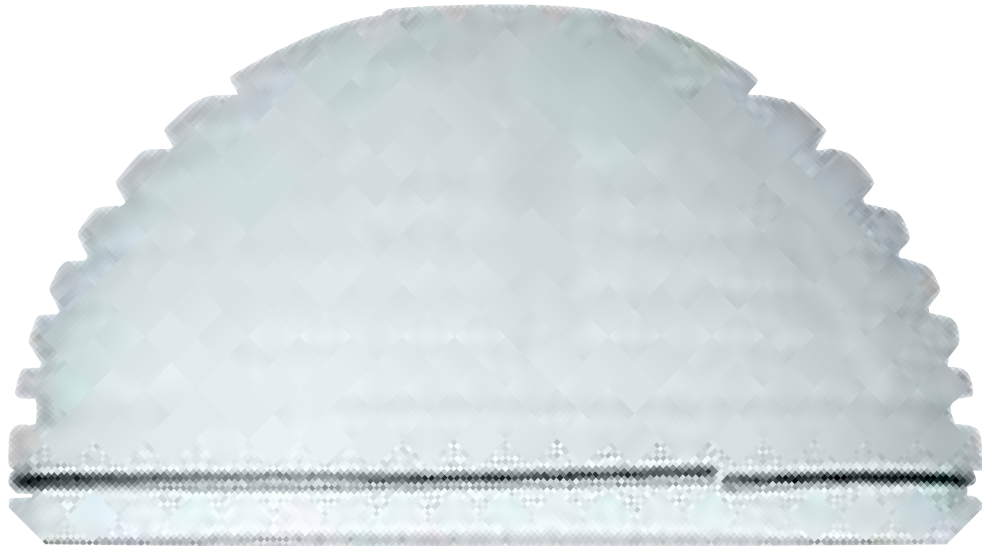


# PE-cup Mueller II







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**Nota Bene:** The author of this technique has outlined the procedure for the uncomplicated surgical scenario. Ultimately however it is the operating surgeon who is best placed to assess and address the individual needs of each patient.

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# PREOPERATIVE PLANNING

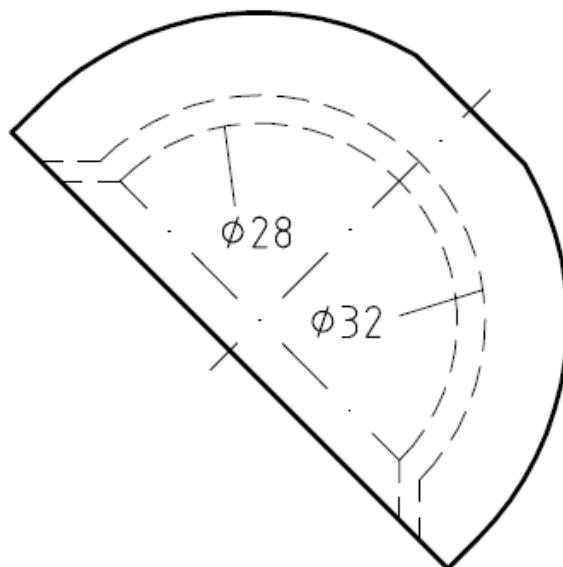
Pre-operative planning and precise surgical techniques are mandatory for optimal results. The instructions and the procedure given in the surgical technique to the system must be adhered to. Familiarity with the recommended surgical technique and its careful application is essential to achieve the best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



PE cup Mueller II 44mm

For more information, please refer to the instructions for use „Cemented Acetabular Cups“ (09300030GB) and this surgical technique from page 18.

# SURGICAL TECHNIQUE

## Surgical approach

The approach presented on this figure describes the transgluteal access. The incision of the tractus should be passed around to dorsal (Fig. 1).

Illustrate the ventral joint capsule by subperiosteal separating of the gluteus medius and minimus as well as the vastus lateralis of the trochanter major (Fig. 2).

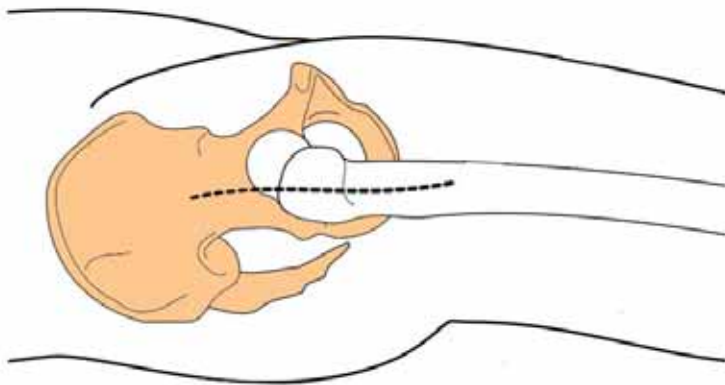


Figure 1

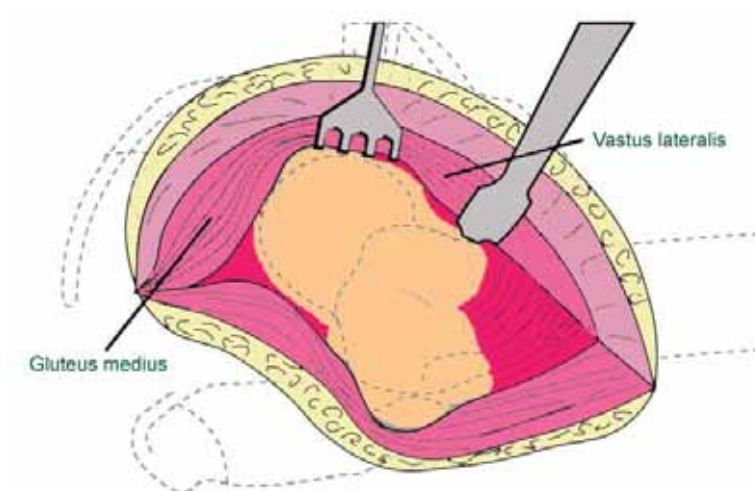


Figure 2

# SURGICAL TECHNIQUE

## Preparation of the acetabulum

Illustrate the acetabulum with the help of Hohmann instruments. Prepare the fosse acetabuli with bone chisels and sharp spoons (Fig. 3).

Ream the acetabulum successively until fresh, subchondral bone is exposed (Fig. 4).

The reamers are available in the sizes 46 mm to 68 mm.

To enhance the cement anchoring of the PE-implant, additional drills can be made in the cranial acetabulum. Therefore use drills with a diameter of 5 to 8mm (Fig. 5).

In general a PE-implant 2mm to 4mm smaller than the last reamer is used to create a cement mantle of 1mm to 2mm thickness.

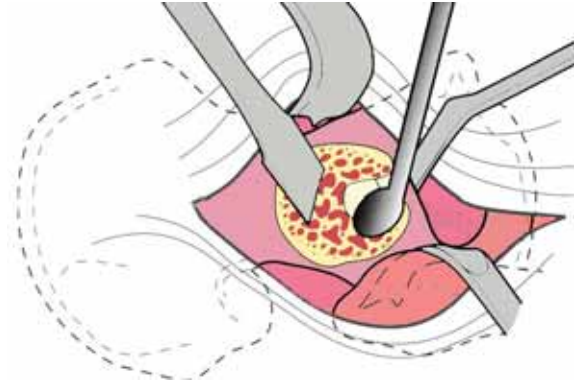


Figure 3



Figure 4

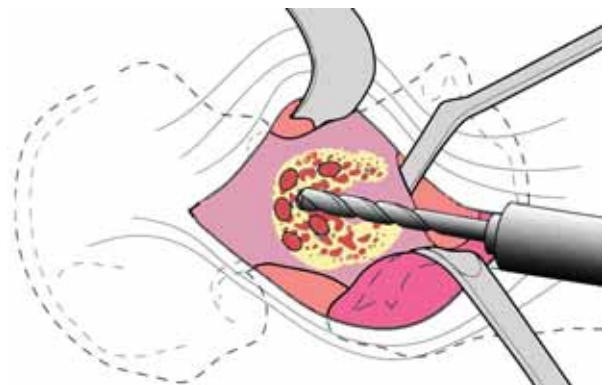


Figure 5

# SURGICAL TECHNIQUE

## Implantation of the cup

Clean the acetabulum and remove the remaining bone pieces. Dry the bone surface completely.

Fill in the viscosal bone cement and implant the PE implant with the impactor (Fig. 6). There are two types of impactor instruments (straight and curved) available. These can only be combined with the respective impactor heads.

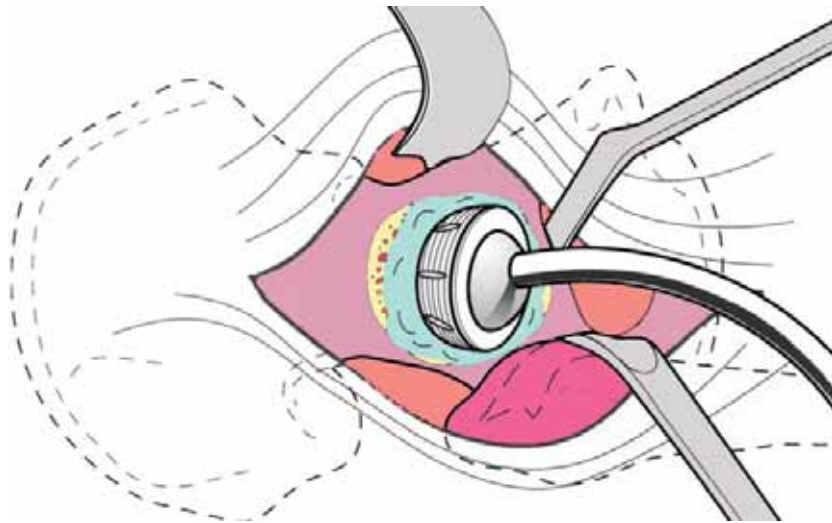


Figure 6

# SURGICAL TECHNIQUE

## Application of the positioning guide

The intention is the positioning of the hip cup with about  $40^\circ$  inclination and  $10^\circ$  to  $15^\circ$  anteversion (Fig. 7).

Connect the positioning guide with the impactor as demonstrated in Figure 7.

Adjust the handle parallel to the surface of the operating table. An anteversion of about  $10$  to  $15^\circ$  is adjusted.

If the rod of the positioning guide is in  $5^\circ$  angle (Fig. 8) to the edge of the table, an inclination of about  $40^\circ$  is reached.

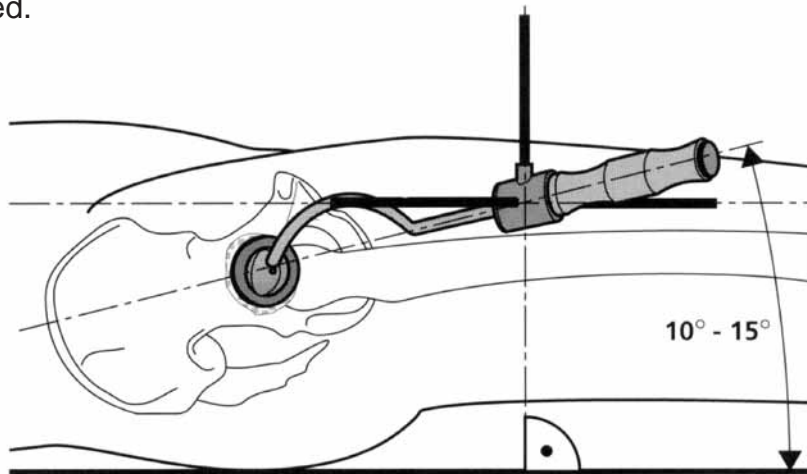


Figure 7

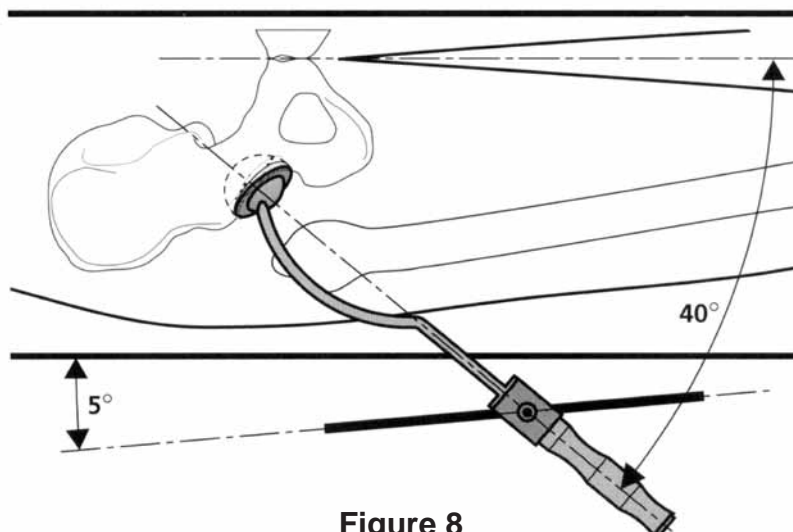


Figure 8

# IMPLANTS

## PE-cup Mueller II cemented

UHMWPE acc.to ISO 5834-2;  
Stainless Steel X-ray wire acc. to ISO 5832-1

REF	size
1021-2240	22/40 mm
1021-2242	22/42 mm
1021-2244	22/44 mm
1021-2246	22/46 mm
1021-2248	22/48 mm
1021-2844	28/44 mm
1021-2846	28/46 mm
1021-2848	28/48 mm
1021-2850	28/50 mm
1021-2852	28/52 mm
1021-2854	28/54 mm
1021-2856	28/56 mm
1021-2858	28/58 mm
1021-2860	28/60 mm
1021-2862	28/62 mm
1021-2864	28/64 mm
1021-3244	32/44 mm
1021-3246	32/46 mm
1021-3248	32/48 mm
1021-3250	32/50 mm
1021-3252	32/52 mm
1021-3254	32/54 mm
1021-3256	32/56 mm
1021-3258	32/58 mm
1021-3260	32/60 mm
1021-3262	32/62 mm
1021-3264	32/64 mm



# IMPLANTS

## PE-cup Mueller II

### Dysplasia 10° cemented

UHMWPE acc.to ISO 5834-2;  
Stainless Steel X-ray wire acc. to ISO 5832-1



REF	size
1071-2844	28/44 mm
1071-2846	28/46 mm
1071-2848	28/48 mm
1071-2850	28/50 mm
1071-2852	28/52 mm
1071-2854	28/54 mm
1071-2856	28/56 mm
1071-2858	28/58 mm
1071-2860	28/60 mm
1071-2862	28/62 mm
1071-3244	32/44 mm
1071-3246	32/46 mm
1071-3248	32/48 mm
1071-3250	32/50 mm
1071-3252	32/52 mm
1071-3254	32/54 mm
1071-3256	32/56 mm
1071-3258	32/58 mm
1071-3260	32/60 mm
1071-3262	32/62 mm
1071-3264	32/64 mm

## PE-cup Mueller II

### snap cemented

UHMWPE acc.to ISO 5834-2;  
Stainless Steel X-ray wire acc. to ISO 5832-1



REF	size
1041-3244	32/44 mm
1041-3246	32/46 mm
1041-3248	32/48 mm
1041-3250	32/50 mm
1041-3252	32/52 mm
1041-3254	32/54 mm
1041-3256	32/56 mm
1041-3258	32/58 mm
1041-3260	32/60 mm
1041-3262	32/62 mm
1041-3264	32/64 mm

# IMPLANTS

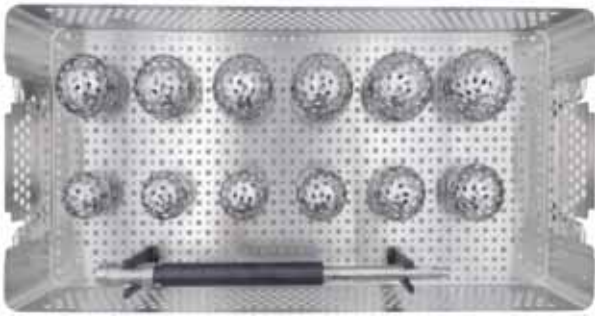
## PE-cup Mueller II implacross® E cemented

implacross® E, crosslinked UHMWPE with vitamin E;  
Stainless Steel X-ray wire acc. to ISO 5832-1

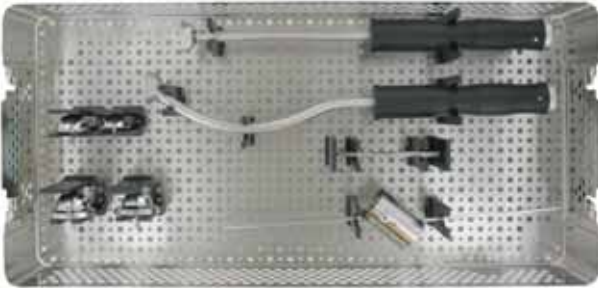
REF	size
1010-3244	32/44 mm
1010-3246	32/46 mm
1010-3248	32/48 mm
1010-3250	32/50 mm
1010-3252	32/52 mm
1010-3254	32/54 mm
1010-3256	32/56 mm
1010-3258	32/58 mm
1010-3260	32/60 mm
1010-3262	32/62 mm
1010-3264	32/64 mm
1010-3648	36/48 mm
1010-3650	36/50 mm
1010-3652	36/52 mm
1010-3654	36/54 mm
1010-3656	36/56 mm
1010-3658	36/58 mm
1010-3660	36/60 mm
1010-3662	36/62 mm
1010-3664	36/64 mm



# INSTRUMENTS



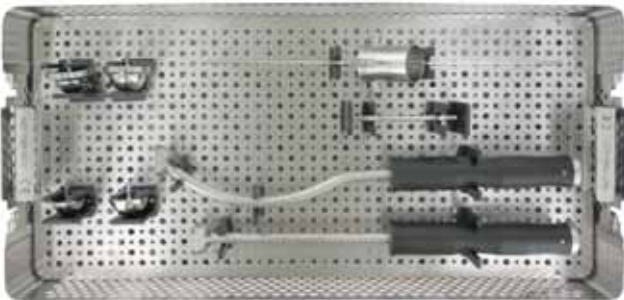
**0282-0001**  
**acetabulum reamer container**



**7960-0274**  
**Mueller PE cup container I**



**7960-0276**  
**Mueller PE cup container**  
**32 / 36mm II**



**7960-0277**  
**Mueller PE cup container 28 / 32mm**  
**incl. acetabulum reamer III top**



**7960-0277**  
**Mueller PE cup container 28 / 32mm**  
**incl. acetabulum reamer III bottom**

Instruments are delivered non-sterile. The relevant information on reprocessing must be observed.

# INSTRUMENTS

## CONTAINER 7960-0276

**positioning guide**

3039-2020



**positioning guide part 1**

3039-2020-1

**impactor for positioner curved**

7512-5501



**impactor for positioner straight**

7512-5500



**positioner with rim**

7512-7732 32mm



**positioner**

7512-5532 32mm



**positioner with rim 36mm**

0282-0026



**positioner without rim 36mm**

0282-0027



# INSTRUMENTS

## CONTAINER 7960-0274 / 7960-0277



**positioning guide**  
3039-2020

**positioning guide part 1**  
3039-2020-1



**impactor for positioner curved**  
7512-5501



**impactor for positioner straight**  
7512-5500



**positioner with rim**  
7512-7728 28mm  
7512-7732 32mm

**positioner**  
7512-6628 28mm  
7512-5532 32mm



### **acetabulum reamer solid section**

(only in container 7960-0277)

7512-1746	Ø 46mm
7512-1748	Ø 48mm
7512-1750	Ø 50mm
7512-1752	Ø 52mm
7512-1754	Ø 54mm
7512-1756	Ø 56mm
7512-1758	Ø 58mm
7512-1760	Ø 60mm
7512-1762	Ø 62mm
7512-1764	Ø 64mm
7512-1766	Ø 66mm



### **handle for acetabulum reamer A/O**

(only in container 7960-0277)

7512-1701

# INSTRUMENTS

## CONTAINER 0282-0001

### AO Reamer Driver

200-153-00



### acetabulum reamer EP

16-068-046	Ø 46 mm
16-068-048	Ø 48 mm
16-068-050	Ø 50 mm
16-068-052	Ø 52 mm
16-068-054	Ø 54 mm
16-068-056	Ø 56 mm
16-068-058	Ø 58 mm
16-068-060	Ø 60 mm
16-068-062	Ø 62 mm
16-068-064	Ø 64 mm
16-068-066	Ø 66 mm
16-068-068	Ø 68 mm



# PRE- / POST-OPERATIVE INSTRUCTIONS

## Intended Use

The PE-cups Mueller II are hemi-spherical monoblock acetabular cups for total hip arthroplasty. They are intended for cemented fixation.

## Pre-operative Instructions

The implantation must be carried out according to the established surgical technique which is available from the implantcast GmbH. A list of the associated surgical techniques is provided at the end of the instructions for use of the cemented acetabular cups "09300030 Cemented Acetabular Cups".

Further to this the surgeon should determine whether:

- All necessary components are available during surgery. An adequate number of various implant components should be available for surgery.
- All instruments for the implantation are present. The insertion instruments must be adapted to the implant. The implants may only be associated with the instruments of the implantcast GmbH. Only the standardized instruments are excepted.

The surgeon must make sure that the correct sized instruments are used during surgery to prevent damage to the implants. The implantcast GmbH instruments are supplied non-sterile and must be disinfected, cleaned, and sterilized before use. Please refer to the cleaning statement RA\_000\_ISO17664 for the correct procedures. If the equipment is not treated before use, there is a risk of infection.

## Post-operative Instructions

Post-operative patient care, patient instructions and warnings are of the utmost importance.

The use of an external support of the operated limb for a limited period is recommended.

Active and passive movements of the patient should be monitored.

The post-operative regime should be aimed at the prevention of overload-ing of the joint and stimulation of the healing process.

Regular monitoring of the position and condition of the prosthetic compo-nents and the surrounding bone is recommended.

# INDICATIONS / CONTRAINDICATIONS

## Indications

The decision for replacement of the joint should be based on careful evaluation. The indication for this type of surgery should only be made when all other conservative or surgical alternatives are less promising.

Danger of post-operative complications can be limited by careful evaluation of the individual anatomical and load conditions, the condition of the soft tissues and the condition of the bone bed for the implants.

The provision of prostheses is generally indicated only in patients whose skeleton is fully grown.

Before intervention, preoperative examinations should be performed. The examinations depend on the patient's history.

Under consideration of these conditions the hip joint replacement applies to the following indications:

- Non-inflammatory degenerative joint disease including osteoarthritis and avascular necrosis,
- Post-traumatic osteoarthritis,
- Fractures,
- Rheumatoid arthritis.

The surgeon decides which version of prosthesis for the individual patient is used. This decision depends on several factors, such as the age and the patient's weight, bone quality, shape of the bone and deformation of the joint.

## Contraindications

The longevity of an orthopaedic joint replacement device can be reduced by biological aspects, material characteristics and biomechanical factors. Patient selection and indication should be carefully monitored especially in patients who are overweight, patients with high physical activity levels and patients younger than 60 years of age.

An absolute contraindication is a known allergy to any of the implant materials used. The label on the secondary packaging of each component specifies the material used. Indication for testing, it is strongly recommended to perform an allergy test.

Further absolute contraindications are infections.

The relative contraindications include:

1. Anatomic conditions, which preclude or are not expected to maintain an adequate bony support of the implant or do not allow the implantation of a sufficiently large prosthesis.
  - Insufficient quantity and quality of bone stock, e.g. as a result of osteoporosis or osteomalacia
  - Vascular disease of the affected limb
2. Metabolic disorders that can affect a stable anchorage of the implant
3. Bone tumors in the implant fixation area
4. Neuromuscular diseases that can impair the affected limb
5. Lack of patient compliance
6. Mental or neurological conditions that affect the ability of patients to comply with medical instructions, especially during the healing phase
7. Obesity

## Risk factors

The following risk factors may affect the success of joint replacement:

- Nicotine and/or drug abuse
- Alcoholism
- Severe deformities, which lead to an impairment of the anchorage, the exact positioning or function of the implant
- Excessive loading of the operated joint by strong physical work and/or inappropriate sports
- Therapies that may affect bone quality







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