

EcoFit[®] 2M

tripolar system





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Nota Bene: The described surgical technique is the suggested treatment for the uncomplicated procedure. In the final analysis the preferred treatment is that which addresses the needs of the individual patient.

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DESIGN DESCRIPTION

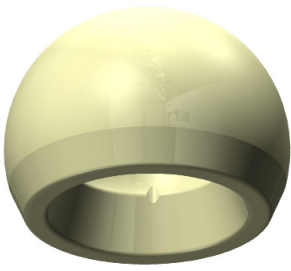


fig. left:
2M implacross® E head
(with Vitamin E)

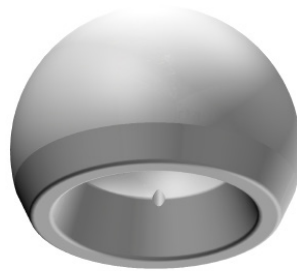


fig. right:
EcoFit® 2M head
(UHMWPE)



Highly polished articulating
surface of the EcoFit® 2M cups

The EcoFit® 2M head made of implacross® E (crosslinked polyethylene with vitamin E) or UHMW-PE is snapped on the regular head. Through this combination the system allows die combined articulating of the two bearings; between the head and the EcoFit® 2M head and the outer surface of the EcoFit® 2M head and the EcoFit® 2M cup. This design reduces the risk of sublaxations while having a large range of motion. The EcoFit® 2M cups are available in cementless (42mm to 64mm) and cemented (44mm to 64mm) version. All cups are made of implavit®, CoCrMo-casting alloy. To enhance the cement mantle the outer surface of the cemented cup has grooves and notches. The cementless cups are coated with implaFix® coating made of pure titanium and HA to allow pressfit fixation and bony ingrowth.



outer surface of the cemented cup



outer surface of the cementless cup

COMBINATION OPTIONS



| 2M implacross® E head or EcoFit® 2M head | EcoFit® 2M cup cementless | EcoFit® 2M cup cemented |
|--|------------------------------|----------------------------|
| 22/38mm | 38/42mm | 38/44mm |
| 22/40mm | 40/44mm | 40/46mm |
| 28/42mm | 42/46mm | 42/48mm |
| 28/44mm | 44/48mm | 44/50mm |
| 28/46mm | 46/50mm | 46/52mm |
| 32/48mm | 48/52mm | 48/54mm |
| 32/50mm | 50/54mm | 50/56mm |
| 32/52mm | 52/56mm | 52/58mm |
| 32/54mm | 54/58mm | 54/60mm |
| 32/56mm | 56/60mm | 56/62mm |
| 32/58mm | 58/62mm | 58/64mm |
| 32/58mm | 58/64mm | |

The EcoFit® 2M heads made of implacross® E or UHMWPE are available in 12 sizes. They can be combined with the cementless and the cemented EcoFit® 2M cups as shown in the table above. Small diameters of 42 and 44mm (cementless) or 44 and 46mm (cemented) are used in combination with 22mm implavit® head, for bigger diameters either the CoCrMo or the TiN heads in 28mm or 32mm may be used in combination with EcoFit® 2M head.

PREOPERATIVE PLANNING

Preoperative planning and precise surgical techniques are mandatory for optimal results. The instructions and the procedure given in the surgical technique to the system must be adhered to. Familiarity with the recommended surgical technique and its careful application is essential to achieve the best possible outcome.

Before surgery a surgical planning with regard to the dimensions of the prosthetic model and the positioning of the implant components in the bone has to be carried out by the surgeon.

For this purpose, x-ray templates are available:

Digital templates: Digital templates are included in the data base of the common planning systems. For missing templates, please contact the provider of the planning software and request for these templates.

Radiographic templates: Alternatively radiographic templates are available in various scale factors, which can be obtained from your local representative.



figures A: EcoFit® 2M cup
cementless and cemented in A/P view



figures B: EcoFit® 2M cup cementless
and cemented in lateral view (M/L)

Further prior to surgery the following should be ensured:

- all needed components are available during surgery. An adequate number of various implant components should be available for surgery.
- all instruments for the implantation are present and are matching the corresponding implants. The insertion instruments must be adapted to the implant. The implants may only be used with the instruments provided by implantcast GmbH. An exception are exclusively the standardized instruments used during surgery.

SURGICAL TECHNIQUE

Please expose the hip joint completely. Resect the articular capsule and the labrum acetabulare. Dissect the bony rim of the acetabulum, if possible, completely.

Remove the osteophytes and the connective tissue of the fossa acetabuli. In order to rebuild normal anatomical proportions, the acetabulum should be medialised to the extent to which you are able to reconstruct the preoperatively chosen centre of rotation.

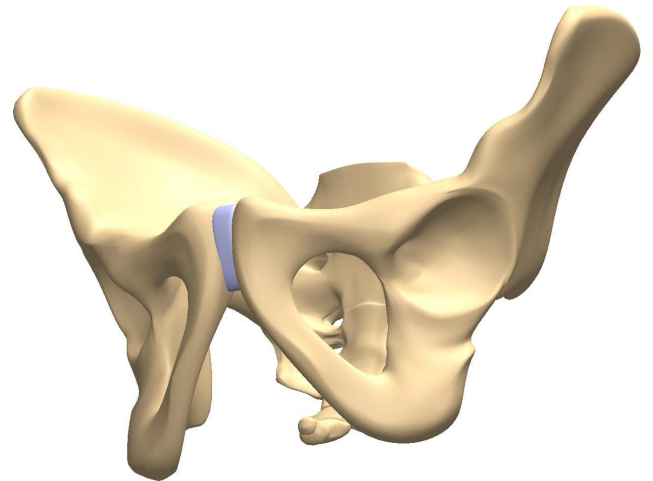


Figure 1



To prepare the acetabular bone (Fig. 1), reamers of external diameters in increments of 2mm are available.

Align the reamer anatomically, in abduction of about 45° and anteversion of 10 - 20°. By using the reamer the acetabulum is prepared until bleeding subchondral bone is reached (Fig. 2). If a cementless cup is used, the last reamer should have the same outer diameter as the cup. For cemented cup the last reamer should be 2mm bigger than the cup.

Please note that the posterior and anterior acetabular rim serve for sizing and therefore should be preserved accordingly.

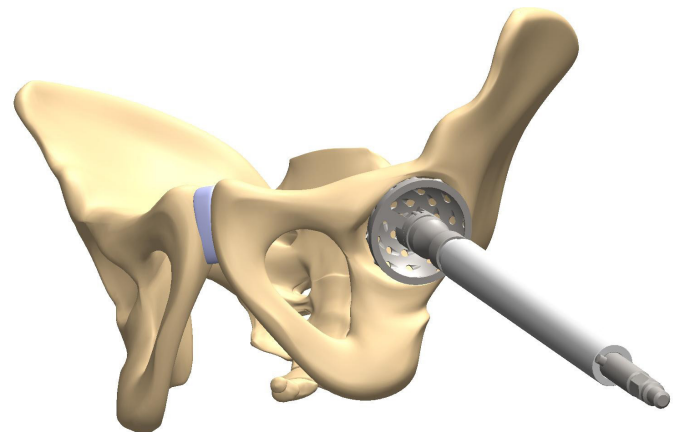


Figure 2

SURGICAL TECHNIQUE

SIZING

The appropriate trial shell has to be assembled onto the shell impactor (Fig. 3a). Using the trial shells, the size of the prepared implant bed is checked (Fig. 3b). The impacted trial cup should remain stable in the acetabulum.

The slots of the trial shells serve for the determination of the bone contact between the respective trial shell and the prepared acetabulum (Fig. 3c).

Strike the trial shell with the help of the shell impactor into the reamed acetabulum. In the space of the acetabulum it has to be stable.

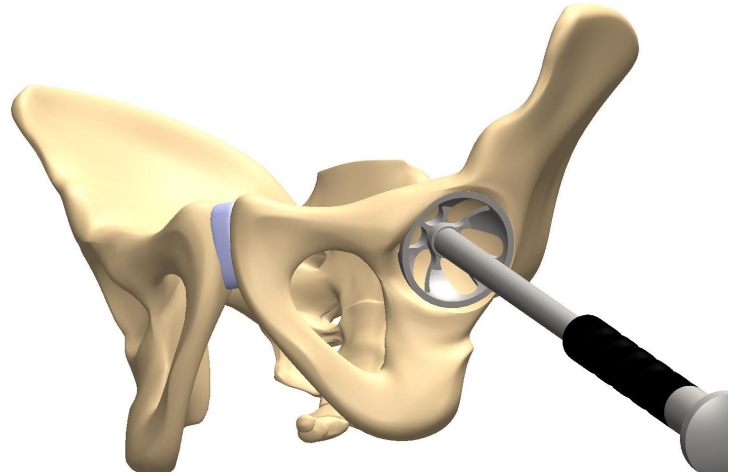


Figure 3b



Figure 3a

**cup impactor optionally
orange or black**

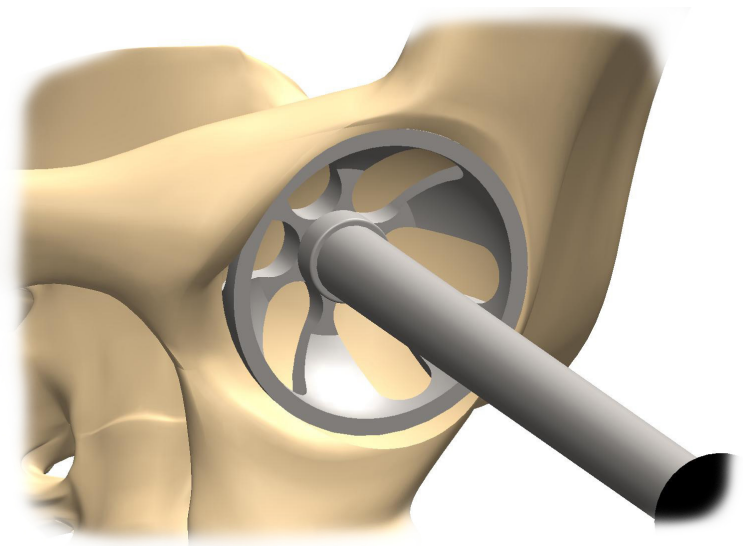


Figure 3c

SURGICAL TECHNIQUE

USING OF CUP IMPACTOR STRAIGHT

Assemble the ic T-handle Zimmer Ja-kobs on the cup impactor straight (Fig. 4a). Afterwards connect the adapter for EcoFit® 2M cup impactor straight with the cup impactor. Put the select-ed EcoFit® 2M cup on the adapter.

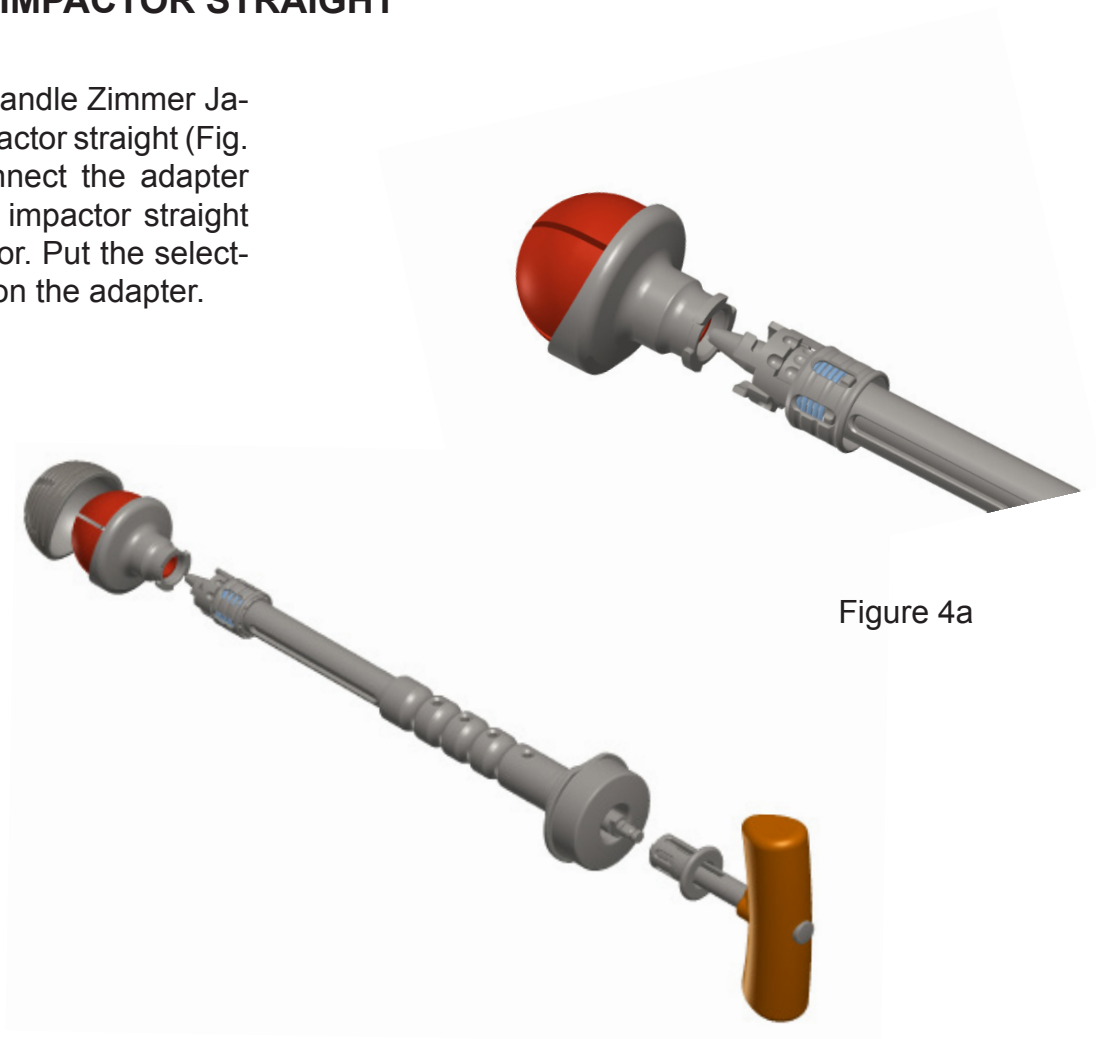


Figure 4a

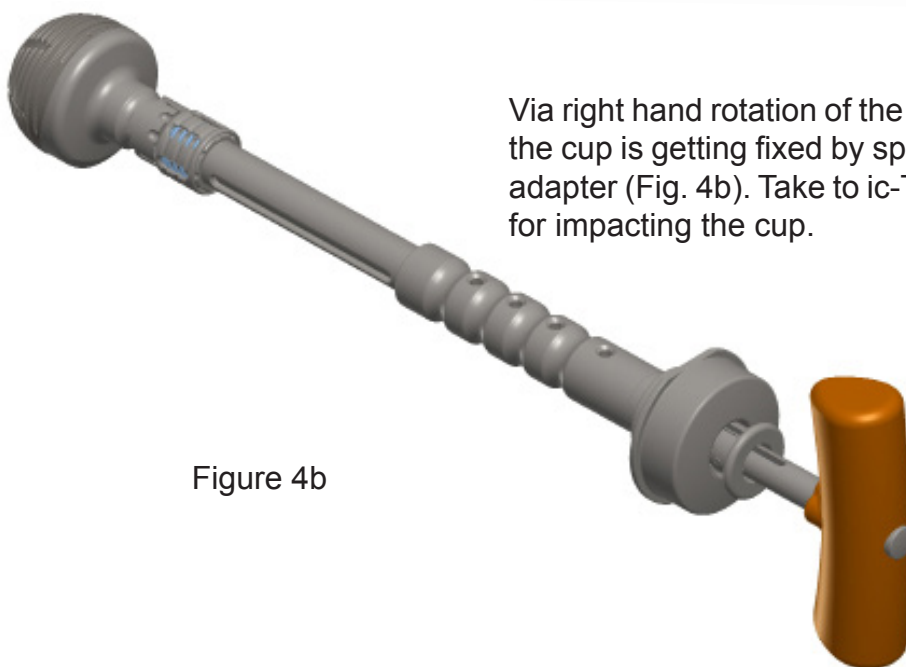


Figure 4b

Via right hand rotation of the ic T-handle the cup is getting fixed by spreading the adapter (Fig. 4b). Take to ic-T handle off for impacting the cup.

SURGICAL TECHNIQUE

USAGE OF CUP IMPACTOR CURVED

Assemble the ic T-handle on the ic-adapter hexagon ball 6mm (Fig.5a). Afterwards connect the adapter for EcoFit® 2M cup impactor curved with the impactor by extraction of the jacket (Fig. 5b) Put the selected EcoFit® 2M on the adapter.

Via right-hand rotation of the ic T-handle the cup is getting fixed by spreading the adapter.

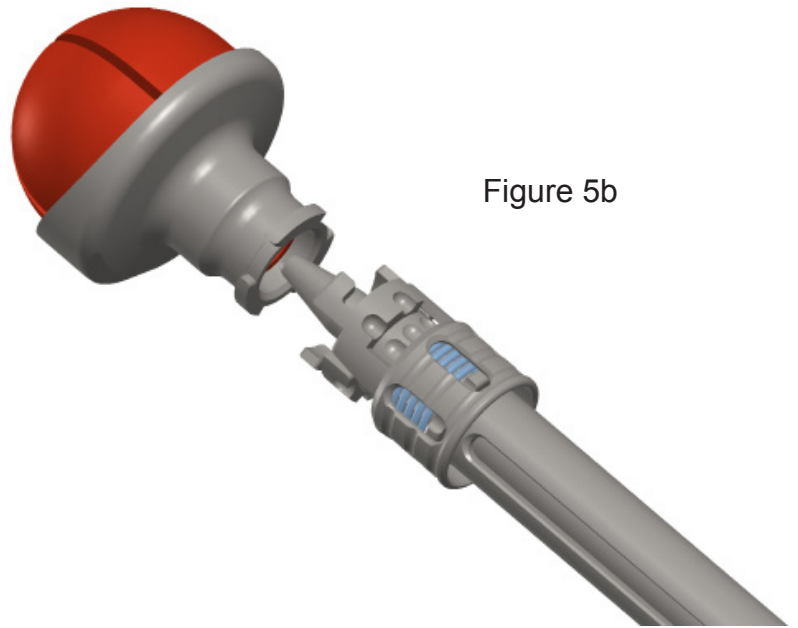


Figure 5b

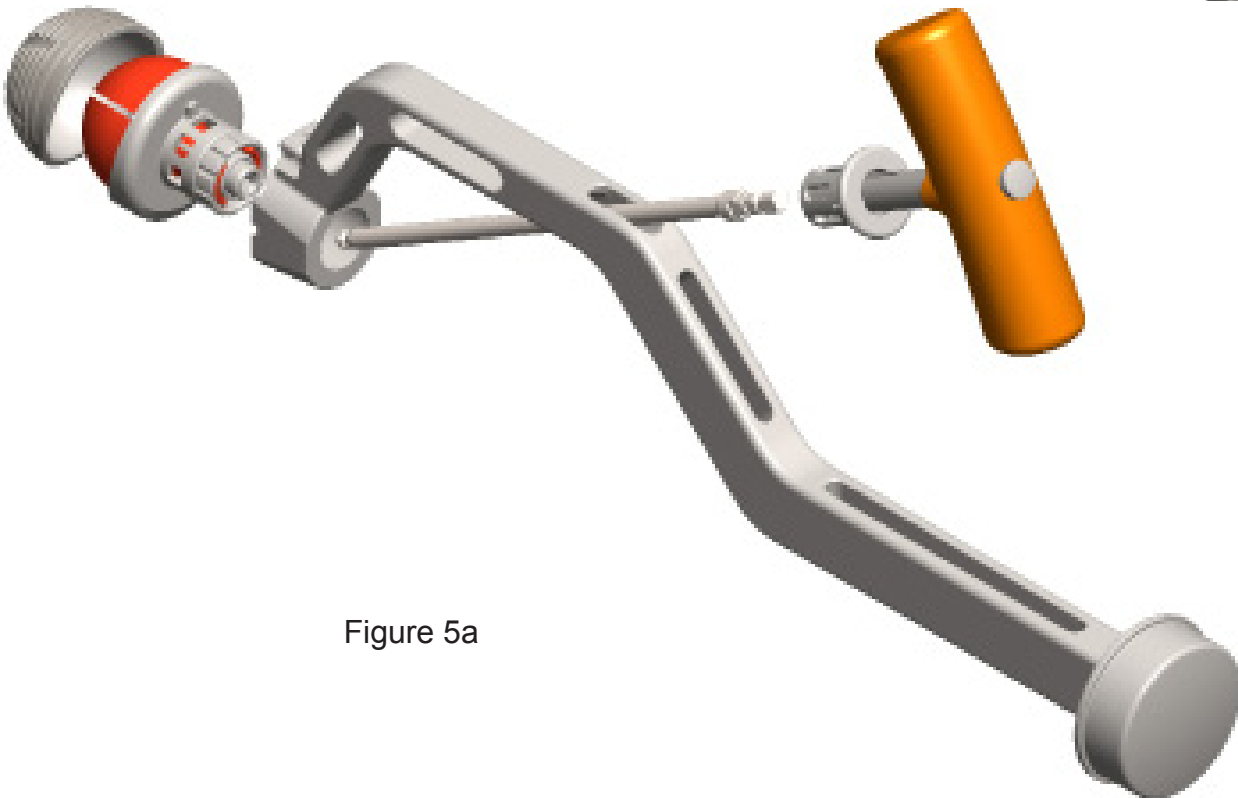


Figure 5a

SURGICAL TECHNIQUE



Figure 6a



Figure 6c

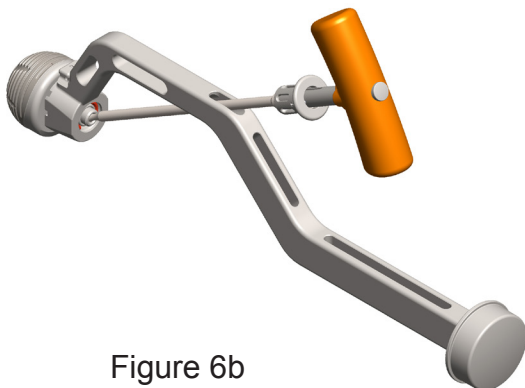


Figure 6b

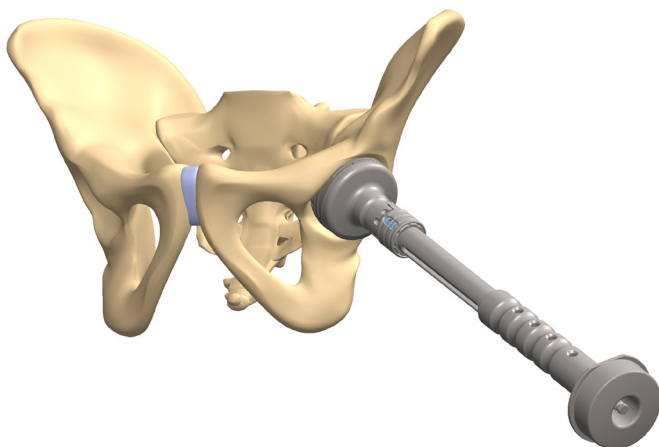


Figure 7a

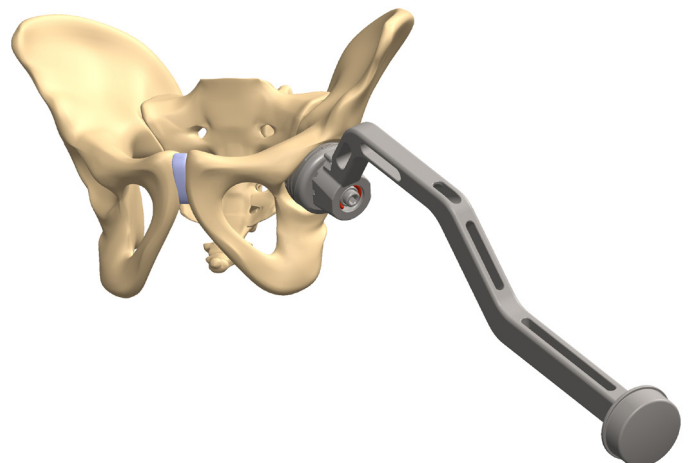


Figure 7b

INSERTION OF THE CUP

The chosen EcoFit® 2M cup is combined with the cup impactor straight (Fig. 6a) or the curved (Fig. 6b) and inserted in the prepared acetabulum. Exactly aligned the EcoFit® 2M cup should rest at an angle of abduction of 45° and an anteversion of 10-20°. The lasermarking stands on the highest point of the cup edge surface. Impact the cup with the straight or the curved impactor (Fig. 7a and 7b).

cementless implantation

The chosen size of the EcoFit® 2M cup should have the same diameter as the previously used reamer. The HA-coating produces the pressFit of the cup. The stability of the implant fit (PressFit) and the implant-to-bone contact can be adjusted by moving the impactor at the end of the handle. In doing so the whole pelvis should move without changing the position of the cup in the acetabulum.

cemented implantation

The chosen size of the EcoFit® 2M cup should be 2mm smaller as the previously used reamer. In this way a circumferential cement mantle of 1mm is reached.

SURGICAL TECHNIQUE

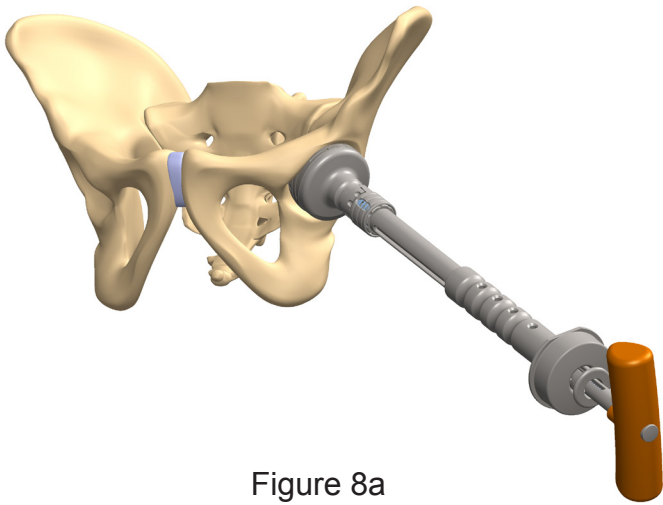


Figure 8a

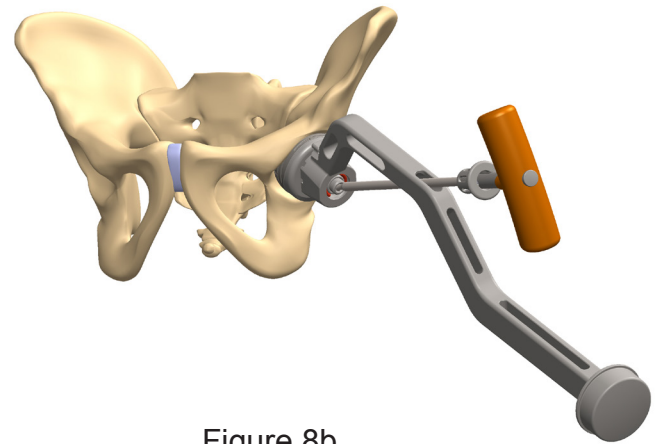


Figure 8b

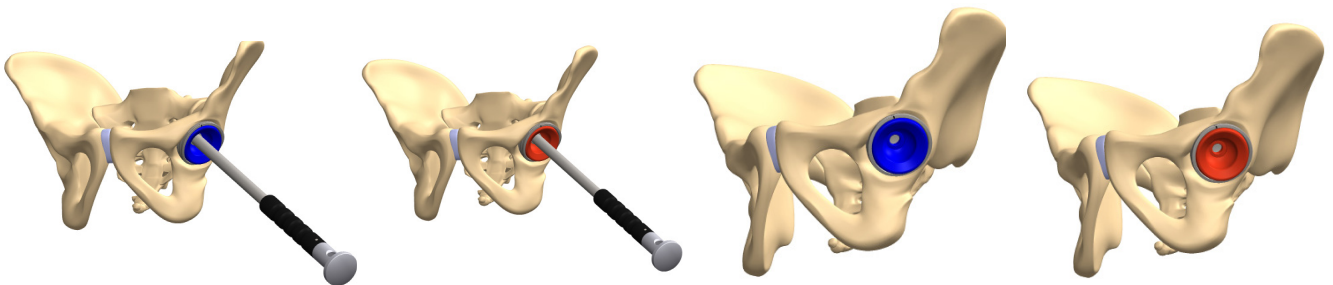


Figure 9

Declamp the selceted impactor with the ic T-handle (Fig. 8a and 8b).

While the cemented implantation the resqueezing occurs during the hardening of the bone cement with the aid of the shell impactor and the 2M trial head which can be connected now due to a M10x1 thread (Fig. 9).

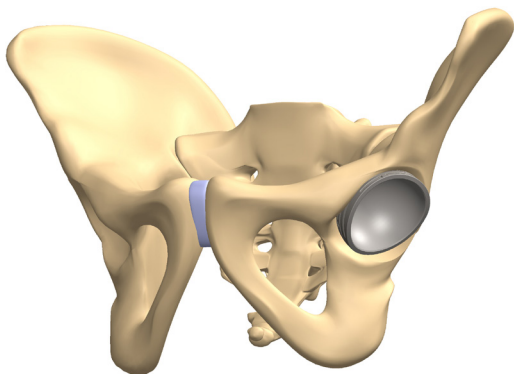


Figure 10

TRIAL REDUCTION

When the EcoFit® 2M cup is fixed firmly in the desired position, please release the impactor from the cup (Fig. 10b). The 2M-head of the appropriated size may be inserted for the trial reduction (Fig. 11). The size of the trial component corresponds to the inner diameter of the implanted cup.

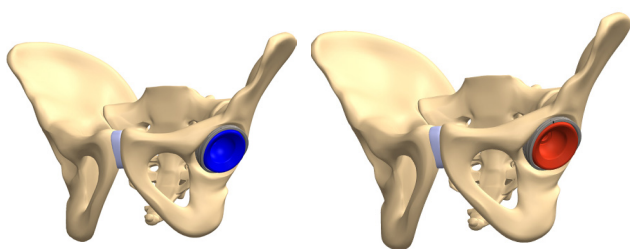


Figure 11

Combine the trial head with the stem of the hip system and perform a trial reduction.

SURGICAL TECHNIQUE

COMBINATION OF THE COMPONENTS

Combine the 2M-head of the respective size with the desired ic-head (Fig. 11a). For this use the assembling aid (Fig. 11b). ic-head and 2M-head will be combined by turning the thread of the assembling aid.

With the head impactor and some slightly strokes the combined heads can be fixed on the taper of the femoral stem (Fig. 11c).



Figure 11a

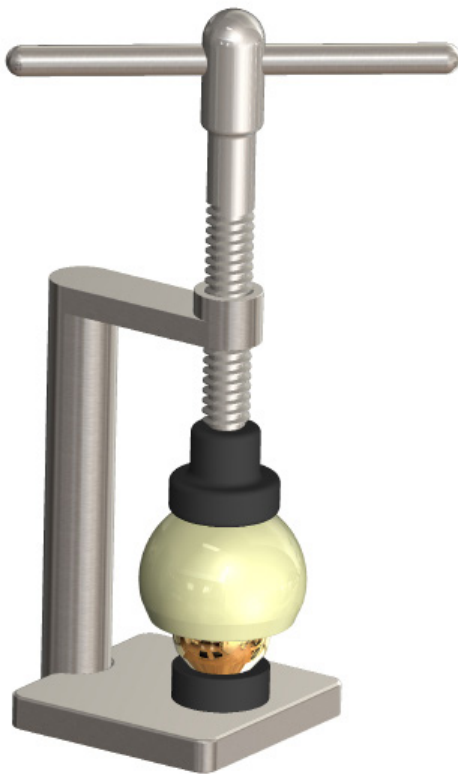


Figure 11b



Figure 11c

SURGICAL TECHNIQUE

FINAL REDUCTION

Combine the implanted hip stem with the selected head and set the joint component.

Perform a final stability check and check the range of motion (Fig. 12 and 13).

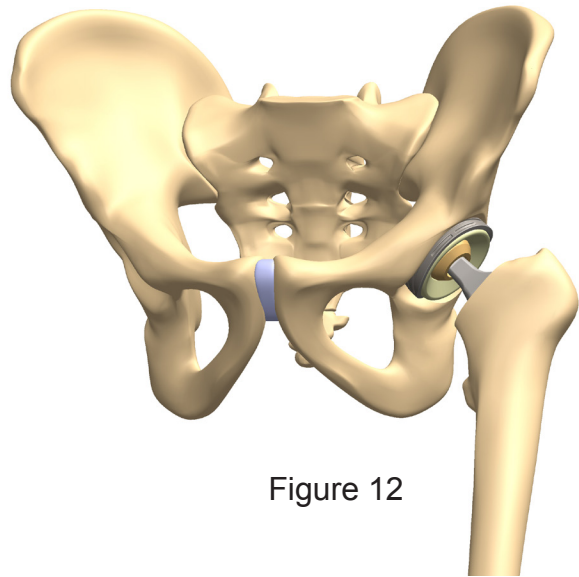


Figure 12

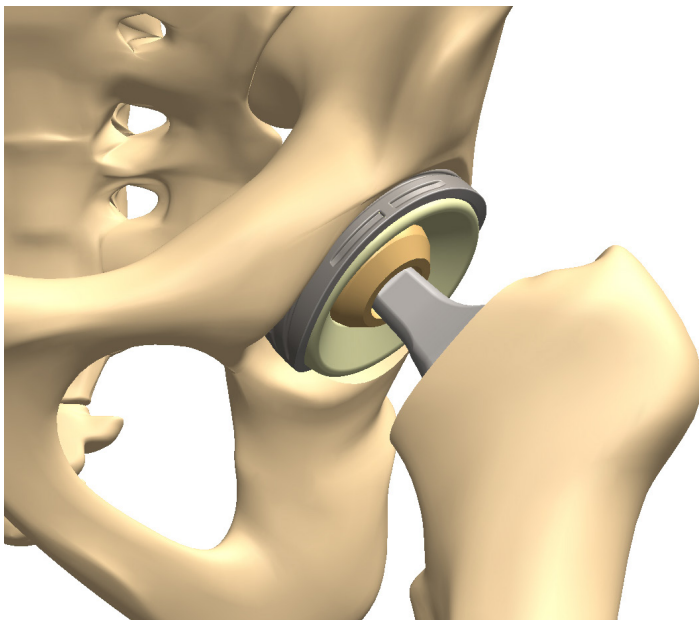


Figure 13

IMPLANTS

EcoFit® 2M cup, cementless

implavit®, CoCrMo acc. to ISO 5832-4 with implaFix® cpTi-coating and HA-coating acc. to 13779-2



| REF | Size (inner-Ø/outer-Ø) |
|-----------|---------------------------|
| 0220-1042 | 38/42mm |
| 0220-1044 | 40/44mm |
| 0220-1046 | 42/46mm |
| 0220-1048 | 44/48mm |
| 0220-1050 | 46/50mm |
| 0220-1052 | 48/52mm |
| 0220-1054 | 50/54mm |
| 0220-1056 | 52/56mm |
| 0220-1058 | 54/58mm |
| 0220-1060 | 56/60mm |
| 0220-1062 | 58/62mm |
| 0220-1064 | 58/64mm |

EcoFit® 2M cup, cemented

implavit®, CoCrMo acc. to ISO 5832-4



| REF | Size (inner-Ø/outer-Ø) |
|-----------|---------------------------|
| 0220-1144 | 38/44mm |
| 0220-1146 | 40/46mm |
| 0220-1148 | 42/48mm |
| 0220-1150 | 44/50mm |
| 0220-1152 | 46/52mm |
| 0220-1154 | 48/54mm |
| 0220-1156 | 50/56mm |
| 0220-1158 | 52/58mm |
| 0220-1160 | 54/60mm |
| 0220-1162 | 56/62mm |
| 0220-1164 | 58/64mm |

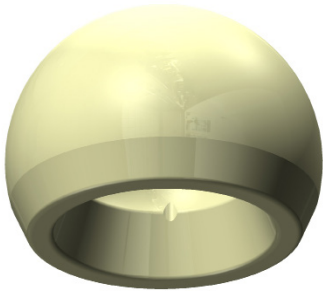
EcoFit® 2M cup TiN, cemented

implavit®, CoCrMo acc. to ISO 5832-4 with TiN-coating



| REF | size (inner-Ø/outer-Ø) |
|------------|---------------------------|
| 0220-1144N | 38/44mm |
| 0220-1146N | 40/46mm |
| 0220-1148N | 42/48mm |
| 0220-1150N | 44/50mm |
| 0220-1152N | 46/52mm |
| 0220-1154N | 48/54mm |
| 0220-1156N | 50/56mm |
| 0220-1158N | 52/58mm |
| 0220-1160N | 54/60mm |
| 0220-1162N | 56/62mm |
| 0220-1164N | 58/64mm |

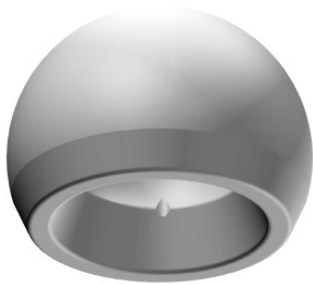
IMPLANTS



2M implacross® E head

implacross® crosslinked UHMWPE with vitamin E

| REF | Size (inner-Ø/outer-Ø) |
|-----------|---------------------------|
| 2905-2238 | 22/38mm |
| 2905-2240 | 22/40mm |
| 2905-2842 | 28/42mm |
| 2905-2844 | 28/44mm |
| 2905-2846 | 28/46mm |
| 2905-3248 | 32/48mm |
| 2905-3250 | 32/50mm |
| 2905-3252 | 32/52mm |
| 2905-3254 | 32/54mm |
| 2905-3256 | 32/56mm |
| 2905-3258 | 32/58mm |



EcoFit® 2M head

UHMWPE acc. to ISO 5834-2

| REF | Size (inner-Ø/outer-Ø) |
|-----------|---------------------------|
| 2906-2238 | 22/38mm |
| 2906-2240 | 22/40mm |
| 2906-2842 | 28/42mm |
| 2906-2844 | 28/44mm |
| 2906-2846 | 28/46mm |
| 2906-3248 | 32/48mm |
| 2906-3250 | 32/50mm |
| 2906-3252 | 32/52mm |
| 2906-3254 | 32/54mm |
| 2906-3256 | 32/56mm |
| 2906-3258 | 32/58mm |

IMPLANTS



BIOLOX® forte

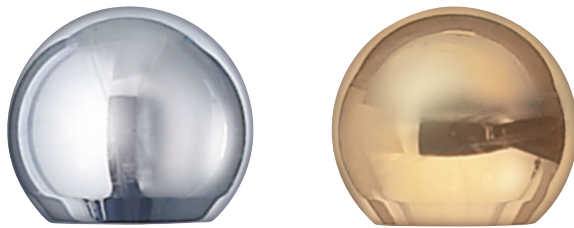
Al₂O₃ acc. to
ISO 6474-1

ic-head

BIOLOX® delta

Al₂O₃ and ZrO₂
acc. to ISO 6474-2

| REF | Size | REF |
|-----------|----------|-----------|
| 2587-2800 | 28mm, S | 2586-2800 |
| 2587-2805 | 28mm, M | 2586-2805 |
| 2587-2810 | 28mm, L | 2586-2810 |
| 2587-3200 | 32mm, S | 2586-3200 |
| 2587-3205 | 32mm, M | 2586-3205 |
| 2587-3210 | 32mm, L | 2586-3210 |
| - | 32mm, XL | 2586-3215 |



CoCrMo

implavit® CoCrMo
acc. to ISO 5832-12

ic-head

Titan

implatan® TiAl₆V₄
acc. to ISO 5832-3
with TiN-coating

| REF | Size | REF |
|-----------|----------|-----------|
| 2312-2200 | 22mm, S | - |
| 2312-2205 | 22mm, M | - |
| 2312-2210 | 22mm, L | - |
| 2387-2800 | 28mm, S | 2787-2800 |
| 2387-2805 | 28mm, M | 2787-2805 |
| 2387-2810 | 28mm, L | 2787-2810 |
| 2387-2815 | 28mm, XL | 2787-2815 |
| 2387-3200 | 32mm, S | 2787-3200 |
| 2387-3205 | 32mm, M | 2787-3205 |
| 2387-3210 | 32mm, L | 2787-3210 |
| 2387-3215 | 32mm, XL | 2787-3215 |



CoCrMo

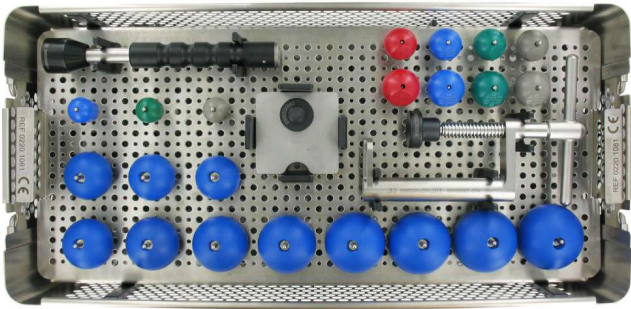
implavit® CoCrMo
acc. to ISO 5832-12
with TiN-coating

ic-head

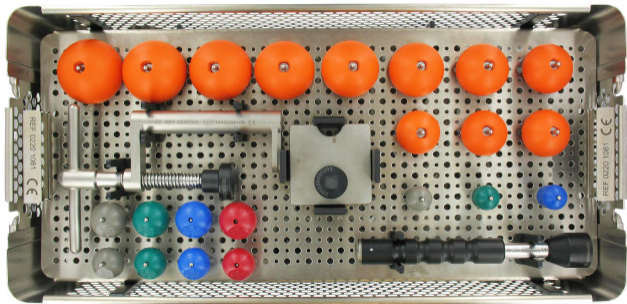
| REF | size |
|-----------|---------|
| 2322-2200 | 22mm, S |
| 2322-2205 | 22mm, M |
| 2322-2210 | 22mm, L |

figure ic-head CoCrMo with TiN coating 22mm
neck length L (large)

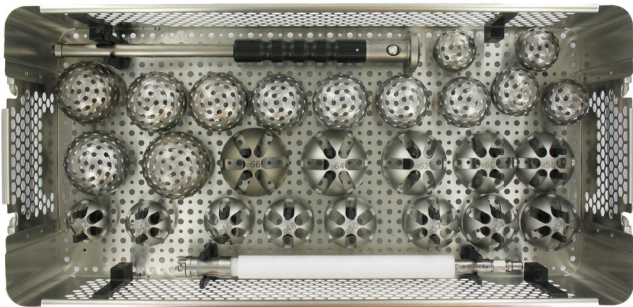
INSTRUMENTS



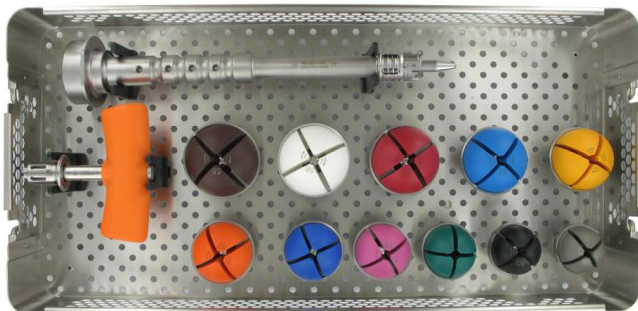
0220-1081
EcoFit® 2M container I
upper tray
(version with blue trial heads)



0220-1081
EcoFit® 2M container I
upper tray
(version with orange trial heads)



0220-1081
EcoFit® 2M container I
lower tray



0220-1082
EcoFit® 2M container II



0220-1083
EcoFit® 2M Container III

INSTRUMENTS

CONTENT CONTAINER 0220-1081

acetabulum reamer low profile

| | |
|-----------------------|--------|
| 2950-3042 / 2960-3042 | Ø 42mm |
| 2950-3044 / 2960-3044 | Ø 44mm |
| 2950-3046 / 2960-3046 | Ø 46mm |
| 2950-3048 / 2960-3048 | Ø 48mm |
| 2950-3050 / 2960-3050 | Ø 50mm |
| 2950-3052 / 2960-3052 | Ø 52mm |
| 2950-3054 / 2960-3054 | Ø 54mm |
| 2950-3056 / 2960-3056 | Ø 56mm |
| 2950-3058 / 2960-3058 | Ø 58mm |
| 2950-3060 / 2960-3060 | Ø 60mm |
| 2950-3062 / 2960-3062 | Ø 62mm |
| 2950-3064 / 2960-3064 | Ø 64mm |
| 2950-3066 / 2960-3066 | Ø 66mm |



handle for acetabulum reamer

2950-2010



trial shell

| | |
|-----------|--------|
| 2950-2342 | Ø 42mm |
| 2950-2344 | Ø 44mm |
| 2950-2346 | Ø 46mm |
| 2950-2348 | Ø 48mm |
| 2950-2350 | Ø 50mm |
| 2950-2352 | Ø 52mm |
| 2950-2354 | Ø 54mm |
| 2950-2356 | Ø 56mm |
| 2950-2358 | Ø 58mm |
| 2950-2360 | Ø 60mm |
| 2950-2362 | Ø 62mm |
| 2950-2364 | Ø 64mm |
| 2950-2366 | Ø 66mm |



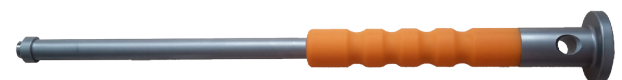
shell impactor

0282-0020



shell impactor (optional)

0282-0030



INSTRUMENTS

trial head snap taper 12/14

| | |
|-----------------------|---------------|
| 7962-2200 / 7965-2200 | Ø 22mm short |
| 7962-2205 / 7965-2205 | Ø 22mm medium |
| 7962-2210 / 7965-2210 | Ø 22mm long |
| 7962-2800 / 7965-2800 | Ø 28mm short |
| 7962-2805 / 7965-2805 | Ø 28mm medium |
| 7962-2810 / 7965-2810 | Ø 28mm long |
| 7962-2815 / 7965-2815 | Ø 28mm x-long |
| 7962-3200 / 7965-3200 | Ø 32mm short |
| 7962-3205 / 7965-3205 | Ø 32mm medium |
| 7962-3210 / 7965-3210 | Ø 32mm long |
| 7962-3215 / 7965-3215 | Ø 32mm x-long |



femoral head impactor

2950-0039



ic head assembling tool

2900-2000



2M trial head

| | |
|-----------|---------|
| 2950-2238 | 22/38mm |
| 2950-2240 | 22/40mm |
| 2950-2842 | 28/42mm |
| 2950-2844 | 28/44mm |
| 2950-2846 | 28/46mm |
| 2950-3248 | 32/48mm |
| 2950-3250 | 32/50mm |
| 2950-3252 | 32/52mm |
| 2950-3254 | 32/54mm |
| 2950-3256 | 32/56mm |
| 2950-3258 | 32/58mm |



either blue version or orange version is available - there is no difference in function, only the colors differ

INSTRUMENTS

CONTENT CONTAINER 0220-1082

EcoFit® 2M cup impactor straight
0220-1800



adapter for EcoFit® 2M cup impactor straight

| | |
|-----------|------|
| 0220-1838 | 38mm |
| 0220-1840 | 40mm |
| 0220-1842 | 42mm |
| 0220-1844 | 44mm |
| 0220-1846 | 46mm |
| 0220-1848 | 48mm |
| 0220-1850 | 50mm |
| 0220-1852 | 52mm |
| 0220-1854 | 54mm |
| 0220-1856 | 56mm |
| 0220-1858 | 58mm |



ic T-handle Zimmer-Jakobs
4223-0023



INSTRUMENTS

CONTENT CONTAINER 0220-1083

EcoFit® 2M cup impactor curved
0220-1900

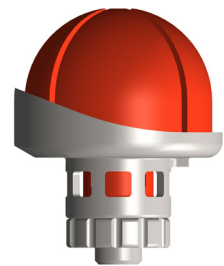
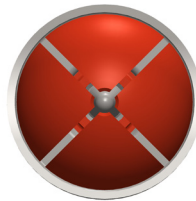


ic adapter with hexagonball 6mm
7512-3606



adapter for EcoFit® 2M cup impactor curved

| | |
|-----------|------|
| 0220-1938 | 38mm |
| 0220-1940 | 40mm |
| 0220-1942 | 42mm |
| 0220-1944 | 44mm |
| 0220-1946 | 46mm |
| 0220-1948 | 48mm |
| 0220-1950 | 50mm |
| 0220-1952 | 52mm |
| 0220-1954 | 54mm |
| 0220-1956 | 56mm |
| 0220-1958 | 58mm |





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