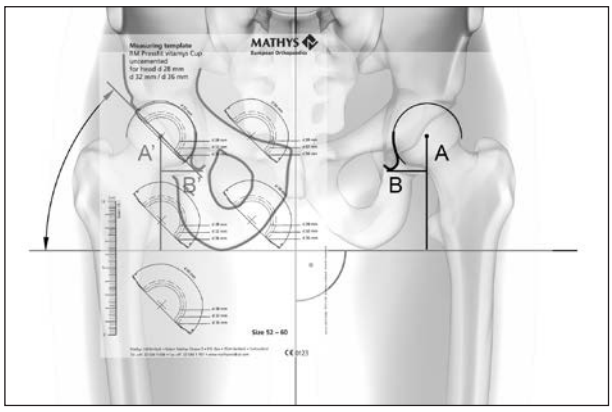


Fig. 5

Estimation of the acetabular offset

The centres of rotation of the healthy (A) and the affected hip (A') are each defined as the centre of a circle surrounding the femoral head or the cavity of the acetabulum.

A first, horizontal line is placed as a tangent on both ischial tuberosities, and a second, vertical line is placed through the centre of the symphysis.

Remark

In case of leg length compensation, adaptation of leg length with the aid of the ischial tuberosity can be considered already now.

The acetabular offset is defined as the distance between a defined landmark on the pelvis such as Köhler's teardrop (B or B') and a vertical line through the centre of rotation of the hip (A or A') (Fig. 3).

Planning the cup

The cup position in relation to the pelvis must take into account the acetabular contours, the centre of rotation of the hip, Köhler's teardrop and the necessary angle of inclination of the cup (Fig. 4).

To find a suitable cup size, several cup templates are successively positioned at the level of the cavity of the acetabulum with the aim of restoring the native centre of rotation of the hip and at the same time enabling sufficient bone contact on the level of the acetabular roof as well as on that of Köhler's teardrop (Fig. 5).

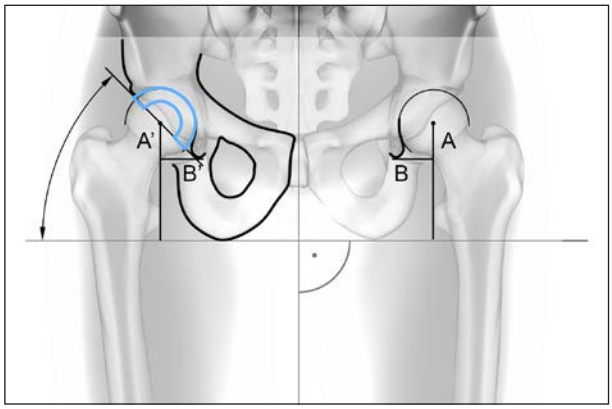


Fig. 6

In the positioning of the implant
the patient's individual anatomy must be considered. The implant position is determined in relation to the anatomical landmarks (acetabular roof, Köhler's teardrop). The implantation depth is then determined (Fig. 6).

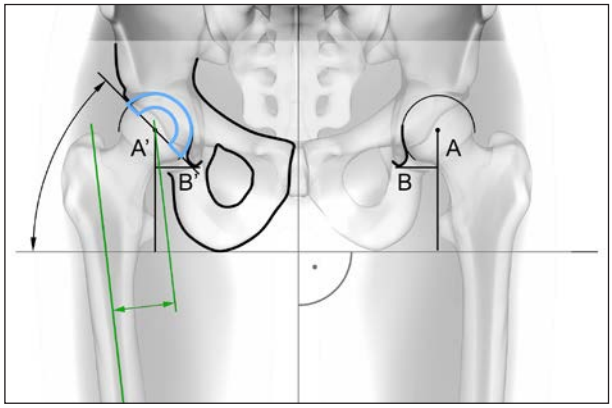


Fig. 7

Estimation of the femoral offset
The femoral offset is defined as the distance between the central longitudinal axis of the femur and the centre of rotation of the hip joint (Fig. 7).

Planning of the optimys stem
The calcar-guided optimys stem is available in a standard and in a lateral version.

Remark
The offset difference between the standard and lateral versions is 5 mm, while the lengths of the stem neck and the CCD angles of the stems are the same. The length of the stem neck increases by 1.4 mm per stem size.

Offset and leg length may vary depending on the position of the stem (varus / normal / valgus).

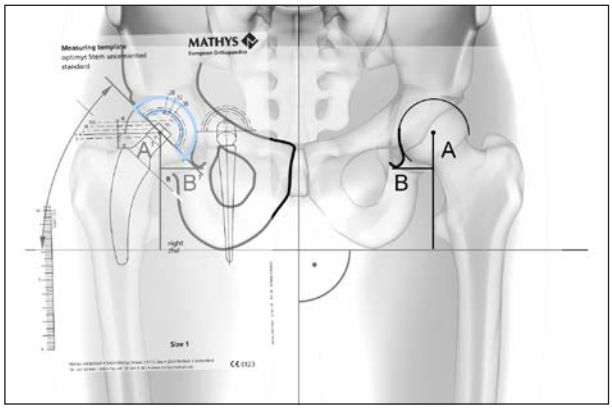


Fig. 8

After the centre of rotation has been determined, the stem is placed on the centre of rotation (neck length M) with the aid of the stem template and positioned flat along the calcar. The smallest size of the stem is used for this (Fig. 8).

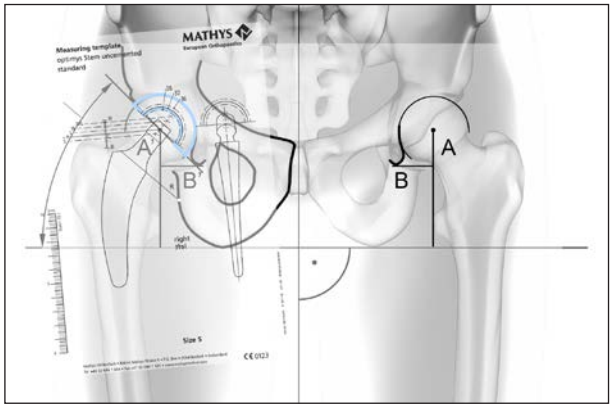


Fig. 9

Then the final size of the stem is determined. This is reached once the stem lies as flat as possible on the calcar in anterior-posterior projection and directly on the lateral cortex in the distal region (Fig. 9).

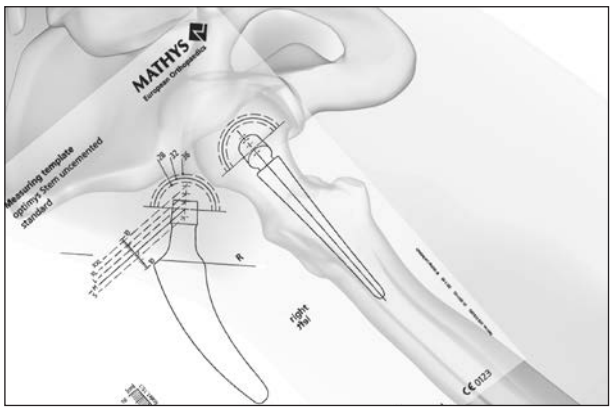


Fig. 10

In the axial projection, the stem is fitted so that it has ventral and dorsal contact proximally. The tip of the stem is positioned to rest on the dorsal cortex, depending on the anteversion of the femoral neck (Fig. 10).

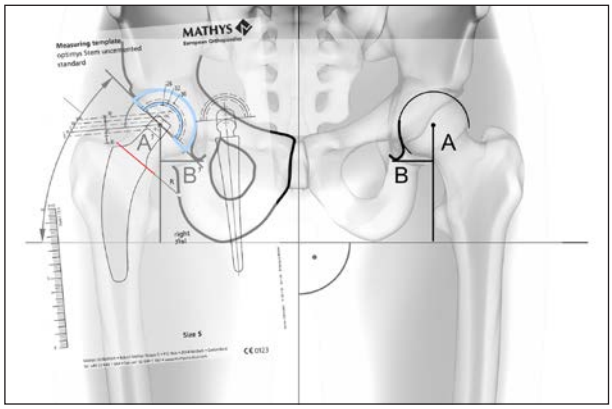


Fig. 11

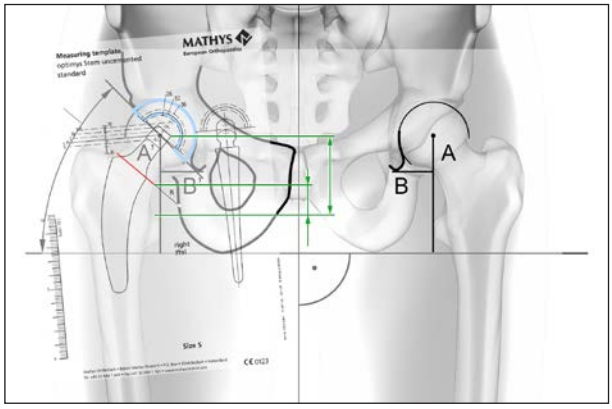


Fig. 12

Fig. 13

The stem position thus established determines the resection level and the resection angle, which can now be plotted (Fig. 11).

For a varus hip with a long femoral neck, the offset to be maintained is greater than it is in the case of a valgus hip. Care must be taken to ensure that, in accordance with the preoperative planning, the femoral neck resection is performed more medially or more proximally, respectively, than it is for the coxa valga. The stem axis of the femoral component in relation to the femoral stem axis is therefore variable, depending on the resection level of the femoral neck.
An additional fine adjustment of the reconstruction can be made using the differing neck lengths of the ball head. [8, 9]

Remark
The optimys portfolio can be combined with all Mathys ball heads in all neck lengths.

For intraoperative control of the resection level, the distance of the same to the lesser or greater trochanter, respectively, is measured. To determine the stem insertion depth, the distance of the prosthesis shoulder to the greater trochanter is determined (Figs. 12 and 13).

3. Surgical technique

Depending on the positioning of the patient and the selection of the access route, conventional accesses are differentiated from so-called minimally invasive accesses that strive to minimise bone and soft tissue damage. The optimys stem can be implanted using various surgical accesses. In the choice of the specific technique, the decision should be based on the patient's anatomy and on the personal experience and preferences of the surgeon.

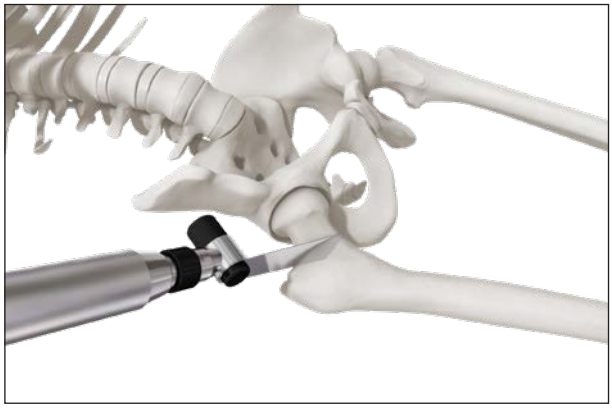


Fig. 14

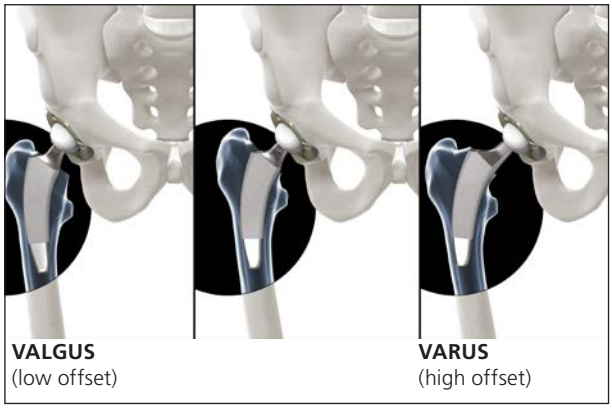


Fig. 15

Osteotomy of the femoral neck
The femoral neck is resected according to the preoperative planning (Fig. 14). In case of narrow anatomical conditions, it is advisable to perform a double osteotomy of the femoral neck and remove the liberated bone block. Then the femoral head is removed with a femoral head extractor. [8]

In the case of a varus hip with a long femoral neck, the offset to be maintained is larger than it is in the case of a valgus hip. Consequently, care must be taken to ensure that, in accordance with the preoperative planning, the femoral neck resection is performed more medially or proximally, respectively, than it is for a coxa valga.

The stem axis of the femoral component in relation to the femoral stem axis thus varies depending on the resection level of the femoral neck (Fig. 15).

The preparation of the acetabulum and implantation of the cup are to be performed depending on the preference of the surgeon.

Remark
The implantation of the cup is described in a separate surgical technique which can be downloaded from the Mathys Ltd Bettlach website or requested from your local Mathys representative.

Fig. 16

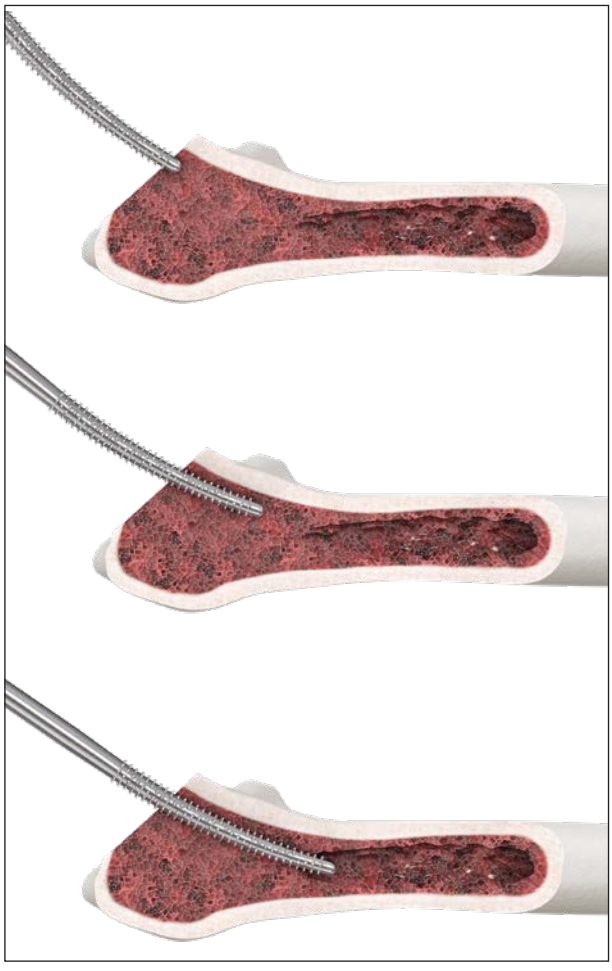


Fig. 17

Opening of the femoral canal

The purpose of opening the medullary canal is to achieve an optimum starting position for bone-preserving rasping of the implant bed along the calcar, and to avoid a «via falsa».

Manual opening of the medullary canal using the opening broach near the medial cortex (Fig. 16).

The opening broach is used only to open the medullary canal to the metaphysis. This facilitates insertion and centring of the first rasp (Fig. 17). Deeper insertion of the opening broach can lead to breakage of the instrument.

Use of the opening broaches is recommended only for implants from size 1 upwards. For smaller sizes, primary stability is jeopardised by removal of too much cancellous bone. Alternatively, the opening can be done with the help of a curved spoon.

Application of a hammer is not recommended for the use of the opening broach.

Alignment with the calcar ensures safe and bone-sparing preparation of the implant bed.

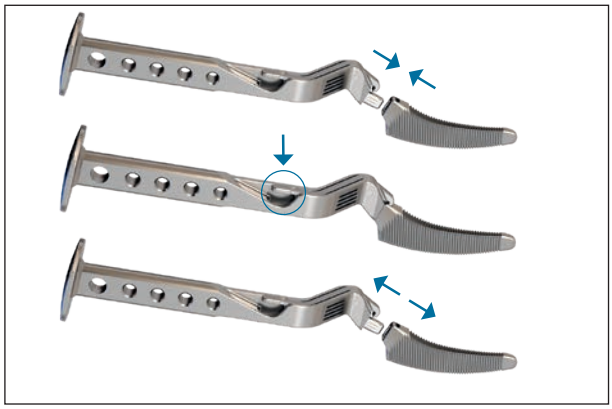


Fig. 18

Fig. 19

Rasp handle
Depending on the approach selected, three different rasp handles are available.

The selected rasp handle is connected to the rasp by plugging them together. The rasp can be released again by pressing the lock (Fig. 18).

Use of the starter broach (S) is recommended only for implants from size 1 upwards. For smaller sizes, primary stability is jeopardised by removal of too much cancellous bone.

Remark
It is important to maintain a constant orientation of the rasp along the calcar until the final rasp reaches the cortical bone laterally.

Completely insert each rasp down to the level of the resection level before changing to the next rasp size. The intended level of the resection line is indicated on the rasp by the transition from the toothing to the flat surface (Fig. 19).

Further gradual widening of the femoral canal with the rasps to the appropriate final size.

Remark
If the rasp has no rotational stability, or if the rasp can be inserted deeper (compared to the preoperative planning), it is recommended to use the next rasp size or to determine the possible reasons (e. g. fissure) with the help of an image intensifier.

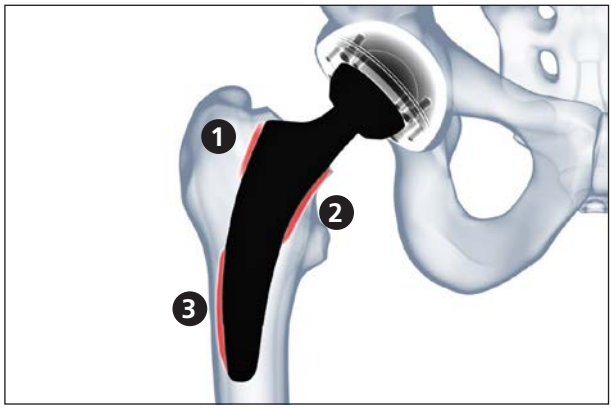


Fig. 20

Remark
In case of coxa vara with a long femoral neck, the stem is anchored using the general 3-point anchorage typical of the short stem (Fig. 20):

1 = laterally proximally with intact femoral neck ring
2 = medially guided along the calcar
3 = distally laterally on the cortex of the proximal diaphysis

Here the anchoring is mainly metaphyseal.
If no reliable contact at the distal lateral cortex is achieved, a larger stem should be used.

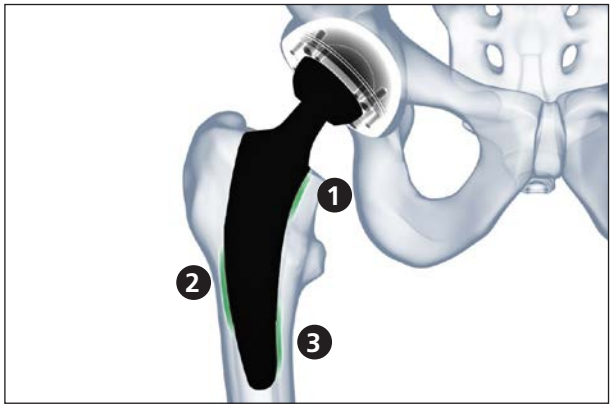


Fig. 21

In case of coxa valga with a short femoral neck, the stem is anchored more distally (Fig. 21):

1 = medially along the calcar
2 = distally laterally on the cortex of the proximal diaphysis
3 = distally medially on the cortex of the proximal diaphysis

Here the anchoring is mainly diaphyseal.
If distally laterally and medially no sufficiently bilaterally diaphyseal contact is achieved, a larger stem must be used.

In all cases, intraoperative control with the image intensifier is important to check and confirm the correct size and position relative to the preoperative planning.

Remark
The final stem size may differ slightly from the preoperative planning due to scaling errors.

Remark
The rasp has to be advanced with care and without too much pressure because of the possible limiting stress on the bone.

Fig. 22

After the rasp of the final size has been driven in, it is left in situ for the trial reduction.

Trial reduction

For the trial reduction, the required trial cone (standard or lateral) and the selected trial head are mounted on the final rasp (Figs. 22 and 23).

Fig. 23

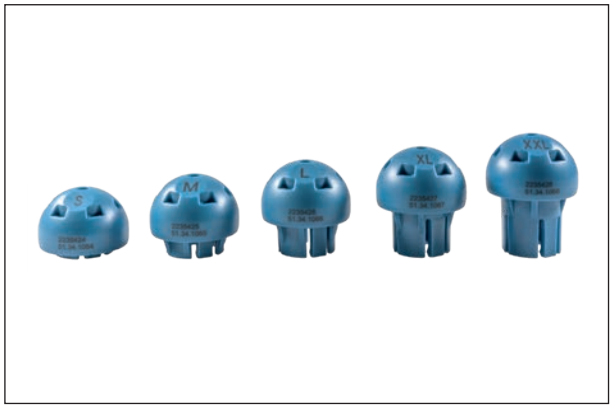


Fig. 24

Trial heads for trial reductions are available in the following diameters: 28 mm, 32 mm and 36 mm, each with the neck lengths S, M and L and optionally in XL and XXL versions, which differ by 4 mm per length. A detailed overview of the various neck lengths can be found in the section «Instruments» (Fig. 24).

Remark

The head diameter must match the inner diameter of the cup.

Fig. 25

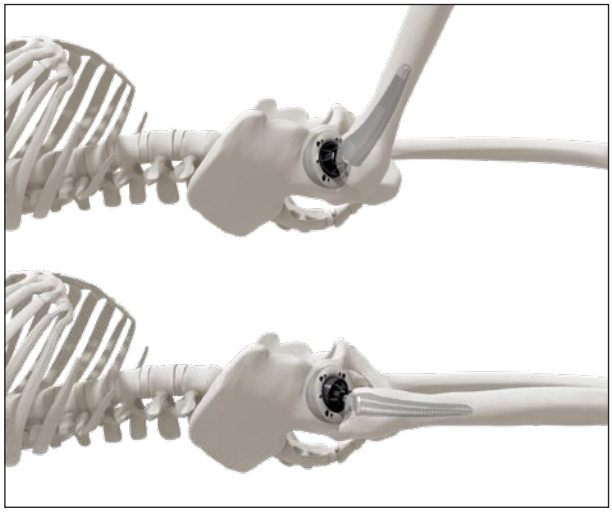


Fig. 26

Fig. 27

Trial reduction of the stem (Fig. 25).

After the trial reduction, the hip joint is moved through its full range of motion.

In doing so, attention must be paid to soft-tissue and neck-cup impingement, and the dislocation tendency of the implant during internal/external rotation in flexion and extension is assessed. In addition, sufficient soft-tissue tension should be ensured (Fig. 26).

At this stage, it is still possible to modify the neck length of the trial head and the offset variant (standard/lateral).
If necessary, an intraoperative X-ray image can be taken for final control, using an image intensifier.

Introducing the final implant
As soon as the trial reduction is completed, and a new dislocation has been performed, the trial head and trial cone are removed. The rasp is then reconnected to the rasp handle, and the rasp is removed from the femur.

In order to promote subsequent osseointegration, flushing and drying of the medullary canal is not recommended.

Remark
The optimys stem should be implanted as quickly as possible after removal of the rasp.

Remark
Make sure that the implant is of the same size as the final rasp is.

The optimys stem is manually placed into the prepared implant bed and then carefully driven deeper with the stem impactor until the final position is reached.

If the bone has been properly prepared, the optimys stem will position itself at the same height as the last rasp did (Figs. 27 and 28).

Fig. 28

Remark
Since the height of the rasp shoulder is identical to the height of the implant shoulder, alternatively the distance from the shoulder to the greater trochanter or to the resection edge can serve as a reference.

Remark
If there is still a gap between the optimys stem and the ventral and/or dorsal cortical bone, it can be filled up with bone graft material.

To avoid complications with the taper connection between stem and ball head, it is strongly recommended to clean and dry the cone of the optimys stem prior to mounting the final Mathys ball head.

Remark
The final head diameter must match the inner diameter of the cup.

The optimys stem cannot be combined with the Dual Mobility cup by Mathys (DS Evolution).

After implantation of all implant components, thorough rinsing of the joint and reduction.

Depending on the access, reattachment of muscle insertions, then wound closure layer by layer.

Remark
In case of a revision of the optimys stem, it is recommended to use a universal extraction instrument. Information on suitable universal extraction instruments such as the Rap Hip (Safrima) can be obtained from the Mathys agency.

Removal of the stem immediately after implantation is possible via the extraction hole.

In case of an intra-operative removal of final stem, re-implantation of the same stem is not allowed – a new stem has to be used.

4. Implants

optimys Stem, standard

Item no.	Description
52.34.1165*	optimys stem std. TAV XS uncem.
52.34.1166	optimys stem std. TAV 0 uncem.
52.34.0191	optimys stem std. TAV 1 uncem.
52.34.0192	optimys stem std. TAV 2 uncem.
52.34.0193	optimys stem std. TAV 3 uncem.
52.34.0194	optimys stem std. TAV 4 uncem.
52.34.0195	optimys stem std. TAV 5 uncem.
52.34.0196	optimys stem std. TAV 6 uncem.
52.34.0197	optimys stem std. TAV 7 uncem.
52.34.0198	optimys stem std. TAV 8 uncem.
52.34.0199	optimys stem std. TAV 9 uncem.
52.34.0200	optimys stem std. TAV 10 uncem.
52.34.0211	optimys stem std. TAV 11 uncem.
52.34.0212	optimys stem std. TAV 12 uncem.

Material: TiAl6V4 coated with TPS + CaP
Cone: 12/14 mm
* Currently not available

optimys Stem, lateral

Item no.	Description
52.34.1167*	optimys stem lat. TAV XS uncem.
52.34.1168	optimys stem lat. TAV 0 uncem.
52.34.0201	optimys stem lat. TAV 1 uncem.
52.34.0202	optimys stem lat. TAV 2 uncem.
52.34.0203	optimys stem lat. TAV 3 uncem.
52.34.0204	optimys stem lat. TAV 4 uncem.
52.34.0205	optimys stem lat. TAV 5 uncem.
52.34.0206	optimys stem lat. TAV 6 uncem.
52.34.0207	optimys stem lat. TAV 7 uncem.
52.34.0208	optimys stem lat. TAV 8 uncem.
52.34.0209	optimys stem lat. TAV 9 uncem.
52.34.0210	optimys stem lat. TAV 10 uncem.
52.34.0221	optimys stem lat. TAV 11 uncem.
52.34.0222	optimys stem lat. TAV 12 uncem.

Material: TiAl6V4 coated with TPS + CaP
Cone: 12/14 mm
* Currently not available

Femoral Heads

Femoral Head, Stainless Steel

Item no.	Outside diameter	Neck length	
54.11.1031	22.2 mm	S	-3 mm
54.11.1032	22.2 mm	M	0 mm
54.11.1033	22.2 mm	L	+3 mm
2.30.410	28 mm	S	-4 mm
2.30.411	28 mm	M	0 mm
2.30.412	28 mm	L	+4 mm
2.30.413	28 mm	XL	+8 mm
2.30.414	28 mm	XXL	+12 mm
2.30.400	32 mm	S	-4 mm
2.30.401	32 mm	M	0 mm
2.30.402	32 mm	L	+4 mm
2.30.403	32 mm	XL	+8 mm
2.30.404	32 mm	XXL	+12 mm

Material: FeCrNiMnMoNbN
Cone: 12/14 mm

Femoral Head, CoCrMo

Item no.	Outside diameter	Neck length	
52.34.0125	22.2 mm	S	-3 mm
52.34.0126	22.2 mm	M	0 mm
52.34.0127	22.2 mm	L	+3 mm
2.30.010	28 mm	S	-4 mm
2.30.011	28 mm	M	0 mm
2.30.012	28 mm	L	+4 mm
2.30.013	28 mm	XL	+8 mm
2.30.014	28 mm	XXL	+12 mm
2.30.020	32 mm	S	-4 mm
2.30.021	32 mm	M	0 mm
2.30.022	32 mm	L	+4 mm
2.30.023	32 mm	XL	+8 mm
2.30.024	32 mm	XXL	+12 mm
52.34.0686	36 mm	S	-4 mm
52.34.0687	36 mm	M	0 mm
52.34.0688	36 mm	L	+4 mm
52.34.0689	36 mm	XL	+8 mm
52.34.0690	36 mm	XXL	+12 mm

Material: CoCrMo
Cone: 12/14 mm

Femoral Heads

Femoral Head, ceramys

Item no.	Outside diameter	Neck length	
54.47.0010	28 mm	S	-3.5 mm
54.47.0011	28 mm	M	0 mm
54.47.0012	28 mm	L	+3.5 mm
54.47.0110	32 mm	S	-4 mm
54.47.0111	32 mm	M	0 mm
54.47.0112	32 mm	L	+4 mm
54.47.0113	32 mm	XL	+8 mm
54.47.0210	36 mm	S	-4 mm
54.47.0211	36 mm	M	0 mm
54.47.0212	36 mm	L	+4 mm
54.47.0213	36 mm	XL	+8 mm

Material: ZrO_2-Al_2O_3
Cone: 12/14 mm

For ceramic-ceramic pairings, use only ceramic heads with ceramic inlays by Mathys.

Femoral Head, symarec

Item no.	Outside diameter	Neck length	
54.48.0010	28 mm	S	-3.5 mm
54.48.0011	28 mm	M	0 mm
54.48.0012	28 mm	L	+3.5 mm
54.48.0110	32 mm	S	-4 mm
54.48.0111	32 mm	M	0 mm
54.48.0112	32 mm	L	+4 mm
54.48.0113	32 mm	XL	+8 mm
54.48.0210	36 mm	S	-4 mm
54.48.0211	36 mm	M	0 mm
54.48.0212	36 mm	L	+4 mm
54.48.0213	36 mm	XL	+8 mm

Material: Al_2O_3-ZrO_2
Cone: 12/14 mm

For ceramic-ceramic pairings, use only ceramic heads with ceramic inlays by Mathys.

Revision Heads

Revision Head, ceramys

Item no.	Outside diameter	Neck length	
54.47.2010	28 mm	S	-3.5 mm
54.47.2020	28 mm	M	0 mm
54.47.2030	28 mm	L	+3.5 mm
54.47.2040	28 mm	XL	+7 mm
54.47.2110	32 mm	S	-3.5 mm
54.47.2120	32 mm	M	0 mm
54.47.2130	32 mm	L	+3.5 mm
54.47.2140	32 mm	XL	+7 mm
54.47.2210	36 mm	S	-3.5 mm
54.47.2220	36 mm	M	0 mm
54.47.2230	36 mm	L	+3.5 mm
54.47.2240	36 mm	XL	+7 mm

Material: ZrO_2-Al_2O_3, TiAl6V4
Cone: 12/14 mm

ceramys Revision Heads can be used with all Mathys stem systems with a «12/14 cone».

The ceramys Revision Heads can be combined with inlays made of either ceramic (only from Mathys), Polyethylene or cross linked Polyethylene.

Bipolar Head, CoCrMo and Stainless Steel

CoCrMo	Stainless Steel	Outside diameter	Head diameter
52.34.0090	–	39 mm	22.2 mm
52.34.0091	–	40 mm	22.2 mm
52.34.0092	–	41 mm	22.2 mm
52.34.0093	–	42 mm	22.2 mm
52.34.0094	–	43 mm	22.2 mm
52.34.0100	54.11.0042	42 mm	28 mm
52.34.0101	–	43 mm	28 mm
52.34.0102	54.11.0044	44 mm	28 mm
52.34.0103	–	45 mm	28 mm
52.34.0104	54.11.0046	46 mm	28 mm
52.34.0105	–	47 mm	28 mm
52.34.0106	54.11.0048	48 mm	28 mm
52.34.0107	–	49 mm	28 mm
52.34.0108	54.11.0050	50 mm	28 mm
52.34.0109	–	51 mm	28 mm
52.34.0110	54.11.0052	52 mm	28 mm
52.34.0111	–	53 mm	28 mm
52.34.0112	54.11.0054	54 mm	28 mm
52.34.0113	–	55 mm	28 mm
52.34.0114	54.11.0056	56 mm	28 mm
52.34.0115	–	57 mm	28 mm
52.34.0116	54.11.0058	58 mm	28 mm
52.34.0117	–	59 mm	28 mm

Material CoCrMo: CoCrMo; UHMWPE
Material stainless steel: FeCrNiMnMoNbN; UHMWPE

Detailed information on the implantation of bipolar heads is provided in a separate surgical technique. Please contact your local Mathys agency for this.

Hemiprosthesis Head, Stainless Steel
Sizes 38–44 mm

Item no. / S -4 mm	Item no. / M 0 mm	Outside diameter
2.30.420	67092	38 mm
2.30.421	67093	40 mm
2.30.422	67094	42 mm
2.30.423	67095	44 mm

Material: FeCrNiMnMoNbN
Cone: 12 / 14 mm

Hemiprosthesis Head, Stainless Steel
Sizes 46–58 mm

Item no. / S -4 mm	Item no. / M 0 mm	Outside diameter
2.30.424	67096	46 mm
2.30.425	67097	48 mm
2.30.426	67098	50 mm
2.30.427	67099	52 mm
2.30.428	67100	54 mm
2.30.429	67101	56 mm
2.30.430	67102	58 mm

Material: FeCrNiMnMoNbN
Cone: 12 / 14 mm

4.1 Overview of implant dimensions

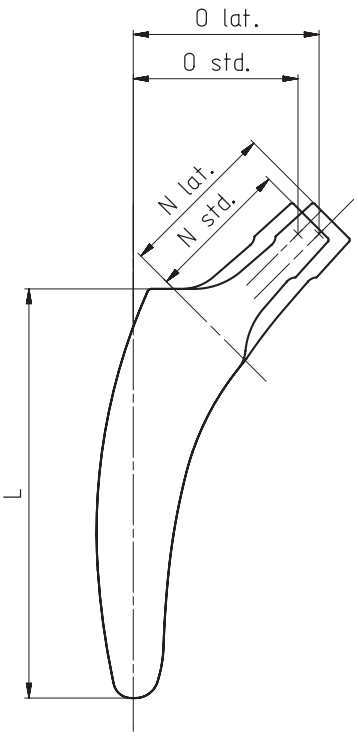
Standard

Size	Length (L) [mm]	Offset (O) [mm]	Neck length (N) [mm]
XS*	77	28	27.5
0	80	29	28.0
1	84	30	28.5
2	88	32	30.0
3	91	35	31.5
4	94	37	33.0
5	97	39	34.5
6	100	41	36.0
7	103	43	37.5
8	106	46	39.0
9	109	48	40.5
10	112	50	42.0
11	115	53	43.5
12	118	55	45.0

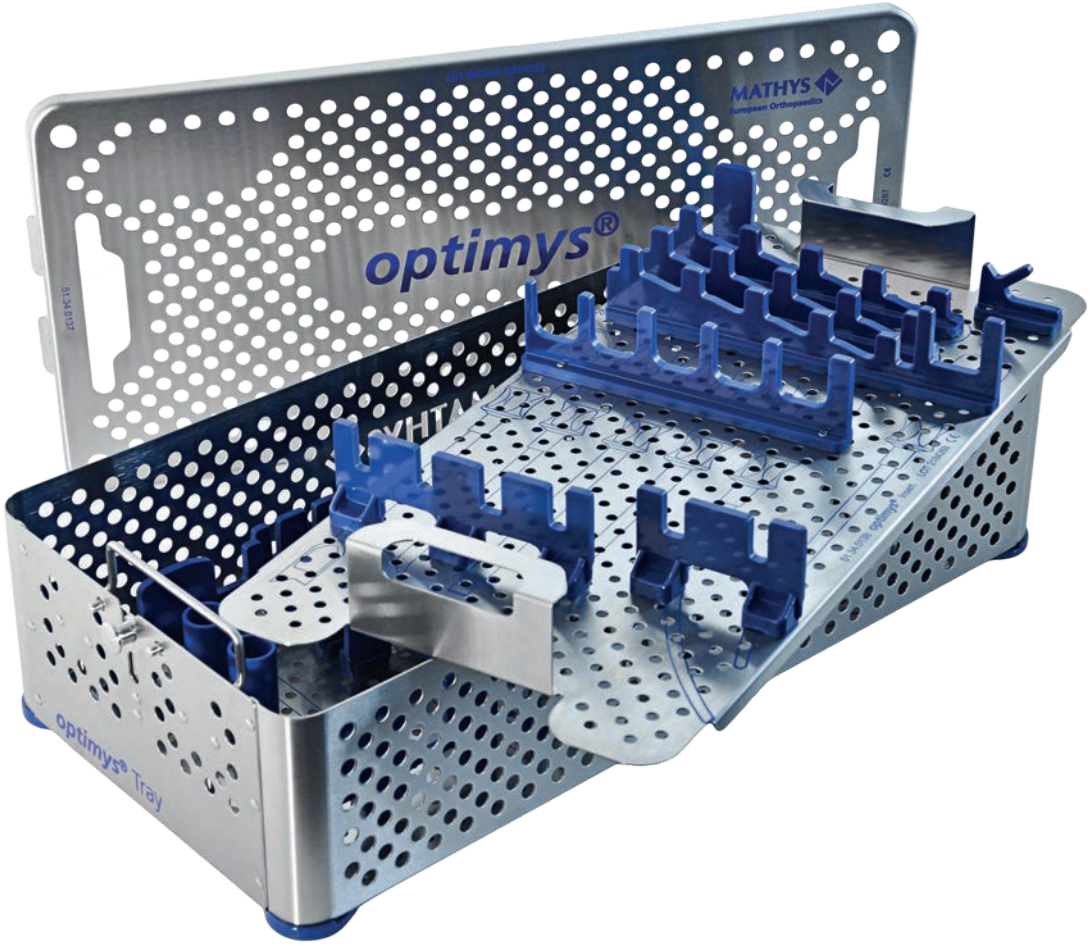
Lateral

Length (L) [mm]	Offset (O) [mm]	Neck length (N) [mm]
77	33	31.0
80	34	31.5
84	35	32.0
88	37	33.5
91	40	35.0
94	42	36.5
97	44	38.0
100	46	39.5
103	48	41.0
106	51	42.5
109	53	44.0
112	55	45.5
115	58	47.0
118	60	48.5

Material: Ti6AL4V + TPS/CaP
Cone: 12/14 mm
CCD-angle: 135° for both – standard/lateral
* Currently not available



5. Instruments



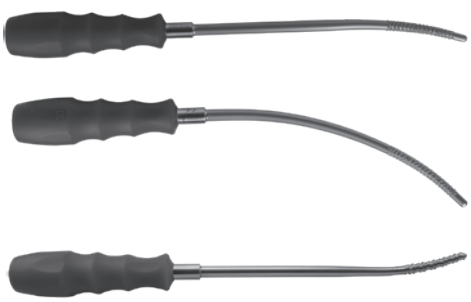
Item no.	Description
51.34.0137	optimys Lid
51.34.0138	optimys Tray Insert
51.34.0139	optimys Tray

optimys Instrumentation Set 51.34.1084A – Configuration

Item no.	Description	Anterior	Antero-lateral	Posterior
51.34.0858*	optimys Opening Broach	optional	•	•
51.34.0859*	optimys Opening Broach bent	•	optional	optional
51.34.1085*	optimys Starter Broach	optional	optional	optional
51.34.1086	optimys Rasp Size XS	optional	optional	optional
51.34.1087	optimys Rasp Size 0	optional	optional	optional
51.34.0080*	optimys starting rasp	optional	optional	optional
51.34.0081	optimys Rasp Size 1	•	•	•
51.34.0082	optimys Rasp Size 2	•	•	•
51.34.0083	optimys Rasp Size 3	•	•	•
51.34.0084	optimys Rasp Size 4	•	•	•
51.34.0085	optimys Rasp Size 5	•	•	•
51.34.0086	optimys Rasp Size 6	•	•	•
51.34.0087	optimys Rasp Size 7	•	•	•
51.34.0088	optimys Rasp Size 8	•	•	•
51.34.0089	optimys Rasp Size 9	•	•	•
51.34.0090	optimys Rasp Size 10	•	•	•
51.34.0091	optimys Rasp Size 11	•	•	•
51.34.0092	optimys Rasp Size 12	•	•	•
51.34.0100	optimys cone standard	•	•	•
51.34.0101	optimys Trial Cone lateral	•	•	•
51.34.0109	optimys Crossbar short	•	•	•
51.34.0110	optimys Rasp Handle straight	optional	optional	•
51.34.0111	optimys Rasp Handle double offset right	optional	•	optional
51.34.0112	optimys Rasp Handle double offset left	optional	•	optional
51.34.0113	optimys Rasp Handle angled	•	optional	optional
51.34.0125	optimys Stem impactor	•	•	•
51.34.0135	Head impactor silicone	•	•	•
3.30.536	Top f/head impactor	•	•	•
51.34.0136	Extractor curved silicone	•	•	•

** Use of the Starter Broach (S) is recommended only for implants from size 1 upwards, as with smaller sizes too much cancellous bone would be removed, endangering primary stability. For implants of sizes smaller than 1, use of the rasps XS and 0 is mandatory.*

Item no.	Description	Anterior	Antero-lateral	Posterior
51.34.1064	Trial head 28 S	•	•	•
51.34.1065	Trial head 28 M	•	•	•
51.34.1066	Trial head 28 L	•	•	•
51.34.1067	Trial head 28 XL	•	•	•
51.34.1068	Trial head 28 XXL	•	•	•
51.34.1069	Trial head 32 S	•	•	•
51.34.1070	Trial head 32 M	•	•	•
51.34.1071	Trial head 32 L	•	•	•
51.34.1072	Trial head 32 XL	•	•	•
51.34.1073	Trial head 32 XXL	•	•	•
51.34.1074	Trial head 36 S	•	•	•
51.34.1075	Trial head 36 M	•	•	•
51.34.1076	Trial head 36 L	•	•	•
51.34.1077	Trial head 36 XL	•	•	•
51.34.1078	Trial head 36 XXL	•	•	•



Item no.	Description
51.34.0858	optimys Opening Broach

Item no.	Description
51.34.0859	optimys Opening Broach bent

Item no.	Description
51.34.1085	optimys Starter Broach

Item no.	Description	Size
51.34.1086	optimys Rasp	XS
51.34.1087	optimys Rasp	0
51.34.0080	optimys starting rasp	S
51.34.0081	optimys Rasp	1
51.34.0082	optimys Rasp	2
51.34.0083	optimys Rasp	3
51.34.0084	optimys Rasp	4
51.34.0085	optimys Rasp	5
51.34.0086	optimys Rasp	6
51.34.0087	optimys Rasp	7
51.34.0088	optimys Rasp	8
51.34.0089	optimys Rasp	9
51.34.0090	optimys Rasp	10
51.34.0091	optimys Rasp	11
51.34.0092	optimys Rasp	12

Item no.	Description
51.34.0110	optimys Rasp Handle straight (P)

Item no.	Description
51.34.0111	optimys Rasp Handle double offset right (AL)
51.34.0112	optimys Rasp Handle double offset left (AL)

Item no.	Description
51.34.0113	optimys Rasp Handle angled (A)

Item no.	Description
51.34.0109	optimys Crossbar short

Item no.	Description
51.34.0100	optimys cone standard
51.34.0101	optimys Trial Cone lateral

Item no.	Description	Neck length
51.34.1064	Trial head 28 S	- 4 mm
51.34.1065	Trial head 28 M	0 mm
51.34.1066	Trial head 28 L	+ 4 mm
51.34.1067	Trial head 28 XL	+ 8 mm
51.34.1068	Trial head 28 XXL	+ 12 mm
51.34.1069	Trial head 32 S	- 4 mm
51.34.1070	Trial head 32 M	0 mm
51.34.1071	Trial head 32 L	+ 4 mm
51.34.1072	Trial head 32 XL	+ 8 mm
51.34.1073	Trial head 32 XXL	+ 12 mm
51.34.1074	Trial head 36 S	- 4 mm
51.34.1075	Trial head 36 M	0 mm
51.34.1076	Trial head 36 L	+ 4 mm
51.34.1077	Trial head 36 XL	+ 8 mm
51.34.1078	Trial head 36 XXL	+ 12 mm

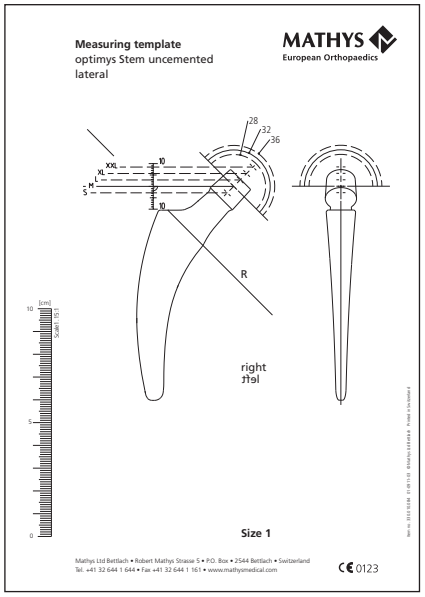
Item no.	Description
51.34.0135	Head impactor silicone

Item no.	Description
3.30.536	Top f/head impactor

Item no.	Description
51.34.0125	optimys Stem impactor

Item no.	Description
51.34.0136	Extractor curved silicone

6. Measuring template



Item no.	Description
330.010.084	optimys Stem uncemented lateral Template
330.010.085	optimys Stem uncemented standard Template

7. References

1 Kutzner K.P., Kovacevic M.P., Roeder C., Rehbein P., et al. Reconstruction of femoro-acetabular offsets using a short-stem. Int Orthop, 2015. 39(7): p. 1269-75.

2 Kutzner K.P., Freitag T., Donner S., Kovacevic M.P., et al. Outcome of extensive varus and valgus stem alignment in short-stem THA: clinical and radiological analysis using EBRA-FCA. Archives of Orthopaedic and Trauma Surgery, 2017: p. 1-9.

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9 Kutzner K.P., Pfeil J. Individualized Stem-positioning in Calcar-guided Short-stem Total Hip Arthroplasty. J Vis Exp. 2018. (132)

8. Symbols

 Manufacturer

 Correct

 Incorrect

 Caution

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