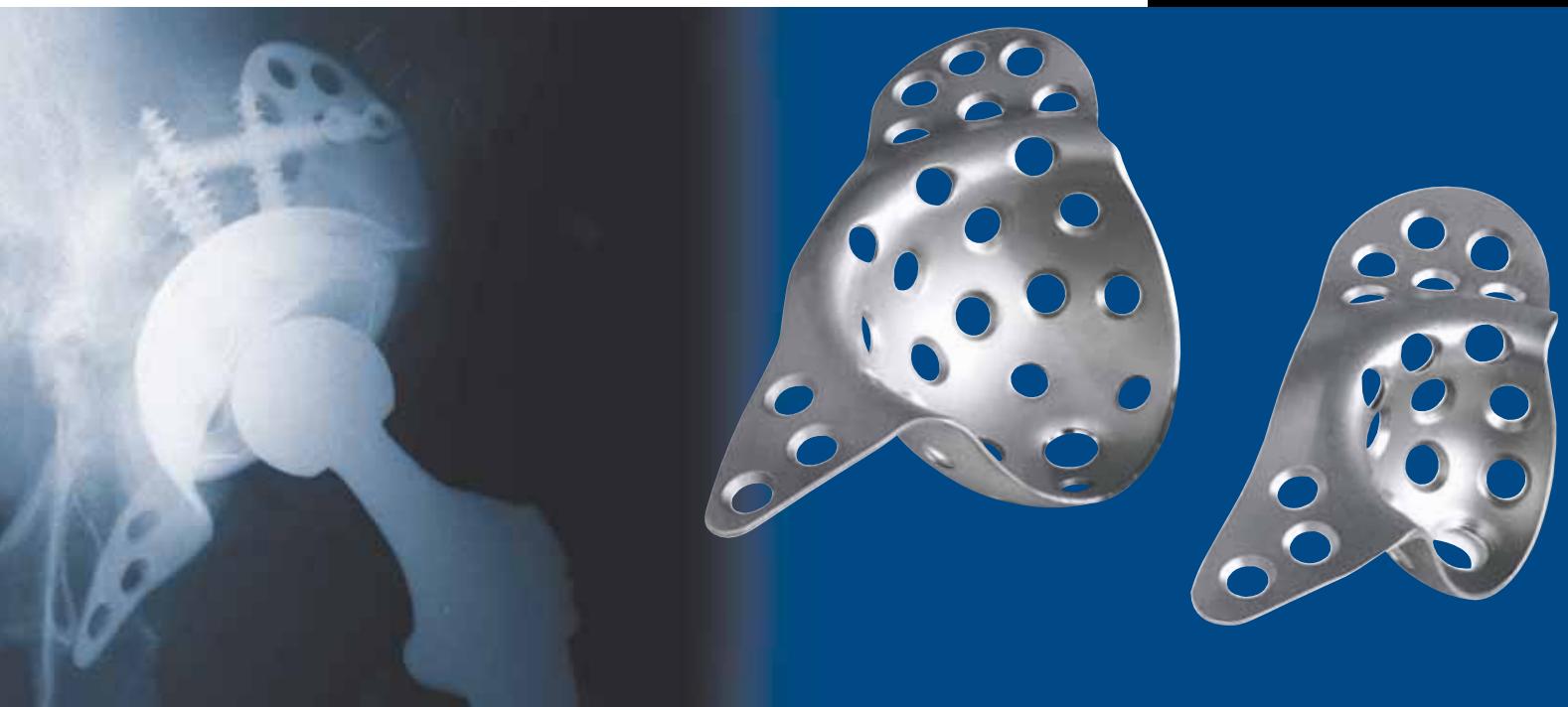


Protrusio Cage



A COMPREHENSIVE
ACETABULAR
REVISION SYSTEM

Important:

This essential product information does not include all of the information necessary for selection and use of a device. Please see full labeling for all necessary information.

Indications:

The Protrusio Cage is intended to be used to reinforce a deficient or weakened medial acetabular wall to prevent the protrusion of an acetabular cup prosthesis into the abdominal cavity. It may be indicated for use in cases involving: acetabular revision procedures; severe osteoporosis; Protrusio acetabuli; and/or a shallow acetabular roof.

Contraindications:

The Protrusio Cage is contraindicated in cases involving:

1. The presence of active/acute infection.
2. Charcot's disease.

Warnings and Precautions:

The cage has been designed so that it can be rotated to permit bony coverage of its anterior edge. Major defects in the medial wall of the acetabulum may require additional bone grafting. Extrusion of cement into the pelvic cavity through such a defect in the medial wall may hamper subsequent acetabular revision efforts. The following conditions, tending to adversely affect the stable fixation of these implants include:

1. Systematic and metabolic disorders leading to progressive deterioration of solid bone support for implants and bone cement.
2. History of general infectious disease or local infectious disease.
3. Severe deformities leading to impaired anchorage or improper positioning of implants.
4. Tumors of the supporting bone structure.
5. Allergic reactions to the implant material.
6. Congenital dislocation of the hip, which may preclude sufficient bone stock being available to support the acetabular cup.

Adverse Events:

The following are generally the most frequent adverse events or complications encountered with the Protrusio Cage:

1. Early or late loosening of the prosthetic component, possibly due to factors such as:
Improper cement mantle and positioning; inadequate cleaning prior to cementing; improper use of bone grafting; or inadvertent motion while the cement is polymerizing.
2. Acetabular perforation.
3. Temporary or permanent damage to nearby blood vessels, nerves or the bladder.
4. Early or late infection.
5. Subluxation, dislocation or breakage of the device due to improper selection, positioning of components and/or severe osteoporosis.
6. Cardiovascular disorders including venous thrombosis, pulmonary embolism, and heart attack.
7. Hematoma (risk of infection), and/or delayed wound healing.

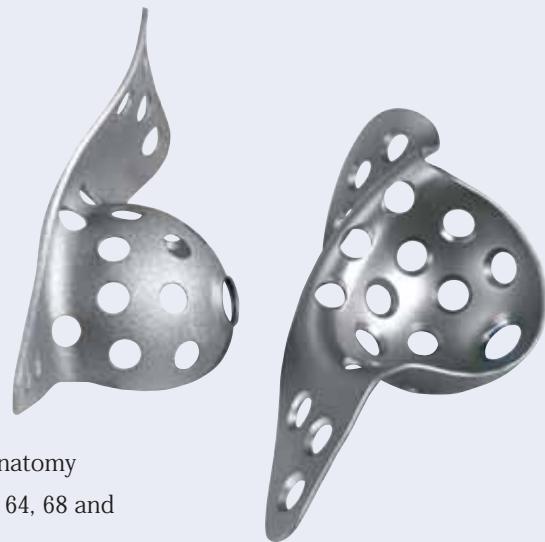
REFERENCES

1. Peters, C., et al. "Acetabular Revision with the Bruch-Schneider Antiprotrusio Cage and Cancellous Allograft Bone." *Journal of Arthroplasty* Mar. 1995: 307-312.
2. Berry, D.J. and M.E. Muller. "Revision Arthroplasty Using an Antiprotrusio Cage for Massive Acetabular Bone Deficiencies." *Journal of Bone and Joint Surgery (British)* Sept. 1992: 711-715.

Introduction

DePuy's Protrusio Cage offers a clinically tested treatment option for the revision acetabulum. The Protrusio Cage may be considered as a method of enhancing cemented acetabular reconstruction when traditional biologic fixation with a hemispherical porous-coated acetabular component is not indicated.

The Protrusio Cage aids the surgeon in restoring the hip's center of rotation while gaining secure fixation to host or allograft bone through iliac and ischial fixation. By addressing medial wall deficiencies, Protrusio Cages have proven to work well in the revision setting.^{1,2}



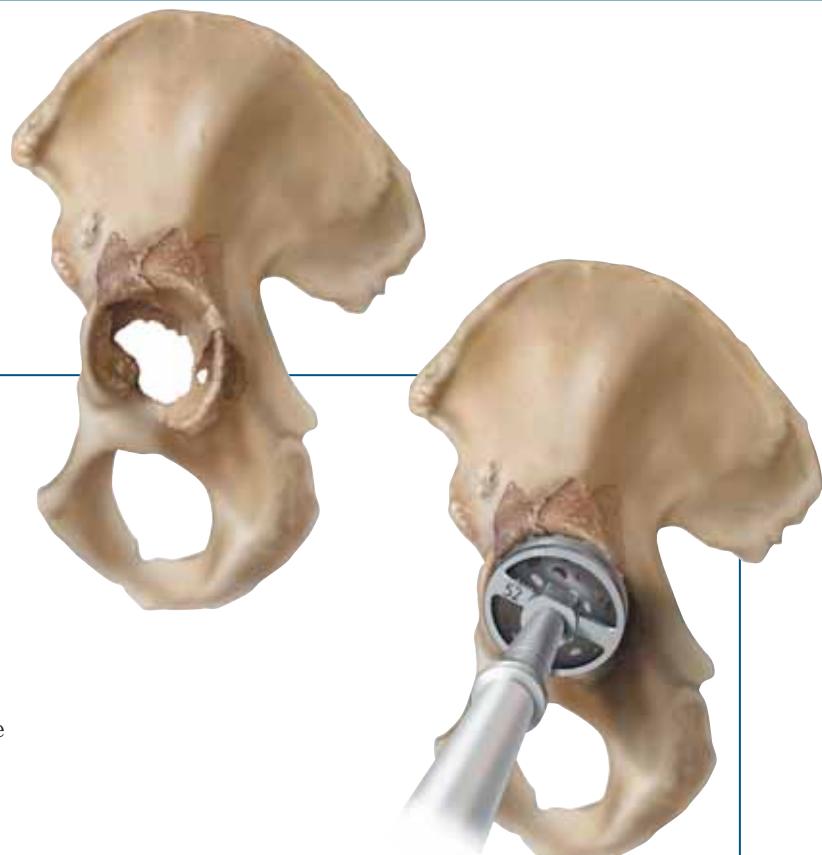
Features and Benefits

- Commercially pure titanium allows the implant to be modified to fit patient anatomy
- Sizing options are available in right and left implants, including 48, 52, 56, 60, 64, 68 and 72mm diameters
- For cage insertion, a Duraloc® Cup impactor can be attached to the Protrusio Cage apical hole
- Multiple screw holes allow adjunct fixation in the acetabular dome, ilium or ischium
- Protrusio Cage trials and insertion instrumentation help facilitate contouring and implantation
- Contoured iliac flange for increased anatomic apposition to bony structures and reduced intraoperative bending
- Backside grit blasting enhances bony ongrowth

Surgical Technique

Step 1

- After removing the failed component, assess the damage to the acetabular bone quality to determine if a Protrusio Cage is the most appropriate treatment alternative. An acetabular trial may be used to gauge approximate cage sizing and to determine the amount of rim loss and allograft requirements. A Protrusio Cage trial or acetabular grater may also be used. Where required, create allograft structures to augment bony support. Ream the acetabulum to determine exact sizing of the cage necessary to bridge the defect.



Step 2

- Place the Protrusio Cage trial into position and evaluate it for structural support. The cage trial is malleable to enable anatomical contouring. Determine the final size and contour using the cage trial.



Step 3

- Contour the Protrusio Cage implant to mimic the contour of the cage trial. To reduce implant abrasion, it is recommended that a cloth be placed between the implant and the bending pliers. Place the cage implant in position using the insertion and impaction instrumentation.

Step 4

- Upon final impaction, the Protrusio Cage implant ischial wing may be impacted into the ischium, similar to using a blade plate. While maintaining upward dome pressure, use 6.5mm roof pile screws to secure the dome region.
- Alternatively, where the ischial wing blade plate technique is not used, 6.5mm roof pile screw fixation in the dome, ischium and ilium is recommended. Maintain upward pressure during final impaction. First, secure the dome region using 6.5mm roof pile screws. Then secure the ischium and ilium.



Protrusio Cages					Endurance All Poly Cup		
Implant Cat. No.	Trial Cat. No.	R/L	Inside Diameter (mm)	Outer Diameter (mm)	Implant Cat. No.	Inside Diameter (mm)	Outer Diameter (mm)
1011-85-000	2011-15-500	Right	45	48			
1011-86-000	2011-16-500	Left	45	48			
1011-71-000	2011-01-500	Right	49	52	1223-44-000	28	44
1011-72-000	2011-02-500	Left	49	52	1223-44-000	28	44
1011-73-000	2011-03-500	Right	53	56	1223-46-000	28	46
1011-74-000	2011-04-500	Left	53	56	1223-46-000	28	46
1011-75-000	2011-05-500	Right	57	60	1223-50-000	28	50
1011-76-000	2011-06-500	Left	57	60	1223-50-000	28	50
1011-77-000	2011-07-500	Right	61	64	1223-54-000	28	54
1011-78-000	2011-08-500	Left	61	64	1223-54-000	28	54
1011-81-000	2011-11-500	Right	65	68	1223-58-000	28	58
1011-82-000	2011-12-500	Left	65	68	1223-58-000	28	58
1011-83-000	2011-13-500	Right	69	72	1223-60-000	28	60
1011-84-000	2011-14-500	Left	69	72	1223-60-000	28	60

6.5mm Self Tapping Roof Pile Screws

Cat. No.	Size (mm)
1011-40-015	15
1011-40-020	20
1011-40-025	25
1011-40-030	30
1011-40-035	35
1011-40-040	40
1011-40-045	45
1011-40-050	50
1011-40-055	55
1011-40-060	60
1011-40-065	65
1011-40-070	70

6.5mm Hex Head Roof Pile Screws

Cat. No.	Size (mm)
1011-01-501	20
1011-02-501	25
1011-03-501	30
1011-04-501	35
1011-05-501	40
1011-06-501	45
1011-07-501	50
1011-08-501	55
1011-09-501	60

Instruments

Cat. No.	Description
2011-20-500	Protrusio Cage Case
2011-21-500	Locking Pliers 8"
2011-22-500	Impactor Shaft, Protrusio Cage
2011-23-500	Impactor Tip, Protrusio Cage
2011-24-500	Straight Depth Gauge, 70mm





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