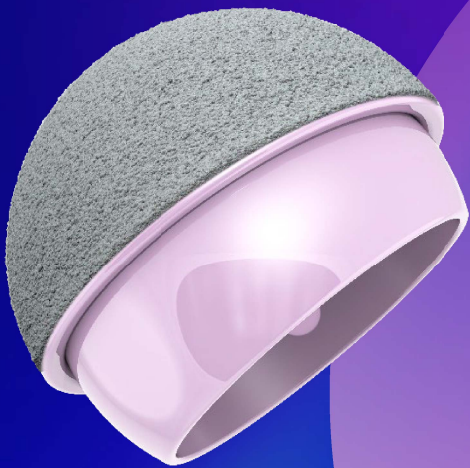




ReCerf® Hip Resurfacing Arthroplasty

PRODUCT BROCHURE



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Introduction

Why Hip Resurfacing?

Hip resurfacing offers patients with hip arthritis a more conservative treatment option, prolonging the time before a total hip replacement may be required and the entire femoral head is removed.

Clinical experience has shown that successful hip resurfacing enables patients to return to a variety of work, sport and leisure activities without restriction as compared to total hip replacement (THR)^{1,2}.

Modern-day hip resurfacing was introduced in 1997 and with its appeal saw a dramatic rise in use over its first decade (1997-2007). Despite the advantages and success in many patients, reports of failures that highlighted the criticality of patient selection, surgical technique and implant positioning^{3,4} led to a decline in the following decade (2007-2017). Problems were exacerbated by critical deficiencies of badly designed prostheses⁵ and many reports over-generalised the issues and related them to the use of metal. These issues are now better understood, and the poorly performing devices have been withdrawn.

Well-designed cobalt-chrome hip resurfacing devices perform well over time in young, active males with hip osteoarthritis^{11,12,13}.

Further information on the clinical experience of hip resurfacing can be found in the ADEPT® Hip Resurfacing Clinical Rationale⁷ and the ReCerf® Hip Resurfacing Arthroplasty Clinical Rationale⁸.

Introducing ReCerf® Hip Resurfacing Arthroplasty

In a new technological advancement, the 'all-ceramic' **ReCerf® Hip Resurfacing Arthroplasty** provides an alternative to metal hip resurfacing devices that addresses both known and perceived risk of complications resulting from adverse reaction to metal, including patients with hypersensitivity to metal.

ReCerf® Hip Resurfacing Arthroplasty features the key design characteristics of the clinically successful ADEPT® Hip Resurfacing System and is provided by the original manufacturer of the successful and still-used metal hip resurfacing devices, the ADEPT® and the BHR.

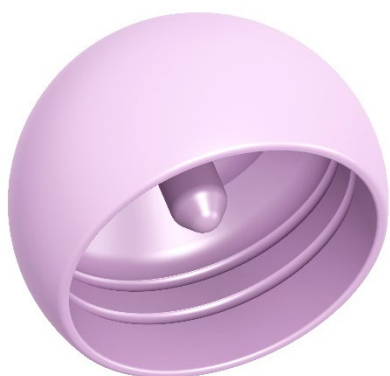


Product Description

ReCerf® Hip Resurfacing is made up of just two components. Both components are made from an advanced toughened ceramic material called BIOLOX® *delta* (CeramTec GmbH)⁹. Surgery does not require an additional 'stem', 'neck-sleeve', 'liner', 'shell' or screws and there are no metal or polyethylene components.

The bearing interface is 'ceramic-on-ceramic', which is a proven bearing that has been used in hip replacements for decades – BIOLOX® *delta* for over 20 years. This material combination has the lowest wear characteristics of all available options⁹.

Resurfacing Head



The ReCerf® femoral head component is an all-ceramic, thin shell that replaces the worn cartilage of the patient's femoral head. The component is provided in a range of 13 sizes, sufficient to cater for the whole adult population. Each size increment differs by 2mm in diameter (i.e. 1mm increments at the bearing surface) to better retain the patient's natural femoral head diameter and restore normal joint mechanics.

The bearing surface of the femoral component is highly polished ($Ra \leq 0.02\mu m$) with optimised edge radii to maximise bearing surface area without compromising tissue.

The implant geometry is the same as the proven ADEPT® Hip Resurfacing and requires the same instrumentation to size, align and prepare the femoral head that the surgeon is already experienced in using with the ADEPT® Hip Resurfacing.

The component is cemented to the patient's femoral head and includes internal features to enhance fixation. A short, proportionally sized stem inside the head centralises and guides the implant into place.

Acetabular Cup



The ReCerf® acetabular cup is an all-ceramic, monobloc component with a thin wall, which requires minimal removal of acetabular bone to maintain the patient's natural hip bearing diameter. The nominal wall thickness (3mm) is within the range of normal healthy acetabular cartilage thickness.

The acetabular cup is provided in 13 sizes, sufficient to cater for the whole adult population, and each size increases by 2mm in diameter to match its compatible femoral head component.

The bearing surface of the acetabular component is highly polished ($Ra \leq 0.02\mu m$) to maximise surface area without compromising tissue. The internal geometry and edge radii are optimised for maximum range of motion without contact between the edge of the cup and the femoral neck, combined with consistent maximum 'coverage' to keep the load-bearing articulating surface area within the cup bearing.

Secure press-fit fixation is achieved using DeltaFIX® coating technology – a thin, rough-surface, plasma-sprayed titanium overlaid with hydroxyapatite (HA) coating – to create a bone-interface widely used in cementless fixation of implants. The external geometry is a full hemisphere to maximise the fixation interface.

Main Features

Hip resurfacing may offer several benefits over total hip replacement, including:

- Preservation of the femur,
- Resistance to dislocation,
- A return to normal function, sport and manual work,
- Maintains the option of a standard THR in later life.

Resurfacing For All Patients

ReCerf® provides an early intervention option for patients with osteoarthritis (OA) of the hip. The all-ceramic construction means that it can be used for patients with particular concerns for the alternative metal hip resurfacing devices. Intended for relatively younger or more active patients who are otherwise likely to require further surgery in their lifetime, ReCerf® may enable patients to return to normal active lifestyle and work. ReCerf® is provided in a wide range of sizes to serve the whole adult population.

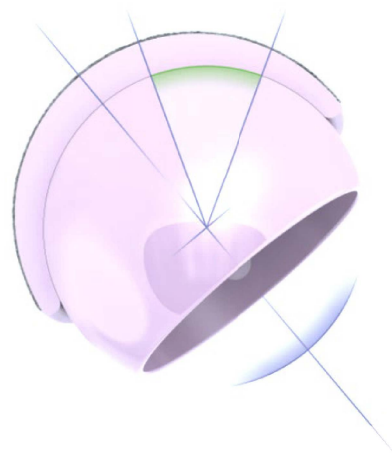


Premium Material Choice

ReCerf® is manufactured from toughened, fracture-resistant BIOLOX® *delta* ceramic (CeramTec GmbH). BIOLOX® *delta* has been used in up to 3 million joint replacements worldwide since 2003 and is associated with excellent long-term clinical results⁹. It is well-proven with excellent functional outcomes in large diameter ceramic-on-ceramic hips⁹. It is the most biologically inert material with no known side effects or long-term adverse reactions and the optimised low friction and lubrication bearing has the lowest wear characteristics of all articulations⁹. Being all-ceramic, ReCerf® has no corrosive material couplings seen in most alternative joint replacement device.

Optimised Design

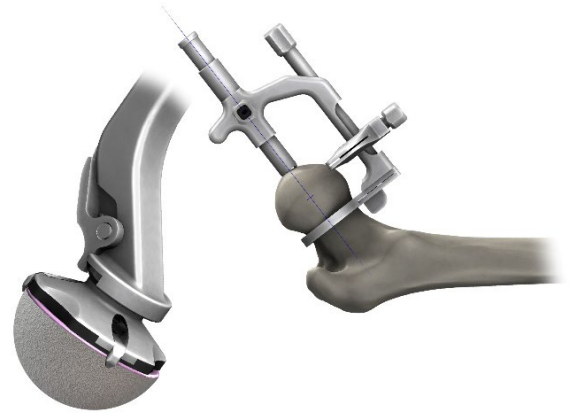
The component thicknesses are optimised to minimise bone removal without compromising strength. By replacing little more than the worn cartilage, ReCerf® is a truly bone conserving design. The minimally offset centre and contained arc allows for a full range-of-motion combined with consistent cup coverage to maintain a load-bearing area safely within the confines of the bearing. The bearing size increments increase in 1mm radial steps (2mm diameter components) to replicate the patient's natural bearing diameter, and the internal stem design is proportionally sized for optimum load transfer to the patient's femoral head.



Simple and Proven Instrumentation

ReCerf® uses the same well-proven surgical technique and instrumentation used by hip resurfacing surgeons for the ADEPT® Hip Resurfacing System. Features of the instrumentation include: optimised sizing and bone preparation instruments; simple, reliable cup and head positioning and alignment; and a full visibility, low profile cup introduction system.

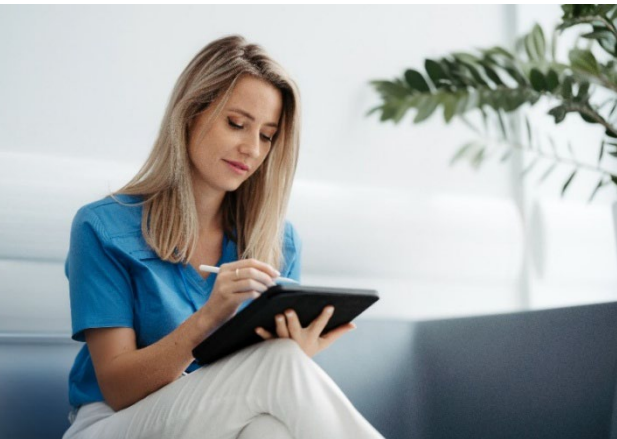
ReCerf® is supported by an international surgeon training programme.



Focused on Clinical Outcomes

The ReCerf® Hip Resurfacing Arthroplasty was developed at the 'Home of Resurfacing' by the team that developed and manufactured successful modern-day hip resurfacing (BHR and ADEPT®) and with input from surgeons world-renowned for their experience and expertise in hip resurfacing surgery.

ReCerf® retains the key design features of hard-bearing hip replacement devices with over 50 years of clinical success. ReCerf® has clinical use in over 2,500 cases, with maximum time to outcome of 7 years. ReCerf® has been introduced to the market with an international multicentre study with over 1,300 implanted.



Product Introduction

ReCerf® Hip Resurfacing is being made available to hip surgeons who are approved to use the device by their competent health authority, are experienced in hip resurfacing or have received adequate training in its use, and for use according to the Instructions for Use¹⁰ (IFU) supplied with the product. The surgeon is ultimately responsible for considering the appropriateness of the ReCerf® device for individual patients. ADEPT® is not approved for use in Canada (Health Canada) or the US (FDA).

References

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- 7 MatOrtho Limited. ADEPT® Hip Resurfacing System: Clinical Rationale. 2025; ML-300-048: www.matortho.com.
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Product Range

Size range

ReCerf® Hip Resurfacing is provided in a comprehensive size range to suit the whole adult population. Each size increases by 1mm at the bearing surface (2mm diameter) and every femoral head component is paired with a colour-code matching acetabular cup.

The optimum size for each individual patient is estimated from preoperative x-rays or CT data and confirmed during the surgical procedure.



Product Codes

Femoral Head	
104-040	ReCerf® Ceramic Resurfacing Head 40mm
104-042	ReCerf® Ceramic Resurfacing Head 42mm
104-044	ReCerf® Ceramic Resurfacing Head 44mm
104-046	ReCerf® Ceramic Resurfacing Head 46mm
104-048	ReCerf® Ceramic Resurfacing Head 48mm
104-050	ReCerf® Ceramic Resurfacing Head 50mm
104-052	ReCerf® Ceramic Resurfacing Head 52mm
104-054	ReCerf® Ceramic Resurfacing Head 54mm
104-056	ReCerf® Ceramic Resurfacing Head 56mm
104-058	ReCerf® Ceramic Resurfacing Head 58mm
104-060	ReCerf® Ceramic Resurfacing Head 60mm
104-062	ReCerf® Ceramic Resurfacing Head 62mm
104-064	ReCerf® Ceramic Resurfacing Head 64mm

Acetabular Cup	
104-401	ReCerf® Ceramic Resurfacing Cup 40/46 mm
104-421	ReCerf® Ceramic Resurfacing Cup 42/48 mm
104-441	ReCerf® Ceramic Resurfacing Cup 44/50 mm
104-461	ReCerf® Ceramic Resurfacing Cup 46/52 mm
104-481	ReCerf® Ceramic Resurfacing Cup 48/54 mm
104-501	ReCerf® Ceramic Resurfacing Cup 50/56 mm
104-521	ReCerf® Ceramic Resurfacing Cup 52/58 mm
104-541	ReCerf® Ceramic Resurfacing Cup 54/60 mm
104-561	ReCerf® Ceramic Resurfacing Cup 56/62 mm
104-581	ReCerf® Ceramic Resurfacing Cup 58/64 mm
104-601	ReCerf® Ceramic Resurfacing Cup 60/66 mm
104-621	ReCerf® Ceramic Resurfacing Cup 62/68 mm
104-641	ReCerf® Ceramic Resurfacing Cup 64/70 mm

Note: Standard Supply includes Resurfacing Head Sizes 40-58mm and Cup Sizes 40/46-58/64mm; Head Sizes 60-64mm and Cup Sizes 60/66-64/70mm are available on request.

