VERSAFITCUP® CC TRIO

EACH TO THEIR OWN

Surgical Technique

Hip | Knee | Spine | Navigation

Medacta International

EACH TO THEIR OWN

The Versafitcup® CC Trio is a range of press-fit acetabular shell which offers different solutions according to patient needs: flat and hooded liners in standard UHMWPE or Highcross® cross-linked Polyethylene; possibility to be supported or not by screws.

PREAMBLE

This document describes the Surgical Technique for Versafitcup® CC Trio.

Carefully read the instructions for use and if you have any questions concerning product compatibility please contact your Medacta® representative.

CAUTION

Federal law (USA) restricts this device to sale distribution and use by or on the order of physician.

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1 INDICATIONS

The Versafitcup CC Trio is designed for cementless use in total hip arthroplasty in primary or revision surgery. The patient should be skeletally mature. The patient's condition should be due to one or more of:

- Severely painful and/or disabled joint: as a result of osteoarthritis, post-traumatic arthritis, rheumatoid arthritis or psoriactic arthritis, Congenital hip dysplasia, Ankylosing spondylitis
- Avascular necrosis of the femoral head
- Acute traumatic fracture of the femoral head or neck
- Failure of previous hip surgery: joint reconstruction, internal fixation, arthrodesis, hemiarthroplasty, surface replacement arthroplasty, or total hip replacement where sufficient bone stock is present

2 CONTRAINDICATIONS

Total or partial hip replacement is contraindicated in the following cases:

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

Mental or neuromuscular disorders may create an unacceptable risk to the patient and can be a source of postoperative complications. It is the surgeon's responsibility to ensure that the patient has no known allergy to the materials used.

3 PREOPERATIVE PLANNING

The goal is to determine the optimum acetabular implant size. Using the set of X-ray templates to the scale of 1.15:1 (with an X-ray of the same magnification) it will be possible to determine:

- The implant size
- The ideal position of the acetabular shell for optimum coverage.

NOTICE

The final implant will be selected intra-operatively, because of possible discrepancies between actual conditions and templating.

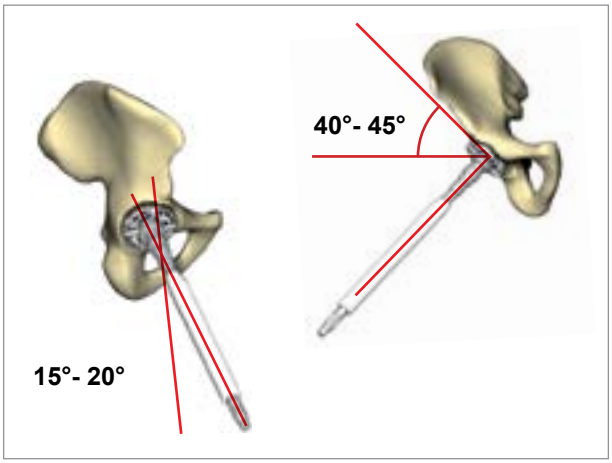
4 SURGICAL APPROACH

The choice of surgical approach is up to the surgeon.

5 REAMING

After performing an osteotomy of the femoral neck, expose and prepare the acetabular cavity and remove osteophytes.
Start reaming with the acetabular reamers.

The ideal reaming axis has an inclination of 40°/45°, and an anteversion of 15°/20° (anteversion recommended for posterior approaches).



Reaming of the acetabulum starts with the smallest reamer and increases in increments of 2 mm, until a perfectly regular hemispherical cavity has been obtained, in the presence of bleeding subchondral bone.

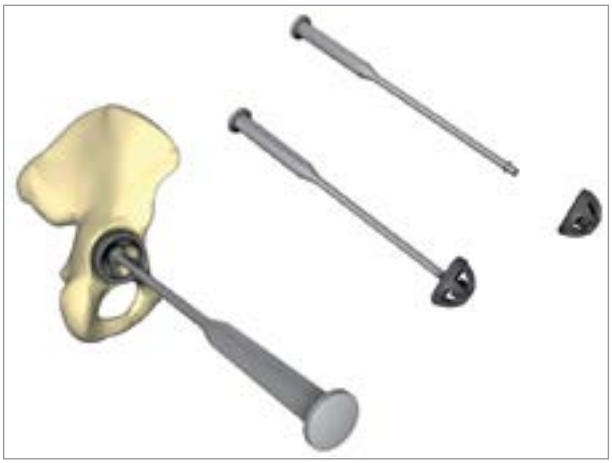
WARNING

During final reaming, avoid changing the reamer axis, in order not to make the prepared bed oval, which may affect or prevent primary seating of the implant.

As a general rule the right diameter corresponds to 4 or 6 mm greater than the femoral head diameter size. Take care to retain, as far as possible, the bone stock up to the level of anterior and posterior columns.
Bone reamings may be saved for void filling between implant and acetabulum.

6 TRIALS

Assemble the trial cup with the same diameter of the last reamer onto the multifunction handle.
Insert the trial cup into the reamed cavity in order to estimate the depth and the orientation of the acetabular component.

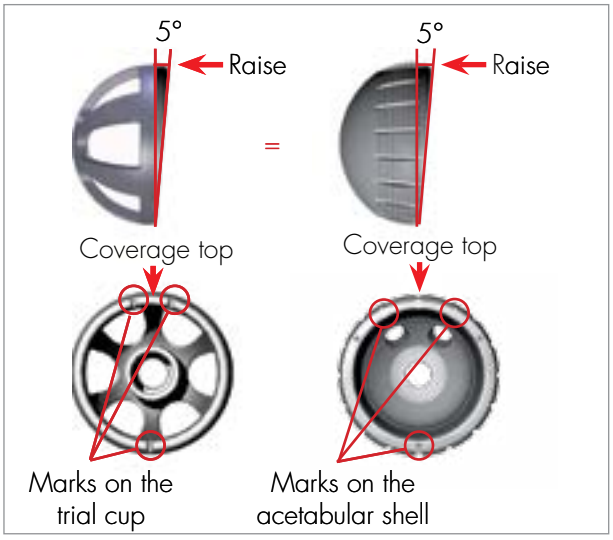


Trial cups:

- Are smooth and have the same dimensions as the reamers to avoid damaging the socket
- Are slightly undersized compared to the implant to allow a maximum press-fit effect with the definitive implant
- Have several openings to permit a direct view of the underlying acetabular surface.

Both reamers and trial cups are hemispherical, whereas the implants are elliptical and equatorially expanded, providing a good initial press-fit.

Both implant and trial cup have a 5° raise. Marks on the trial cup and on the acetabular shell help to identify coverage top (see image).



OPTION

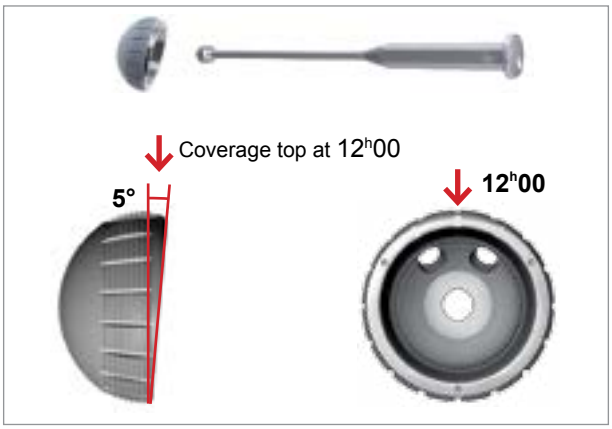
In order to ensure the correct positioning of the definitive acetabular shell, use electrocautery to mark the coverage top.

NOTICE

If the trial cup is not stable or primary stability is doubtful, especially in the presence of poor bone quality, it is possible to choose a larger cup size, either with or without additional acetabular reaming.

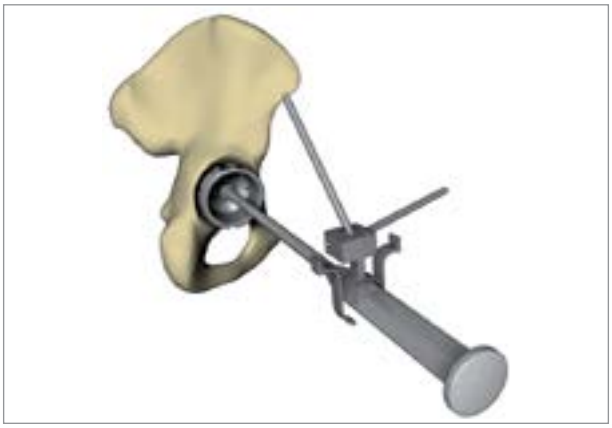
7 IMPACTION OF THE ACETABULAR SHELL

After a satisfactory trial, the final acetabular shell can be positioned. The definitive acetabular shell size will be the same as the final trial cup size. However the acetabular shell is slightly oversized in order to allow a maximum press-fit.
Assemble the impactor handle with the acetabular shell until it is completely locked, in order not to damage the impactor screw thread during the impaction. Impact the implant at the desired angle of orientation into the prepared acetabulum.

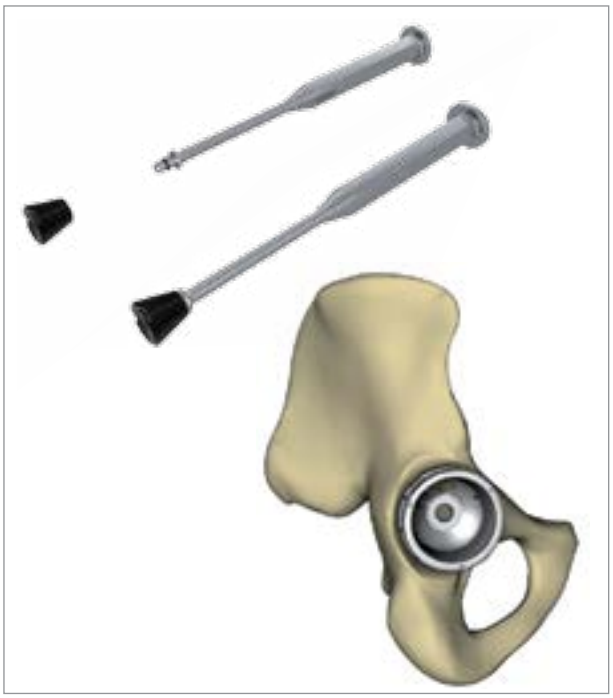


OPTION

An orientation guide is available to aid in the acetabular shell positioning and to find satisfactory orientation tested during trials: the orientation guide will be positioned on the top of the impactor handle. The two rods are inclined at 45° and 20° to the handle.



Never use the impactor handle after the impaction to reposition or rotate the acetabular shell, in order not to damage the threaded end. If needed, use only the acetabular shell correction impactor, assembled with the multifunction handle. Impact the acetabular shell with the aid of a hammer, until it is completely stable.
Remove the impactor handle.



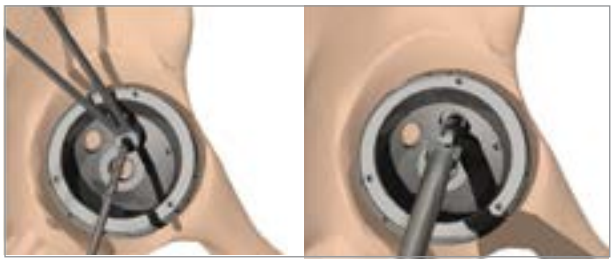
CAUTION

After impaction of the acetabular shell, ensure osteophytes have been properly removed in order to avoid any impingement.

TRICK

In order to ensure the correct depth of the definitive acetabular shell, use the mark made during the test with the trial cup or use the holes to see the acetabulum floor. Because of the elliptical shape of the acetabular shell, it is normal to have a space between acetabular shell and acetabulum floor. This distance should be no deeper than 2 mm.

In case of instability of the trial cup or any doubt of its primary stability, it is possible to add intra acetabular screws.
Drill through the acetabular shell holes using a ∅ 3.2 mm drill bit with the help of a drill guide.
Use the hooked depth gauge in order to measure the drilling depth and select a self-tapping screw of appropriate length (with flat head and ∅ 6.5 mm).
Screwing is performed with the aid of a universal hex-head screwdriver.

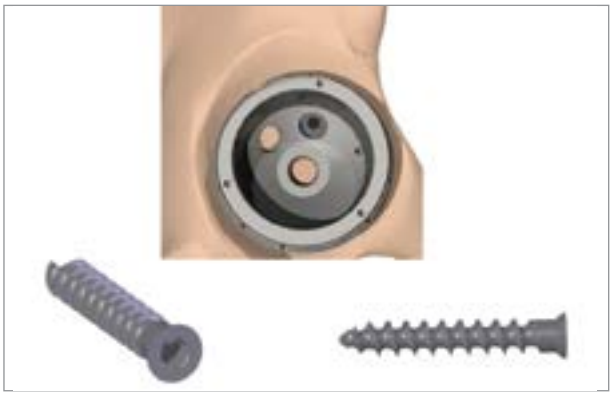


CAUTION

Always use flat head screws and check that the screws are fully seated (ensure that the screw heads do not protrude from the inner surface of the acetabular shell).
The maximum screw angle allowed round the radial positioning is 10 degrees.

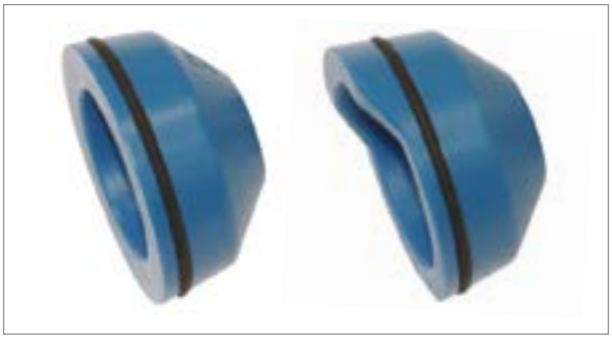
NOTICE

It is possible to close the central hole with a metallic plug, which is packed together with the acetabular shell.



8 STABILITY TEST

During stability tests, the choice between a flat and a hooded liner can be made according to the surgeon's choice.



Clean the interior surface of the acetabular shell.
Assemble the multifunction handle with the trial liner corresponding to the acetabular shell size and femoral head diameter (liners with interior diameter of 36 mm are available only for flat UHMWPE Highcross® versions).
Position the assembly in the acetabular shell.
Unscrew the multifunction handle and reduce the hip in order to test the joint stability and limb length.
After checking and testing mobility, joint stability and lower limb length, remove the trial liner with the aid of the multifunction handle.

TRICK

In case of hooded trial liner, use electrocautery to mark the satisfactory position of the hood.

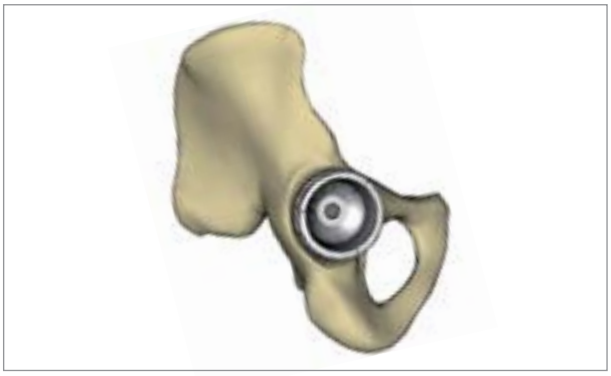
WARNING

Tests of stability must be performed with trial heads and not with definitive heads. The head sizes XL (for ∅ 28 mm, ∅ 32 mm) and XXL (for ∅ 28 mm, ∅ 32 mm, ∅ 36 mm) have a collar. This may decrease the Range of Motion in comparison to smaller sizes. Always perform trial reduction with the chosen head size.

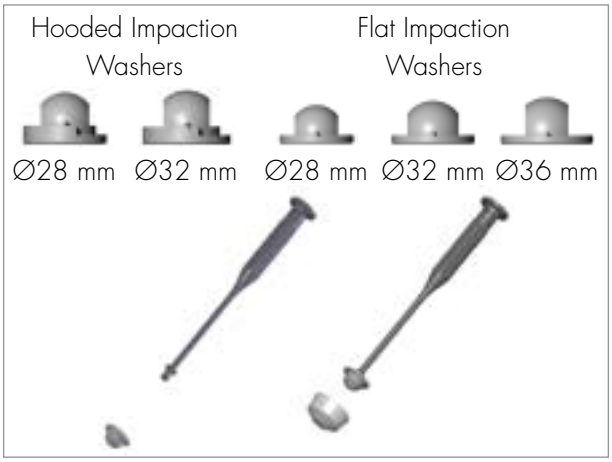
9 POSITIONING OF DEFINITIVE LINER

The definitve liner must be chosen following the specific letter encoding; the internal diameter of the liner will be the same as the head chosen.

Before inserting the liner clean the interior surface of the acetabular shell, carefully remove any bone debris and tissue residues to avoid damage that could compromise the mechanical bearing.



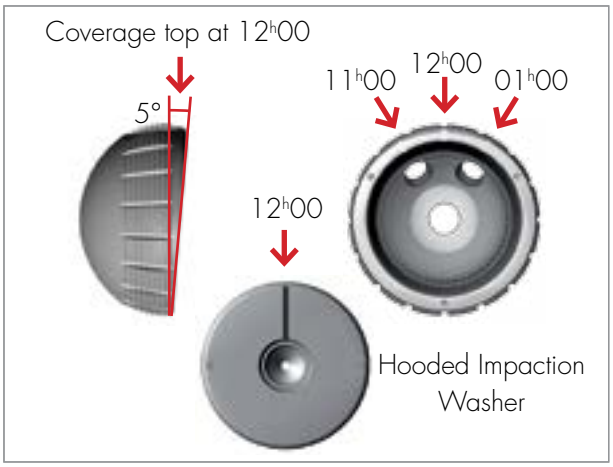
The definitive UHMWPE liner is assembled on the multifunction handle always together with the impaction washer for the fixed liner corresponding to the head diameter and type of liner chosen.
The assembly is positioned in the acetabular shell.



NOTICE

Sizes 32/C and 36/E UHMWPE Highcross® liners cannot be impacted with impaction washers. In order to perform a final impaction assemble the liner impaction sphere of correct diameter with the multifunction handle. Insert the sphere into the liner and fix the liner into place by exerting a hammer stroke in the axial direction.

The hooded liner raise orientation can be performed with the aid of: markings on the acetabular shell at 11h00, at 12h00 and at 13h00, a laser marking on the impaction washer at 12h00 and finally, a mark made during the test with hooded trial liner.



Impact the UHMWPE liner with the aid of a hammer, until completely fixed.
Remove the multifunction handle with its impaction washer.

TRICK

In order to control the correct placement for flat liners and the flat part of the hooded liner: check that the outside rim of the acetabular shell is exactly aligned with the outside rim of the liner.

Position the definitive head and reduce the hip.

OPTION

It is possible to use the release key for the washer in order to unlock the impaction washer from the multifunction handle.

10 IMPLANTS NOMENCLATURE

VERSAFITCUP® CC TRIO ACETABULAR SHELL

Diameter (mm)	Ref.	Liner Size
46	01.26.45.0046	C
48	01.26.45.0048	C
50	01.26.45.0050	E
52	01.26.45.0052	E
54	01.26.45.0054	E
56	01.26.45.0056	F
58	01.26.45.0058	F
60	01.26.45.0060	F
62	01.26.45.0062	G
64	01.26.45.0064	G

CANCELLOUS BONE SCREW (FLAT HEAD - Ø 6.5 mm)

Length (mm)	Ref.
20	01.26.65.20
25	01.26.65.25
30	01.26.65.30
35	01.26.65.35
40	01.26.65.40
45	01.26.65.45

ACETABULAR SHELL CENTRAL PLUG

Description	Ref.
Plug	01.26.45.0070

UHMWPE FLAT LINER

Liner size		C	E	F	G
head	Ø 28	01.26.2839STT	01.26.2844STT	01.26.2848STT	01.26.2852STT
	Ø 32	-	01.26.3244STT	01.26.3248STT	01.26.3252STT

UHMWPE HOODED LINER

Liner size		C	E	F	G
head	Ø 28	01.26.2839AT	01.26.2844AT	01.26.2848AT	01.26.2852AT
	Ø 32	-	01.26.3244AT	01.26.3248AT	01.26.3252AT

FLAT UHMWPE HC LINER (Highcross®)

Liner size		C	E	F	G
head	Ø 28	01.26.2839HCT	01.26.2844HCT	01.26.2848HCT	01.26.2852HCT
	Ø 32	01.26.3239HCT	01.26.3244HCT	01.26.3248HCT	01.26.3252HCT
	Ø 36	-	01.26.3644HCT	01.26.3648HCT	01.26.3652HCT

HOODED UHMWPE HC LINER (Highcross®)

Liner size		C	E	F	G
head	Ø 28	01.26.2839HCAT	01.26.2844HCAT	01.26.2848HCAT	01.26.2852HCAT
	Ø 32	-	01.26.3244HCAT	01.26.3248HCAT	01.26.3252HCAT

Part numbers subject to change.

NOTE FOR STERILIZATION

Note for sterilization: the instruments are not sterile upon delivery. Instruments must be cleaned before use and sterilized in an autoclave respecting the US regulations, directives where applicable, and following the manufactures instructions for use of the autoclave. For detailed instructions please refer to the document "Recommendations for cleaning decontamination and sterilization of Medacta® International reusable orthopaedic devices" available at www.medacta.com.

Medacta International

Medacta International SA
Strada Regina - 6874 Castel San Pietro
Switzerland
Phone +41 91 696 60 60
Fax +41 91 696 60 66
info@medacta.ch

DISTRIBUTED BY

Medacta USA
4725 Calle Quetzal Suite B - Camarillo
California 93012
Phone +1 805 437 7085
Fax +1 805 437 7089
info@medacta.us.com

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