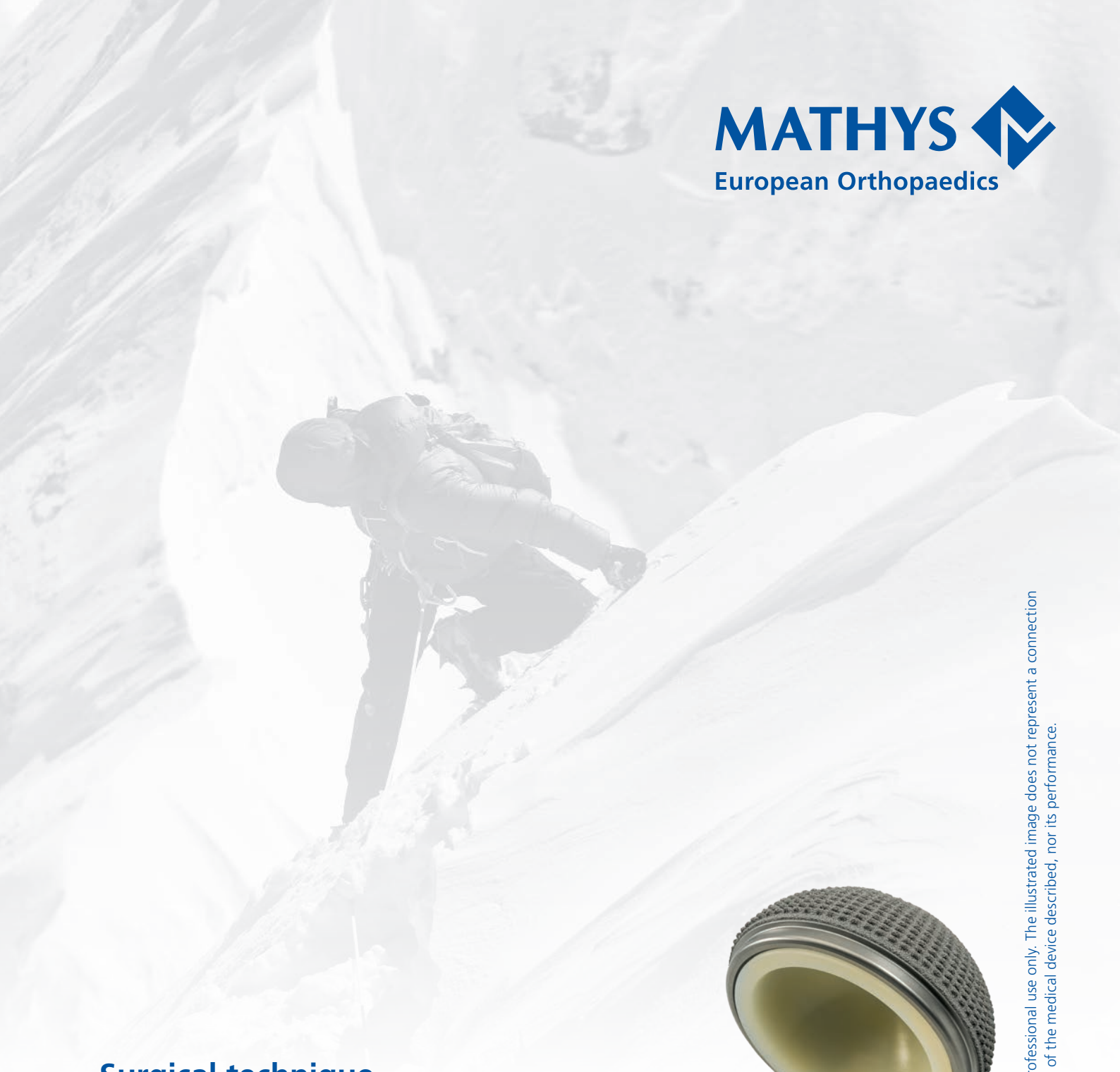
MATHYS
European Orthopaedics



Surgical technique

aneXys

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

Today, implantation of artificial hip joints is one of the most successful standard procedures in surgery. [1] The aim of joint replacement is to eliminate pain, restore the function and reconstruct the physiological anatomy of the hip joint. Due to the demographic development and the increasing importance of sports even in advanced age, the number of such operations can be expected to increase. [2]

Improving the quality of life of patients of any age has been among the central maxims of Mathys since 1963. Research in the field of implant materials and their improvement, optimisation of prosthetic designs and improvement in the handling of instruments enable Mathys to meet these requirements. We see our main task in coping successfully with this challenge. Mathys' many years of experience in these key areas of our activity are the basis for the success of our projects.

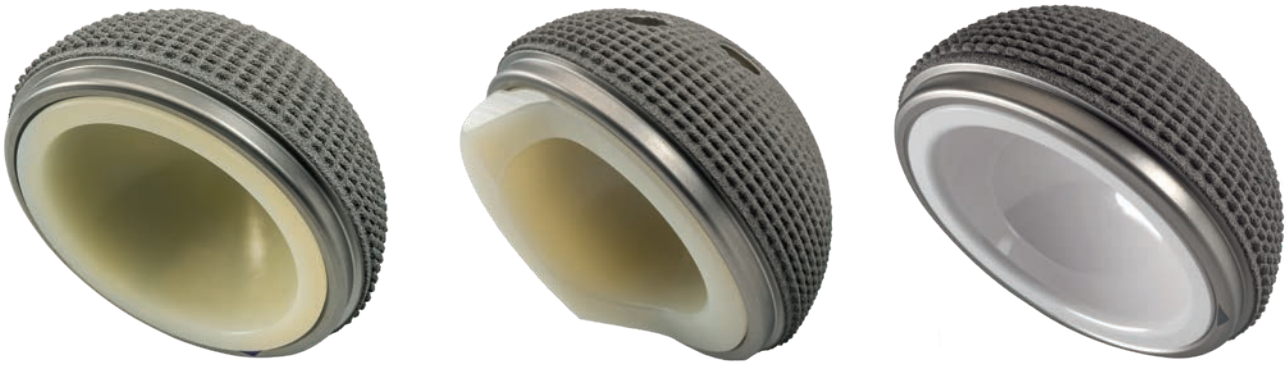
The surface of the aneXys cup is macrostructured and has an additional porous coating. The modular aneXys cup offers a wide range of components with different tribological options.

The instruments allow the surgeon to implant the system via various surgical approaches.

With the vitamin**-** E enriched highly crosslinked polyethylene (vitamys) and the advanced ceramic composite material for ceramic-on-ceramic articulation (ceramys), the portfolio includes several enhanced bearing options.

vitamys prevents premature ageing of the material [3] * and thus contributes to long-term stability of the implant anchoring. In comparison with conventional polyethylene, vitamys also allows use of larger head diameters, up to 36 mm, for increased joint stability and improved function. [4]

ceramys is a nanocrystalline ATZ (Alumina Toughened Zirconia) dispersion ceramic. It offers a high fracture resistance, is highly resistant to ageing [5] and shows low wear rates for ceramic-on-ceramic articulation. [6, 7]



* Based on preclinical bench testing data

1. Indications and contraindications

1.1 Indications

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

aneXys ceramys inlay:

- Total hip arthroplasty in combination with aneXys Cluster, aneXys Uno, or aneXys Multi shell, intended to be used with a ceramic inlay

aneXys shell – inlay – head combination:
ceramys inlays may be used only in combination with the following aneXys shells: Uno, Cluster, Multi.

vitamys inlays can be used with all aneXys shell types.

Shell	vitamys inlay	ceramys inlay
aneXys Flex	✓	––
aneXys Uno	✓	✓
aneXys Cluster	✓	✓
aneXys Multi	✓	✓

ceramys inlays may be used only in combination with Mathys ceramic femoral heads.

1.2 Contraindications

- Presence of factors jeopardising stable anchoring of the implant:
  – Bone loss and/or bone defects
  – Insufficient bone substance
- Presence of factors preventing osseointegration:
  – Irradiated bone (exception: preoperative irradiation for ossification prophylaxis)
  – Devascularisation
- Local and/or general infection
- Hypersensitivity to any of the materials used
- Severe soft tissue, nerve or vessel insufficiency that jeopardises the function and long-term stability of the implant
- Patients in whom a different type of reconstruction surgery or treatment is likely to be successful

aneXys ceramys inlay:

- Total hip arthroplasty with a cup not intended to be used with the aneXys ceramic inlay
- Revision surgery with the shell left in situ
- Ceramic inlay in combination with a metal head
- Ceramic inlay in combination with a ceramic head by any manufacturer other than Mathys Ltd Bettlach
- Do not use any hard-on-hard couples for cups with an inclination of under 40° or over 50° as, for example, in the treatment of dysplasia, since the implants could be damaged by subluxation processes or points of contact between the components
- Do not implant a hard-on-hard couple if there is a risk of impingement between the hip stem and the cup. In this case, use a hard-on-soft couple

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

2. Preoperative planning

Preoperative templating can be performed on standard radiographs or with a digital planning system. 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. In this way, possible problems can be identified even before the surgery. [8] Moreover, the preoperative planning serves as a basis for the intraoperative reconciliation using fluoroscopic control.
It is recommended to document the preoperative planning in the patient's file.

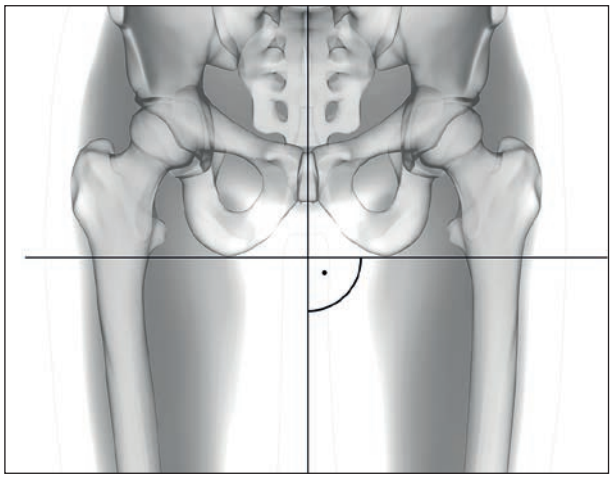


Fig. 1

The planning is ideally performed on a pelvic X-ray which is taken with the patient in a supine or standing position. In doing so, the central beam is aligned on 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 focal distance (Fig. 1).

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. [8]

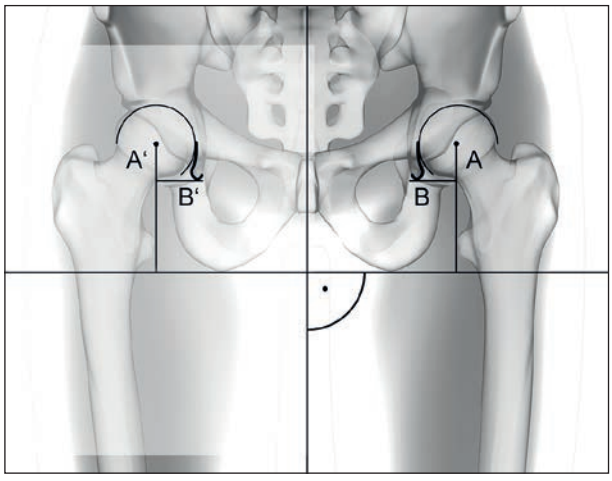


Fig. 2

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 Köhler's teardrop (B or B') and the vertical line through the centre of rotation of the hip (A or A') (Fig. 2).

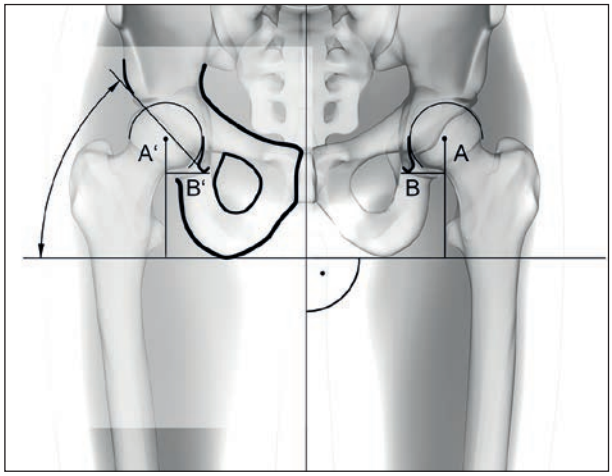


Fig. 3

Planning of 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 cup inclination angle (Fig. 3).

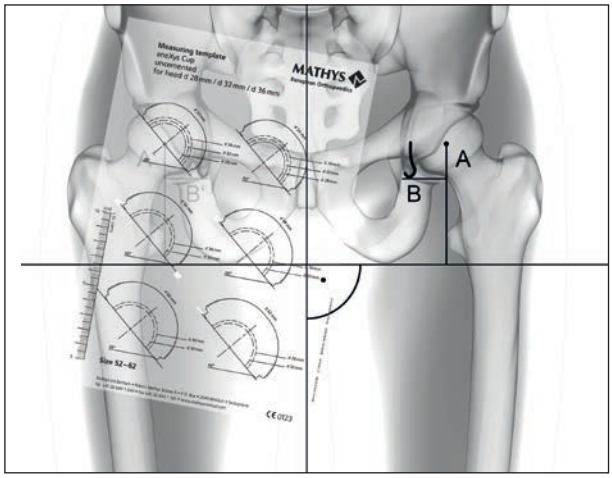


Fig. 4

To find a suitable cup size, several cup templates are successively positioned on 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. 4).

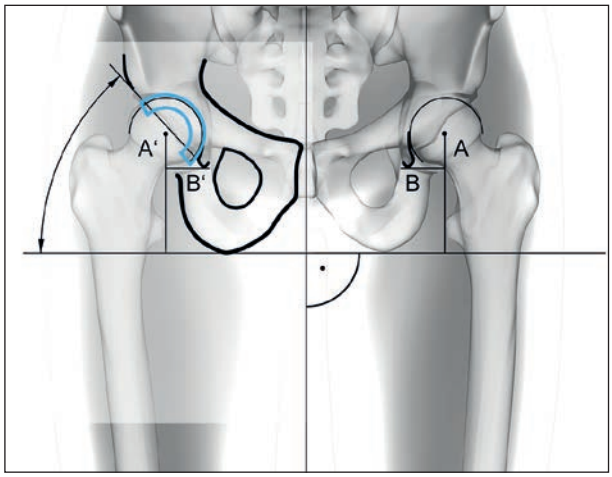


Fig. 5

In the positioning of the cup, 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. 5).

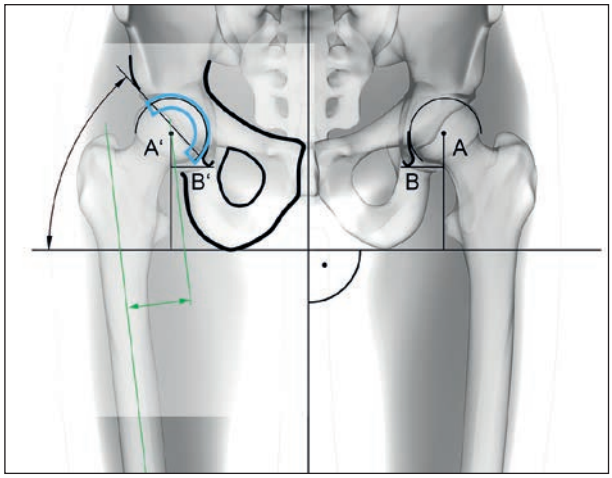


Fig. 6

Estimation of the femoral offset

The femoral offset is defined as the smallest distance between the central longitudinal axis of the femur and the centre of rotation of the hip (Fig. 6).

Remark

The planning of the stem is shown using the twinSys stem as an example. Other stem systems may also be used.

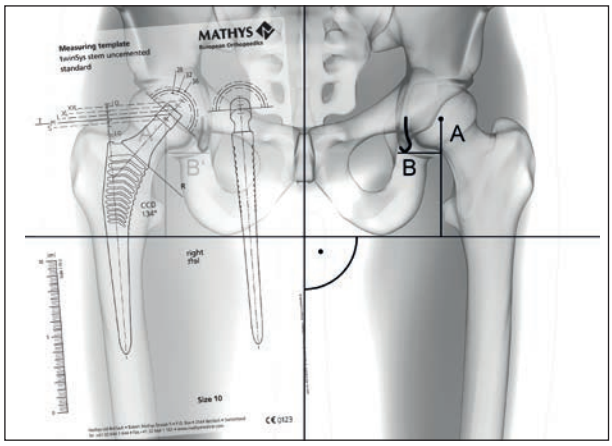


Fig. 7

Planning of the stem

Determination of the stem size using the measuring templates on the femur to be operated on. The template is to be aligned to the centre of rotation and the central axis of the femur (Fig. 7).

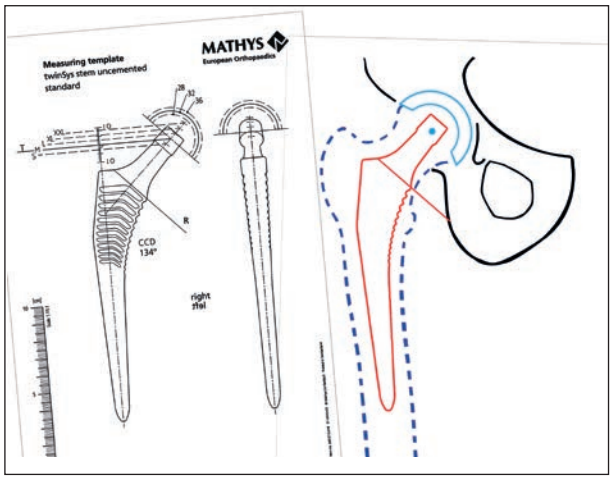


Fig. 8

On the planning sheet, the matching stem is delineated in the form of dotted lines with the measuring template in the same abduction/adduction position as the femur of the healthy side (Fig. 8).

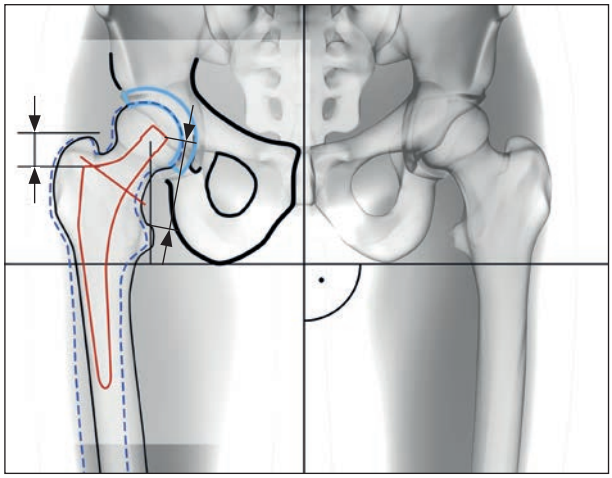


Fig. 9

The femur to be operated on is plotted over the selected stem.
For intraoperative control, the distance between the proximal end of the stem cone and the lesser trochanter as well as the one between the stem shoulder and the greater trochanter are measured.

Plotting of the resection plane and determination of the intersection between the trochanteric mass and the lateral demarcation of the prosthesis stem (Fig. 9).

3. Surgical technique

The aneXys cup can be implanted using various surgical approaches and positioning of the patient. The decision of a specific technique should be based on the patient's anatomy, the planned surgical intervention and on the personal experience and preferences of the surgeon.

Fig. 10

Femoral osteotomy

The femoral neck is resected according to the preoperative planning (Fig. 10). In case of difficult anatomical conditions, it is advisable to perform a double osteotomy and remove a fragment of the femoral neck. Then the femoral head is removed with a femoral head extractor.

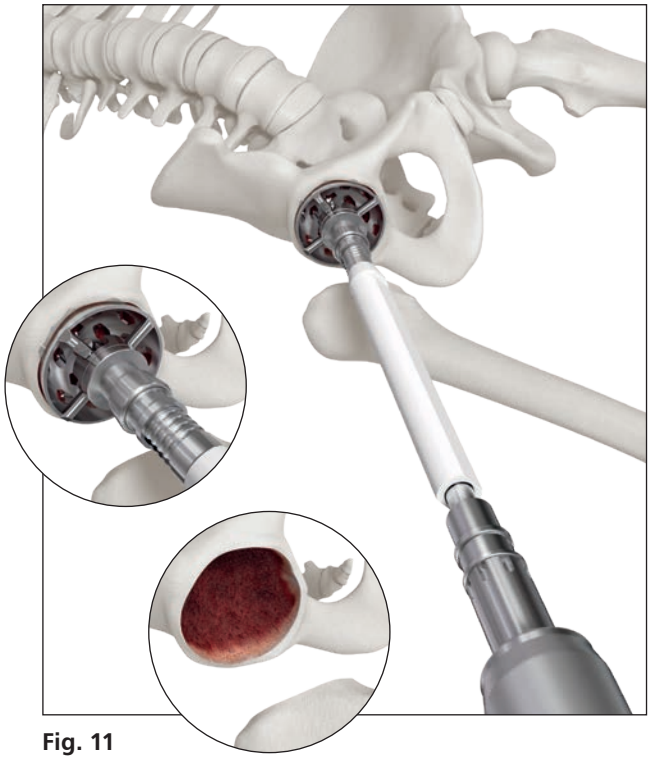


Fig. 11

Preparation of the acetabulum

Sufficient exposure of the acetabulum is the prerequisite for safe preparation of the acetabulum to ensure correct cup implantation and good primary stability. Using spherical acetabular reamers of ascending sizes, the acetabular bed is processed in increments of 2 mm each, until the correct depth and size is achieved. Sclerotic subchondral bone is prepared in such a manner that minor haemorrhages appear (Fig. 11).

Remark

Ensure that the acetabulum is reamed to the implant depth defined in the preoperative planning.
For secure pressfit anchoring, the acetabulum must be reamed as hemispherical as possible.
Careful debridement of the acetabular rim is important to avoid drawing in soft tissues between the bone and the cup during implantation.

Fig. 12

Fig. 13

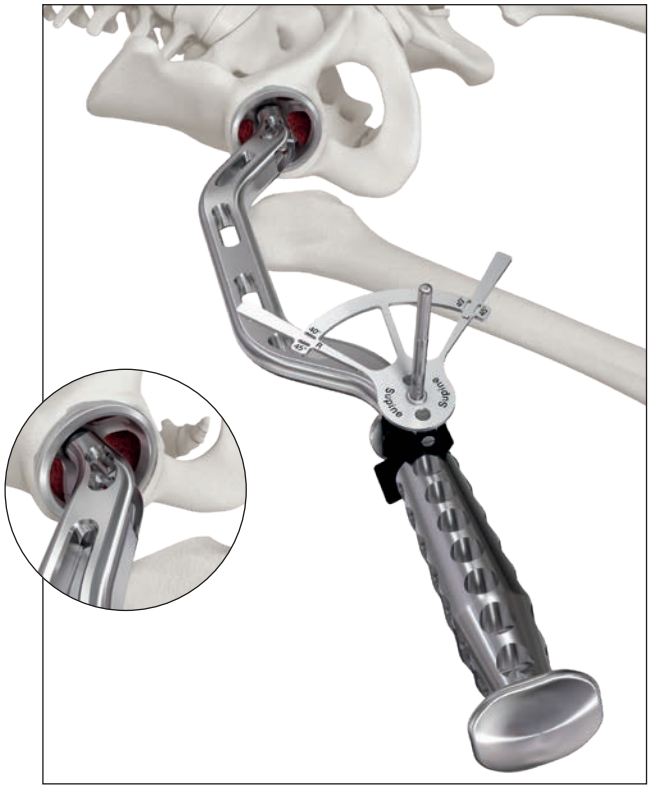


Fig. 14

Implantation of the titanium shell

Using the trial cup, the sphericity of the reamed acetabulum as well as congruence of the reamed implant bed, implant depth and stability of the selected cup size is checked.

The trial cup is oversized by 0.5 mm compared to the acetabular reamer, while the final implant has an equatorial oversizing of approximately 1.5 mm (Fig. 12).

The size designation of the final implant matches that of the most recently used reamer.

The trial cup is mounted on the shell impactor using the screwdriver (Fig. 13) and impacted into the acetabulum (Fig. 14).

Remark

When using the straight shell impactor, it is screwed directly into the polar hole of the trial cup.

Through the viewing windows in the trial cup, the depth and sphericity of the reamed acetabulum can be evaluated. It is important to ensure sufficient bony coverage of the shell.

Remark

It is recommended to select the definitive implant only when the trial cup is firmly seated. Stable seating of the trial cup is achieved when the patient's pelvis can be moved by slight tilting of the shell impactor.
Beyond this angular tilting, the trial cup should be easy to remove from the acetabulum.

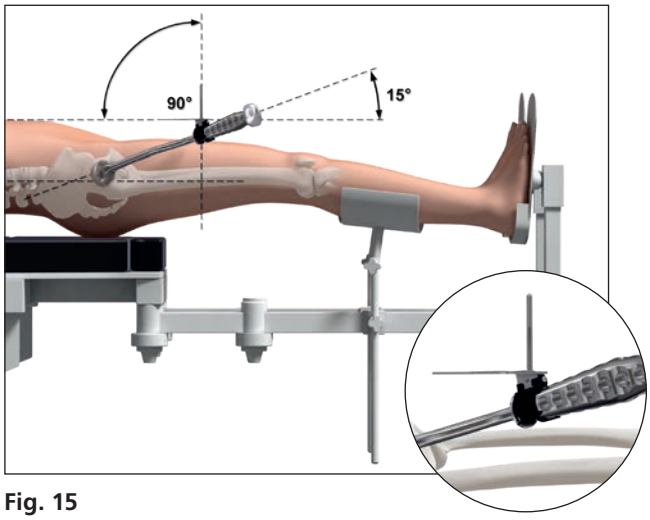


Fig. 15
Supine position – lateral view

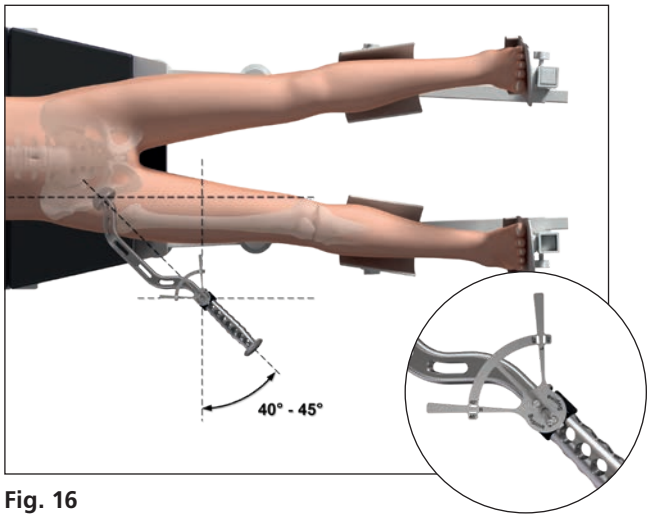


Fig. 16
Supine position – view from above

For the implantation of the aneXys shell, mount the implant in analogy to the trial cup on the shell impactor.

Remark
To avoid damage to implants and instruments, the firm seating of the aneXys shell on the shell impactor should be checked.

The positioning guide is used as a positioning aid to determine the desired inclination and anteversion of the implant.

The positioning guide is attached to the handle of the straight or curved shell impactor. In patients in supine decubitus position the positioning guide indicates an inclination of 40°–45° and an anteversion of 15° (Figs. 15, 16).
In patients in lateral decubitus position, the positioning guide indicates an inclination of 40° and an anteversion of 15°–20° (Figs. 17, 18).

Remark
Precise adjustment of inclination and anteversion is a prerequisite for complication-free functioning of the artificial hip joint; here the individual anatomy is to be considered. Generally, an inclination of 40°–50° and an anteversion of 10°–20° are recommended.

Remark
Optionally, the rotation and extraction plate can be mounted into the handle of the shell impactor and be used for controlled positioning of the shell.

When implanting the shell, correct orientation of the screw holes is to be ensured. The holes must be placed in the postero-superior (a) or postero-inferior (b) quadrants of the acetabulum (Fig. 21).[9] For orientation, the shells with screw holes have an arrow mark that is usually pointing towards the acetabular notch.
The additional screw fixation is described on page 16.

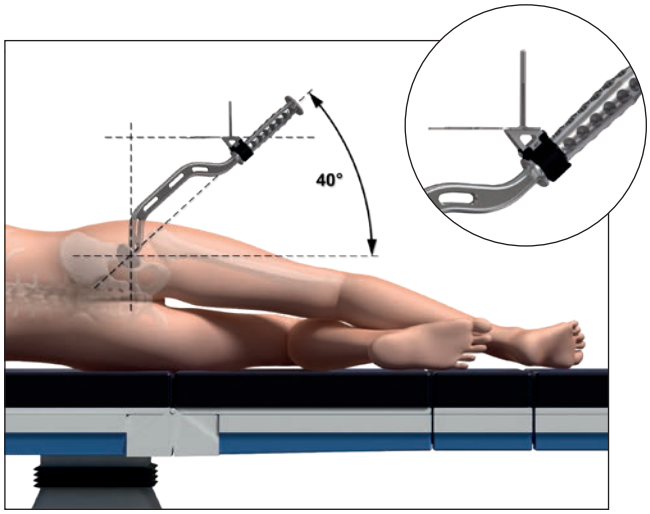


Fig. 17 Lateral position – lateral view

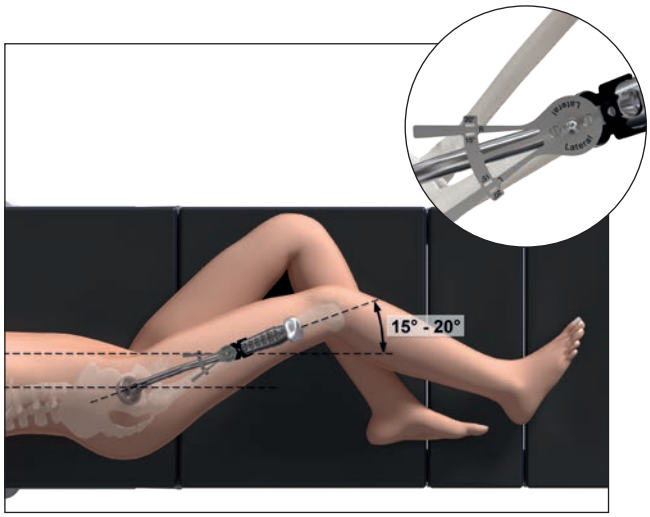


Fig. 18 Lateral position – view from above

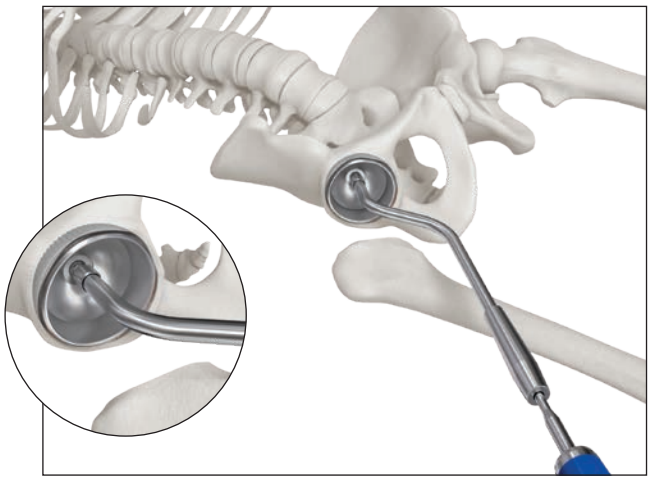


Fig. 19

The shell is impacted into the final position determined in the preoperative planning.

Remark

For stability control after implantation, the shell impactor can be slightly tilted until the patient's pelvis can be moved.
Intraoperative verification of the cup position with the image converter is recommended. [10]

If the cup is not sufficiently stable, slightly deeper reaming with the last used reamer size can be considered if enough bone stock is available.

After removal of the shell impactor, the central polar hole is optionally closed with a pole cap. It is positioned on the screwdriver or on the curved polar plug inserter and hand tightened (Fig. 19).

It must be ensured that the pole cap is completely screwed in and no longer protrudes into the shell.
Avoid overtightening of the pole cap.

Remark

The pole cap is already included into the packaging of the aneXys shells without screw holes (aneXys Flex, aneXys Uno). For shells with screw holes (aneXys Cluster, aneXys Multi), the pole cap is available separately as a sterile single item.

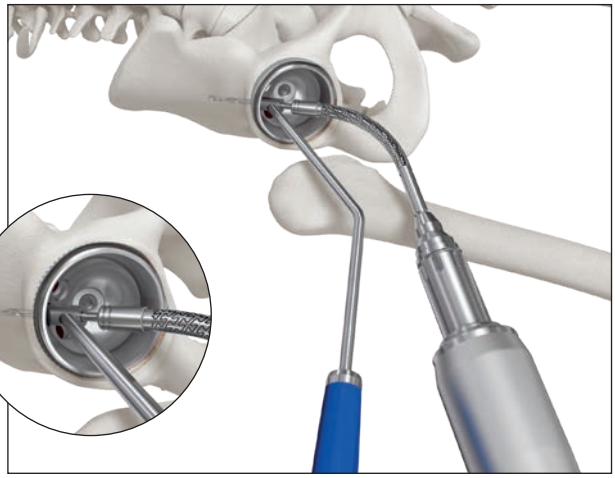


Fig. 20

Additional screw fixation

Optionally, the aneXys Cluster and Multi shells can be fixed with cancellous screws. To this purpose, the screw holes are pre-drilled with a flexible shaft, a 3.2 mm drill bit and the drill guide (Fig. 20).

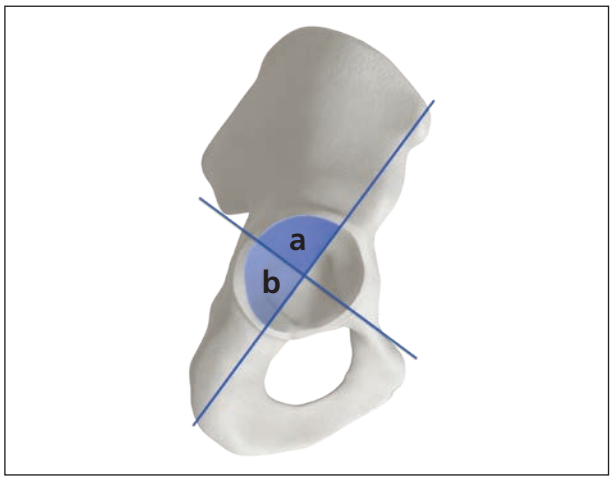


Fig. 21

To minimise the risk of nerve and vessel injury, the position and drilling depth of the screw holes and the respective screw lengths must be selected considering the anatomy of the patient's pelvic area.
The screws are preferably placed in the postero-superior quadrant (a) or with caution in the postero-inferior quadrant (b) of the acetabulum (Fig. 21). [9] *The cup and thus the position of the predrilled holes has to be placed accordingly.*

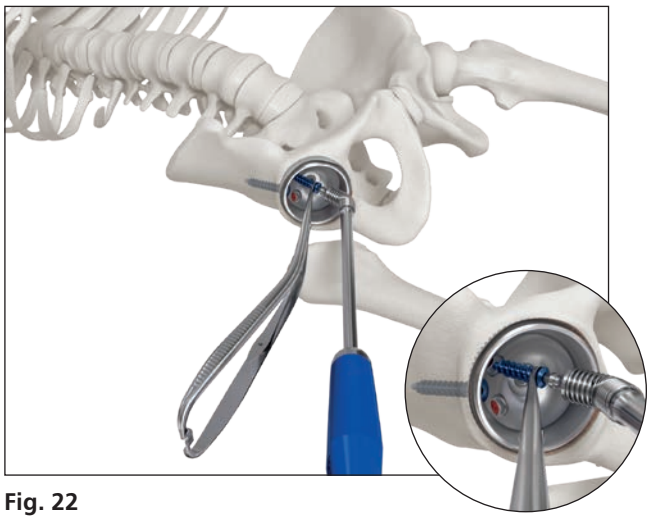


Fig. 22

After determination of the required screw length with the depth gauge, a screw-holding forceps and a U-joint screwdriver facilitate implantation of the self-tapping aneXys cancellous screws (Fig. 22).

Remark

Only aneXys cancellous screws may be used.

In order not to interfere with the anchoring of the inlay, care must be taken when inserting the cancellous screws that the screw heads are completely counter-sunk into the screw holes of the shell.

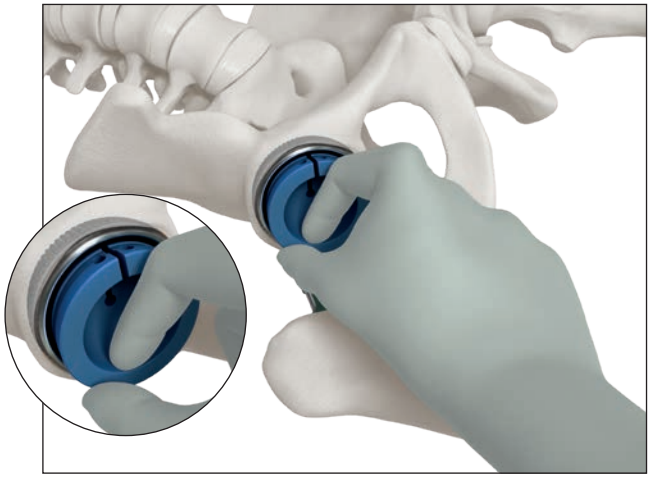


Fig. 23

Trial reduction with trial inlays
The femoral canal is prepared according to the surgical technique for the stem. The trial inlay corresponding to the desired implant (see table) is manually positioned in the shell (Fig. 23).

Inlay	Trial inlay standard	Trial inlay hooded
vitamys inlay standard	✓	––
vitamys inlay hooded	––	✓
ceramys inlay	✓	––

The aneXys shells are labelled with the outer diameter and a one-letter code (e. g. 52/H). The matching trial inlays are marked with the head diameter and the corresponding one-letter code (e. g. 32/H).
The one-letter codes of the two components must match.

After preparation of the femoral canal, the joint is reduced with a rasp or final stem implant in place and a trial head that fits the inner diameter of the cup. 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.

At this point of time, it is still possible to modify the neck length of the head and the stem variant standard/lateral).
An intraoperative X-ray image can additionally be taken, using the image converter, for final control.

Remark
The implantation of the stem and the determination of the appropriate ball head are described in a separate surgical technique. This can be requested from the local Mathys agency.

Remark
Do not implant a hard-on-hard couple if there is a risk of impingement between the hip stem and the cup. In this case, use a hard-on-soft couple.

Thereafter, the trial inlay is removed using the pliers provided to this end.

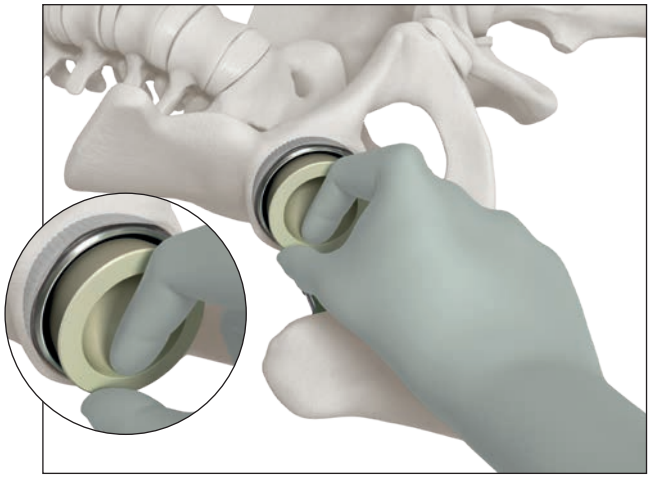


Fig. 24

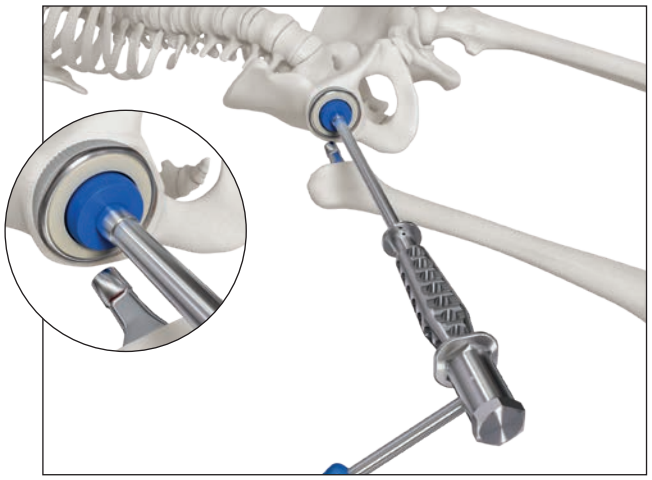


Fig. 25

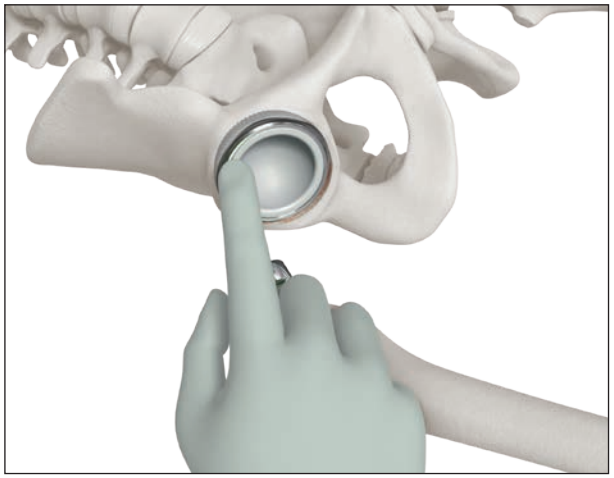


Fig. 26

Placement of the aneXys inlay

To avoid complications at the inlay/shell interface, care must be taken that the inner taper of the shell is dry and free from any foreign debris before assembly of the final inlay.

The letter code on the shell and inlay has to be identical.

The aneXys inlay is manually inserted into the shell and centred (Fig. 24).

aneXys shell – inlay – head combination:
ceramys inlays may be used only in combination with the following aneXys shells: Uno, Cluster, Multi.
vitamys inlays can be used with all aneXys shell types.

Shell	vitamys inlay	ceramys inlay
aneXys Flex	✓	––
aneXys Uno	✓	✓
aneXys Cluster	✓	✓
aneXys Multi	✓	✓

ceramys inlays may be used only in combination with Mathys ceramic femoral heads.

The polyamide head with the correct diameter is screwed onto the shell impactor, and the inlay is fixated in the shell by a hammer stroke onto the shell impactor (Fig. 25).

Remark
During its positioning, it is ensured that the inlay is not tilted.
In the final position after impaction, the inlay is flush with the edge of the shell. Proper inlay seating is ensured by running the fingertip around the edge of the shell (Fig. 26).

After implantation of the stem and the ball head that fits the articulation diameter of the cup, care must be taken that the joint space is free from any foreign debris at the time of reduction.
Depending on the approach, muscle insertions are reattached after joint reduction, and the wound is closed layer by layer.

Additional information: Ceramic inlay

In case of persistent pain, trauma or emergence of any noise (e. g. squeaking, clicking), a precise clarification of the problem or cause must be performed with ceramic-on-ceramic couples.

Ceramic inlays (ceramys) are only allowed to be used in combination with Mathys ceramic femoral heads.

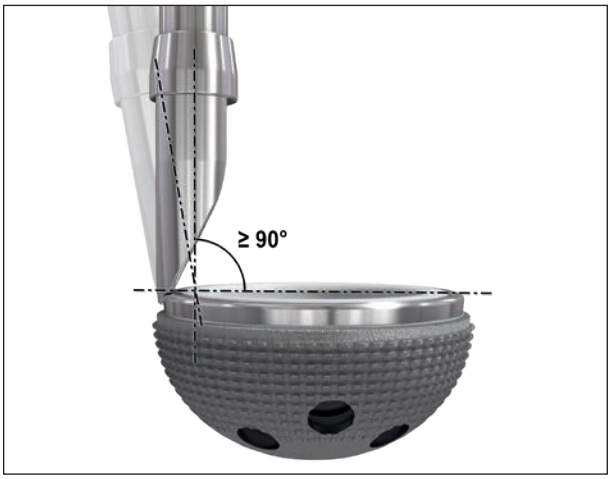


Fig. 27

Remark

When implanting the ceramic inlay the range of motion and stability should be checked with trial components to avoid rim chipping or postoperative fracture of the implant components. It is necessary to switch to a highly crosslinked polyethylene (vitamys) inlay if there is any risk of an impingement.

Only use ceramic inlays in new aneXys shells. If any other inlay had been impacted into the shell, no ceramic inlay can be used. A highly crosslinked polyethylene (vitamys) inlay must be used in these cases or the cup needs to be revised completely.

Fig. 28

Removal of the ceramic inlay

The ceramic inlay can be removed with special attachments for the cup impactor.

a) Universal extractor

The universal extractor is screwed onto the shell impactor.

It is important to place the extractor precisely on the rim of the aneXys shell (Fig. 27) with a minimum angle of 90°. The extractor must not have any contact with the ceramic inlay.

The inlay is detached from the shell by several hammer blows (Fig. 28).

Fig. 29

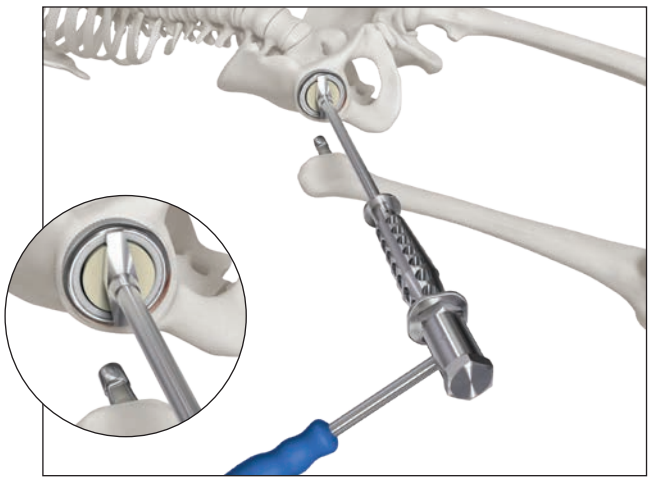


Fig. 30

Fig. 31

b) Ceramic inlay removal instrument
The removal top in the corresponding size of the ceramic inlay is screwed onto the shell impactor. Afterwards the removal head with the correct diameter is screwed onto the removal top (Fig. 29).
The instrument is placed precisely on the rim of the metal shell and the inlay is detached from the shell by several hammer blows (Fig. 30).

Remark
Cup stability always needs to be checked after having removed the inlay.

The re-use of a removed ceramic inlay is prohibited.
In case of fracture of one or both ceramic components, use of a metal head is contraindicated.

Removal of the polyethylene inlay
Use a 3.2 or 3.5 mm drill bit to drill a pilot hole into the polyethylene inlay. Avoid drilling over the pole cap, a screw or screw hole.
Place a 6.5 mm non-self-tapping screw in the drilled hole (Fig. 31) and tighten it with a screwdriver to lever the polyethylene inlay out of the cup. [11]
In case of an isolated inlay exchange, make sure not to damage the taper on the inner surface of the cup.

Remark
Do not use self-tapping screws for inlay removal.

Removal of the aneXys cup
Ensure full exposure of the acetabular rim before removal of the cup.
Remove the pole cap and cancellous bone screws if present.
Carefully use curved osteotomes or universal cup removal instrument sets to disrupt the implant-bone interface until the cup can be extracted.
For further information about universal cup removal instrument sets contact your local Mathys representative.

4. Implants

aneXys Flex Shell *

aneXys Uno, Cluster, Multi Shell

Shell size	22.2 mm Inner D	28 mm Inner D	32 mm Inner D	36 mm Inner D	22.2 mm Inner D	28 mm Inner D	32 mm Inner D	36 mm Inner D
40 mm	X				X*			
42 mm	X	X			X*			
44 mm		X			X*	X		
46 mm		X	X			X		
48 mm		X	X			X*	X	
50 mm		X	X	X		X*	X	
52 mm		X	X	X		X*	X	X
54 mm		X	X	X		X*	X	X
56 mm			X	X		X*	X	X
58 mm			X	X			X	X
60 mm			X	X			X	X
62 mm			X	X			X	X
64 mm							X	X
66 mm							X	X
68 mm							X	X
70 mm							X	X

* Only for use with vitamys Inlays

aneXys Flex Shell

Item no.	Description
52.34.0978	aneXys Flex Shell 40/B
52.34.0979	aneXys Flex Shell 42/C
52.34.0980	aneXys Flex Shell 44/D
52.34.0981	aneXys Flex Shell 46/E
52.34.0982	aneXys Flex Shell 48/F
52.34.0983	aneXys Flex Shell 50/G
52.34.0984	aneXys Flex Shell 52/H
52.34.0985	aneXys Flex Shell 54/I
52.34.0986	aneXys Flex Shell 56/J
52.34.0987	aneXys Flex Shell 58/K
52.34.0988	aneXys Flex Shell 60/L
52.34.0989	aneXys Flex Shell 62/M

Material: Ti6Al4V, TiCP

aneXys Uno Shell

Item no.	Description
52.34.0990	aneXys Uno Shell 40/A
52.34.0991	aneXys Uno Shell 42/B
52.34.0992	aneXys Uno Shell 44/C
52.34.0993	aneXys Uno Shell 46/D
52.34.0994	aneXys Uno Shell 48/E
52.34.0995	aneXys Uno Shell 50/F
52.34.0996	aneXys Uno Shell 52/G
52.34.0997	aneXys Uno Shell 54/H
52.34.0998	aneXys Uno Shell 56/I
52.34.0999	aneXys Uno Shell 58/J
52.34.1000	aneXys Uno Shell 60/J
52.34.1001	aneXys Uno Shell 62/J
52.34.1002	aneXys Uno Shell 64/K
52.34.1003	aneXys Uno Shell 66/K
52.34.1004	aneXys Uno Shell 68/K
52.34.1005	aneXys Uno Shell 70/K

Material: Ti6Al4V, TiCP

aneXys Cluster Shell

Item no.	Description
52.34.1006	aneXys Cluster Shell 40/A
52.34.1007	aneXys Cluster Shell 42/B
52.34.1008	aneXys Cluster Shell 44/C
52.34.1009	aneXys Cluster Shell 46/D
52.34.1010	aneXys Cluster Shell 48/E
52.34.1011	aneXys Cluster Shell 50/F
52.34.1012	aneXys Cluster Shell 52/G
52.34.1013	aneXys Cluster Shell 54/H
52.34.1014	aneXys Cluster Shell 56/I
52.34.1015	aneXys Cluster Shell 58/J
52.34.1016	aneXys Cluster Shell 60/J
52.34.1017	aneXys Cluster Shell 62/J
52.34.1018	aneXys Cluster Shell 64/K
52.34.1019	aneXys Cluster Shell 66/K
52.34.1020	aneXys Cluster Shell 68/K
52.34.1021	aneXys Cluster Shell 70/K

Material: Ti6Al4V, TiCP

aneXys Multi Shell

Item no.	Description
52.34.1022	aneXys Multi Shell 40/A
52.34.1023	aneXys Multi Shell 42/B
52.34.1024	aneXys Multi Shell 44/C
52.34.1025	aneXys Multi Shell 46/D
52.34.1026	aneXys Multi Shell 48/E
52.34.1027	aneXys Multi Shell 50/F
52.34.1028	aneXys Multi Shell 52/G
52.34.1029	aneXys Multi Shell 54/H
52.34.1030	aneXys Multi Shell 56/I
52.34.1031	aneXys Multi Shell 58/J
52.34.1032	aneXys Multi Shell 60/J
52.34.1033	aneXys Multi Shell 62/J
52.34.1034	aneXys Multi Shell 64/K
52.34.1035	aneXys Multi Shell 66/K
52.34.1036	aneXys Multi Shell 68/K
52.34.1037	aneXys Multi Shell 70/K

Material: Ti6Al4V, TiCP

aneXys vitamys Inlay standard

Item no.	Description
52.34.1039	aneXys vitamys Inlay standard 22.2/A
52.34.1040	aneXys vitamys Inlay standard 22.2/B
52.34.1041	aneXys vitamys Inlay standard 22.2/C
52.34.1042	aneXys vitamys Inlay standard 28/C
52.34.1043	aneXys vitamys Inlay standard 28/D
52.34.1044	aneXys vitamys Inlay standard 28/E
52.34.1045	aneXys vitamys Inlay standard 28/F
52.34.1046	aneXys vitamys Inlay standard 28/G
52.34.1047	aneXys vitamys Inlay standard 28/H
52.34.1048	aneXys vitamys Inlay standard 28/I
52.34.1049	aneXys vitamys Inlay standard 32/E
52.34.1050	aneXys vitamys Inlay standard 32/F
52.34.1051	aneXys vitamys Inlay standard 32/G
52.34.1052	aneXys vitamys Inlay standard 32/H
52.34.1053	aneXys vitamys Inlay standard 32/I
52.34.1054	aneXys vitamys Inlay standard 32/J
52.34.1055	aneXys vitamys Inlay standard 32/K
52.34.1056	aneXys vitamys Inlay standard 32/L
52.34.1057	aneXys vitamys Inlay standard 32/M
52.34.1058	aneXys vitamys Inlay standard 36/G
52.34.1059	aneXys vitamys Inlay standard 36/H
52.34.1060	aneXys vitamys Inlay standard 36/I
52.34.1061	aneXys vitamys Inlay standard 36/J
52.34.1062	aneXys vitamys Inlay standard 36/K
52.34.1063	aneXys vitamys Inlay standard 36/L
52.34.1064	aneXys vitamys Inlay standard 36/M

Material: Vitamin E stabilised HXLPE

aneXys vitamys Inlay hooded

Item no.	Description
52.34.1065	aneXys vitamys Inlay hooded 22.2/A
52.34.1066	aneXys vitamys Inlay hooded 22.2/B
52.34.1067	aneXys vitamys Inlay hooded 22.2/C
52.34.1068	aneXys vitamys Inlay hooded 28/C
52.34.1069	aneXys vitamys Inlay hooded 28/D
52.34.1070	aneXys vitamys Inlay hooded 28/E
52.34.1071	aneXys vitamys Inlay hooded 28/F
52.34.1072	aneXys vitamys Inlay hooded 28/G
52.34.1073	aneXys vitamys Inlay hooded 28/H
52.34.1074	aneXys vitamys Inlay hooded 28/I
52.34.1075	aneXys vitamys Inlay hooded 32/E
52.34.1076	aneXys vitamys Inlay hooded 32/F
52.34.1077	aneXys vitamys Inlay hooded 32/G
52.34.1078	aneXys vitamys Inlay hooded 32/H
52.34.1079	aneXys vitamys Inlay hooded 32/I
52.34.1080	aneXys vitamys Inlay hooded 32/J
52.34.1081	aneXys vitamys Inlay hooded 32/K
52.34.1082	aneXys vitamys Inlay hooded 32/L
52.34.1083	aneXys vitamys Inlay hooded 32/M
52.34.1084	aneXys vitamys Inlay hooded 36/G
52.34.1085	aneXys vitamys Inlay hooded 36/H
52.34.1086	aneXys vitamys Inlay hooded 36/I
52.34.1087	aneXys vitamys Inlay hooded 36/J
52.34.1088	aneXys vitamys Inlay hooded 36/K
52.34.1089	aneXys vitamys Inlay hooded 36/L
52.34.1090	aneXys vitamys Inlay hooded 36/M

Material: Vitamin E stabilised HXLPE

aneXys ceramys Inlay *

Item no.	Description
52.34.1143	aneXys ceramys Inlay 28/C
52.34.1144	aneXys ceramys Inlay 28/D
52.34.1145	aneXys ceramys Inlay 32/E
52.34.1146	aneXys ceramys Inlay 32/F
52.34.1147	aneXys ceramys Inlay 32/G
52.34.1148	aneXys ceramys Inlay 32/H
52.34.1149	aneXys ceramys Inlay 32/I
52.34.1150	aneXys ceramys Inlay 32/J
52.34.1151	aneXys ceramys Inlay 32/K
52.34.1152	aneXys ceramys Inlay 36/G
52.34.1153	aneXys ceramys Inlay 36/H
52.34.1154	aneXys ceramys Inlay 36/I
52.34.1155	aneXys ceramys Inlay 36/J
52.34.1156	aneXys ceramys Inlay 36/K

Material: ZrO_2-Al_2O_3

* Only for use with Mathys ceramic femoral heads.

aneXys Pole Cap

Item no.	Description
52.34.1038	aneXys Pole Cap

Material: Ti6Al4V

aneXys TAV Cancellous screw

Item no.	Description
52.34.1106	aneXys TAV Cancell. Bone Screw 6.5x16
52.34.1107	aneXys TAV Cancell. Bone Screw 6.5x20
52.34.1108	aneXys TAV Cancell. Bone Screw 6.5x24
52.34.1109	aneXys TAV Cancell. Bone Screw 6.5x28
52.34.1110	aneXys TAV Cancell. Bone Screw 6.5x32
52.34.1111	aneXys TAV Cancell. Bone Screw 6.5x36
52.34.1112	aneXys TAV Cancell. Bone Screw 6.5x40
52.34.1113	aneXys TAV Cancell. Bone Screw 6.5x44
52.34.1114	aneXys TAV Cancell. Bone Screw 6.5x48
52.34.1115	aneXys TAV Cancell. Bone Screw 6.5x52
52.34.1116	aneXys TAV Cancell. Bone Screw 6.5x56
52.34.1117	aneXys TAV Cancell. Bone Screw 6.5x60
52.34.1118	aneXys TAV Cancell. Bone Screw 6.5x64
52.34.1119	aneXys TAV Cancell. Bone Screw 6.5x68

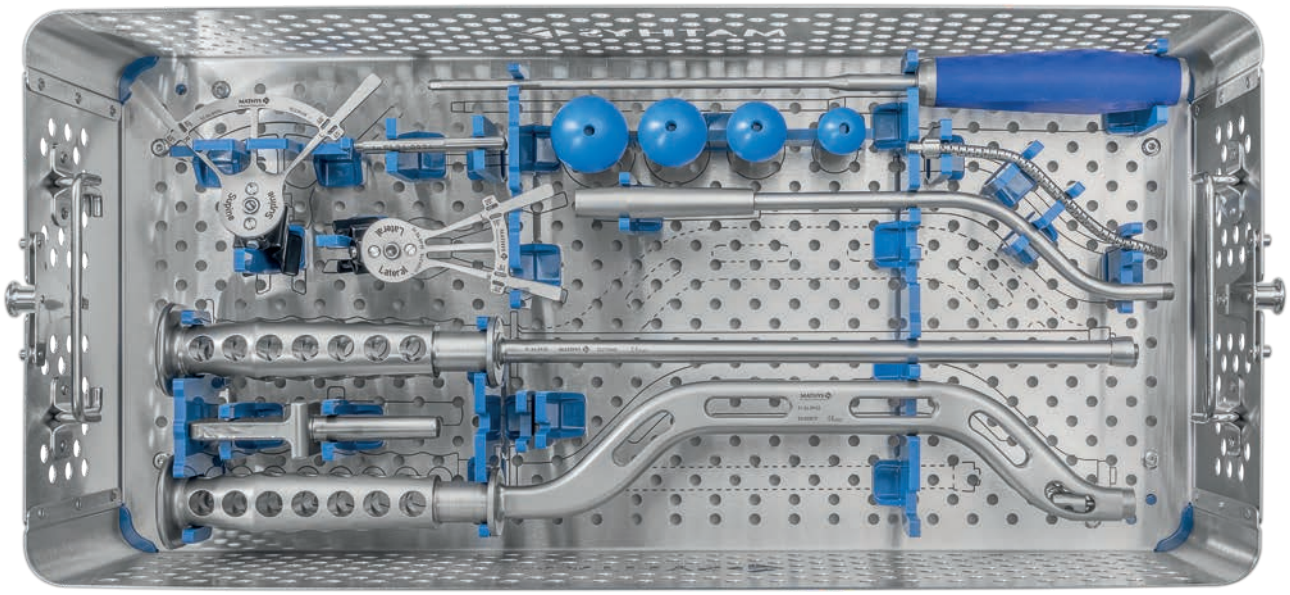
Material: Ti6Al4V

Remark

The titanium implants are coated with coloured oxide. Minor colour changes may occur, but do not affect implant quality.

5. Instruments

5.1 aneXys Instrumentation Set 51.34.1020A



Item no. 51.34.1021 **aneXys basic tray**
No Picture / Item no. 51.34.1023 **Tray Lid**

Standard instruments

Item no.	Description
51.34.0931	Shell impactor straight M8 x 1 short
51.34.0930	Shell impactor straight M8 x 1 long (optional)

Item no.	Description
51.34.0932	Shell impactor curved M8 x 1

Item no.	Description
51.34.0933	Rotation and extraction plate

Item no.	Description
51.34.0936	Polar plug inserter curved

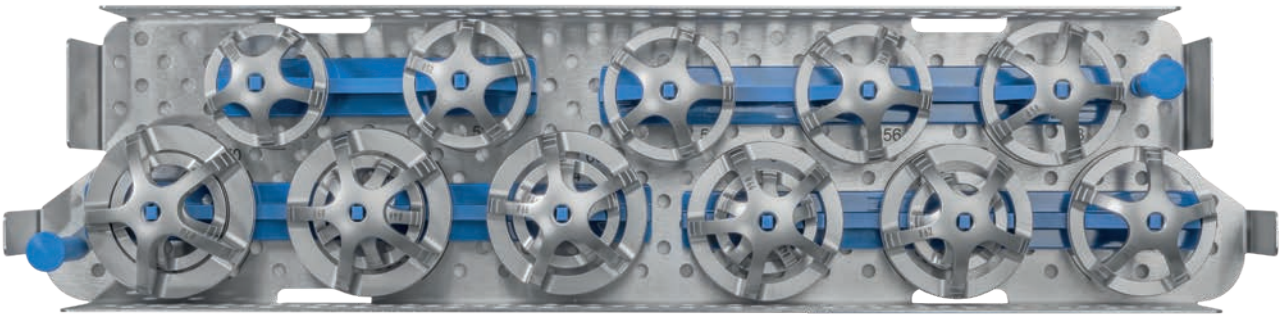
Item no.	Description
51.34.0937	Screwdriver 4.5 mm hex

Item no.	Description
51.34.0947	Polyamide head 22.2 mm
51.34.0948	Polyamide head 28 mm
51.34.0949	Polyamide head 32 mm
51.34.0950	Polyamide head 36 mm

Item no.	Description
51.34.0934	Positioning guide supine

Item no.	Description
51.34.0935	Positioning guide lateral

Additional module: **Module trial cups**

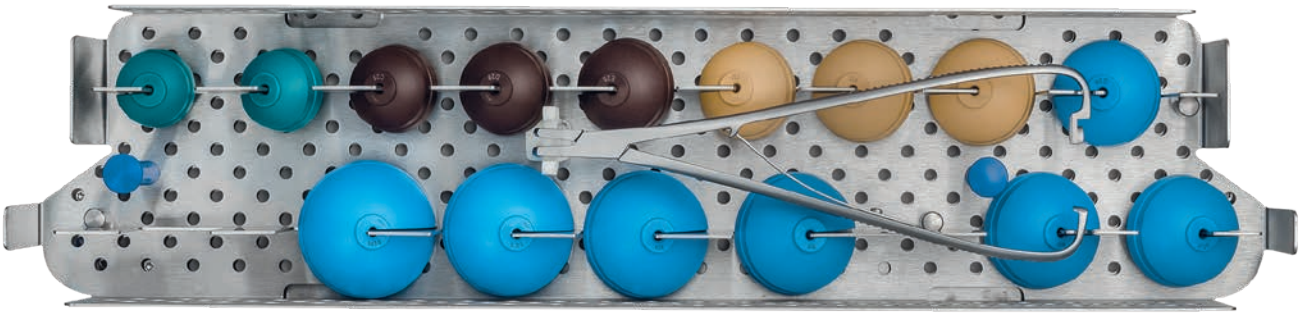


Item no. 51.34.1024 **Module insert for trial cups**

Item no.	Description
51.34.0951 *	Trial cup 40 mm
51.34.0952	Trial cup 42 mm
51.34.0953	Trial cup 44 mm
51.34.0954	Trial cup 46 mm
51.34.0955	Trial cup 48 mm
51.34.0956	Trial cup 50 mm
51.34.0957	Trial cup 52 mm
51.34.0958	Trial cup 54 mm
51.34.0959	Trial cup 56 mm
51.34.0960	Trial cup 58 mm
51.34.0961	Trial cup 60 mm
51.34.0962	Trial cup 62 mm
51.34.0963	Trial cup 64 mm
51.34.0964 *	Trial cup 66 mm
51.34.0965 *	Trial cup 68 mm
51.34.0966 *	Trial cup 70 mm

* optional

Additional module: **Module trial inlays**



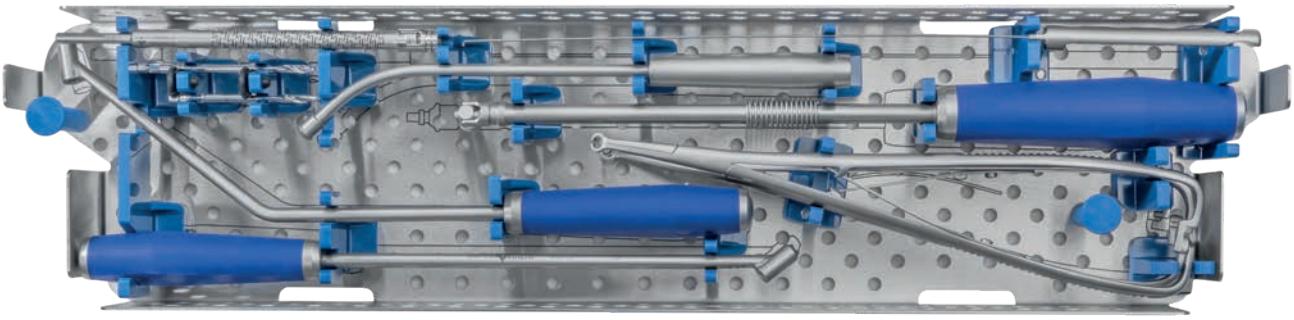
Item no. 51.34.1025 **Module insert for trial inlays**

Item no.	Description
51.34.1047	Forceps for trial inlay removal

Item no.	Description
51.34.0967	Trial inlay standard 22.2/A
51.34.0968	Trial inlay standard 22.2/B
51.34.0969	Trial inlay standard 22.2/C
51.34.0970	Trial inlay standard 28/C
51.34.0971	Trial inlay standard 28/D
51.34.0972	Trial inlay standard 28/E
51.34.0973	Trial inlay standard 28/F
51.34.0974	Trial inlay standard 28/G
51.34.0975	Trial inlay standard 28/H
51.34.0976	Trial inlay standard 28/I
51.34.0977	Trial inlay standard 32/E
51.34.0978	Trial inlay standard 32/F
51.34.0979	Trial inlay standard 32/G
51.34.0980	Trial inlay standard 32/H
51.34.0981	Trial inlay standard 32/I
51.34.0982	Trial inlay standard 32/J
51.34.0983	Trial inlay standard 32/K
51.34.0984	Trial inlay standard 32/L
51.34.0985	Trial inlay standard 32/M
51.34.0986	Trial inlay standard 36/G
51.34.0987	Trial inlay standard 36/H
51.34.0988	Trial inlay standard 36/I
51.34.0989	Trial inlay standard 36/J
51.34.0990	Trial inlay standard 36/K
51.34.0991	Trial inlay standard 36/L
51.34.0992	Trial inlay standard 36/M

Item no.	Description
51.34.0993	Trial inlay hooded 22.2/A
51.34.0994	Trial inlay hooded 22.2/B
51.34.0995	Trial inlay hooded 22.2/C
51.34.0996	Trial inlay hooded 28/C
51.34.0997	Trial inlay hooded 28/D
51.34.0998	Trial inlay hooded 28/E
51.34.0999	Trial inlay hooded 28/F
51.34.1000	Trial inlay hooded 28/G
51.34.1001	Trial inlay hooded 28/H
51.34.1002	Trial inlay hooded 28/I
51.34.1003	Trial inlay hooded 32/E
51.34.1004	Trial inlay hooded 32/F
51.34.1005	Trial inlay hooded 32/G
51.34.1006	Trial inlay hooded 32/H
51.34.1007	Trial inlay hooded 32/I
51.34.1008	Trial inlay hooded 32/J
51.34.1009	Trial inlay hooded 32/K
51.34.1010	Trial inlay hooded 32/L
51.34.1011	Trial inlay hooded 32/M
51.34.1012	Trial inlay hooded 36/G
51.34.1013	Trial inlay hooded 36/H
51.34.1014	Trial inlay hooded 36/I
51.34.1015	Trial inlay hooded 36/J
51.34.1016	Trial inlay hooded 36/K
51.34.1017	Trial inlay hooded 36/L
51.34.1018	Trial inlay hooded 36/M

Additional module: **Module screw fixation** (optional)



Item no. 51.34.1026 **Module insert for screw fixation**

Item no.	Description
51.34.0938	Drill guide 3.2 mm straight
51.34.1048	Drill guide 4.0 mm straight

Item no.	Description
51.34.0939	Drill guide 3.2 mm curved
51.34.1049	Drill guide 4.0 mm curved

Item no.	Description
51.34.0940	Flexible shaft for drill bits

Item no.	Description
51.34.1052	Drill bit 3.2 x 20
51.34.0941	Drill bit 3.2 x 32
51.34.0942	Drill bit 3.2 x 44
51.34.1050	Drill bit 4.0 x 20
51.34.1051	Drill bit 4.0 x 32

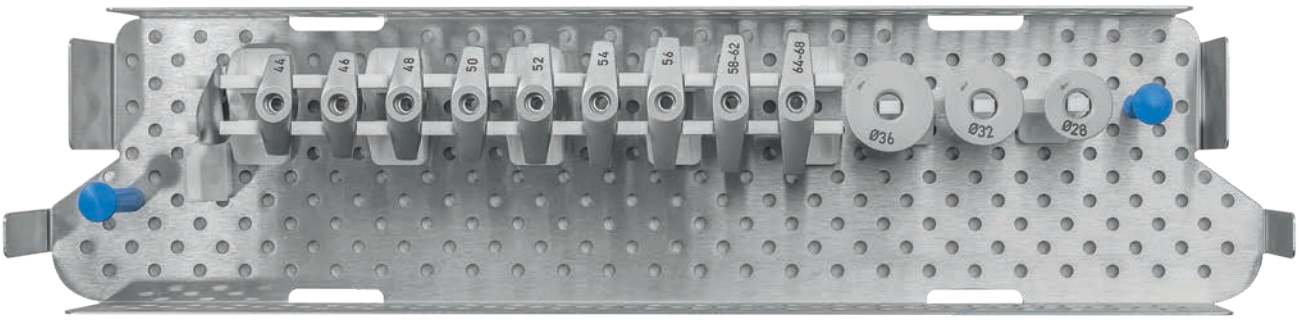
Item no.	Description
51.34.0943	Depth gauge

Item no.	Description
51.34.0944	Screw holding forceps straight

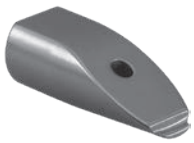
Item no.	Description
51.34.0945	Screw holding forceps curved

Item no.	Description
51.34.0946	U-joint screwdriver 3.5 mm hex

Additional module: **Ceramic Inlay removal** (optional)



Item no. 51.34.1027 **Module insert for ceramic inlay removal**



Item no.	Description
51.34.1034	Universal extractor for ceramic inlays

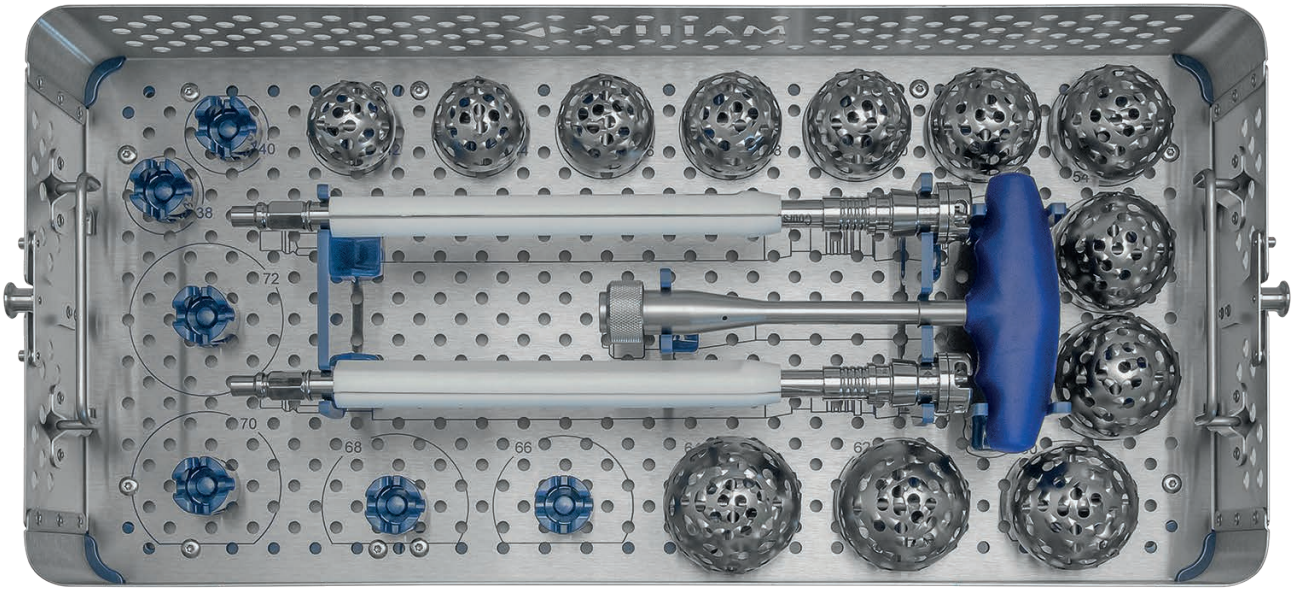
Item no.	Description
51.34.1035	Ceramic inlay removal top 44/C
51.34.1036	Ceramic inlay removal top 46/D
51.34.1037	Ceramic inlay removal top 48/E
51.34.1038	Ceramic inlay removal top 50/F
51.34.1039	Ceramic inlay removal top 52/G
51.34.1040	Ceramic inlay removal top 54/H
51.34.1041	Ceramic inlay removal top 56/I
51.34.1042	Ceramic inlay removal top 58–62/J
51.34.1043	Ceramic inlay removal top 64–70/K

Item no.	Description
51.34.1044	Ceramic inlay removal head 28 mm
51.34.1045	Ceramic inlay removal head 32 mm
51.34.1046	Ceramic inlay removal head 36 mm

Module trays (optional)

Item no.	Description
51.34.1022	Empty tray for module inserts
51.34.1028	Module insert empty large
51.34.1029	Silicon mat for module insert large
51.34.1030	Module insert empty small
51.34.1031	Silicon mat for module insert small

Acetabular Reamer instrumentation, 51.34.1081A



Acetabular reamers, even sizes

Item no.	Description
51.34.0360	Tray f/even acetabular reamers
51.34.0679	Lid f/acetabular reamer tray

Item no.	Description
5440.00.5	Acetabular reamer 40 std.
5442.00.5	Acetabular reamer 42 std.
5444.00.5	Acetabular reamer 44 std.
5446.00.5	Acetabular reamer 46 std.
5448.00.5	Acetabular reamer 48 std.
5450.00.5	Acetabular reamer 50 std.
5452.00.5	Acetabular reamer 52 std.
5454.00.5	Acetabular reamer 54 std.
5456.00.5	Acetabular reamer 56 std.
5458.00.5	Acetabular reamer 58 std.
5460.00.5	Acetabular reamer 60 std.
5462.00.5	Acetabular reamer 62 std.
5464.00.5	Acetabular reamer 64 std.
5466.00.5	Acetabular reamer 66 std.
5468.00.5	Acetabular reamer 68 std.
5470.00.5	Acetabular reamer 70 std.
5472.00.5	Acetabular reamer 72 std.

Acetabular reamers, odd sizes

Item no.	Description
51.34.0361	Tray f/odd acetabular reamers
51.34.0679	Lid f/acetabular reamer tray

Item no.	Description
5439.00.5	Acetabular reamer 39 std.
5441.00.5	Acetabular reamer 41 std.
5443.00.5	Acetabular reamer 43 std.
5445.00.5	Acetabular reamer 45 std.
5447.00.5	Acetabular reamer 47 std.
5449.00.5	Acetabular reamer 49 std.
5451.00.5	Acetabular reamer 51 std.
5453.00.5	Acetabular reamer 53 std.
5455.00.5	Acetabular reamer 55 std.
5457.00.5	Acetabular reamer 57 std.
5459.00.5	Acetabular reamer 59 std.
5461.00.5	Acetabular reamer 61 std.
5463.00.5	Acetabular reamer 63 std.
5465.00.5	Acetabular reamer 65 std.
5467.00.5	Acetabular reamer 67 std.
5469.00.5	Acetabular reamer 69 std.
5471.00.5	Acetabular reamer 71 std.

Acetabular reamers

Item no.	Description
58.02.4008	Handle with quick coupling

Item no.	Description
5244.00.4	Adaptor for reamer (AO)

Optional instruments (not a part of the set)

Locked reamer connection

Item no.	Description
H0032100699	MIS HANDLE ATTACCO UNIVERSALE-CONN. AO

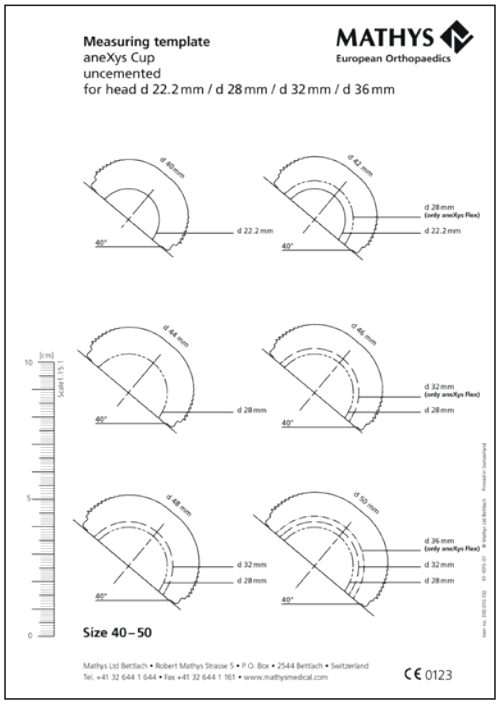
Open reamer connection

Item no.	Description
H0032100999	MIS HANDLE HC- CONN. AO

Item no.	Description
3.40.535	Coupling for AO-ASIF air drill

Item no.	Description
999-0060-300	Coupling for Hudson drive

5.2 Measuring template



Item no.	Description
330.010.102	aneXys Cup

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7. Symbols


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