

Evidence in focus

Meeting highlights:
Global Insights Meeting. 21-23 June 2018; London, UK.



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Focus on REDAPT[®] Revision Hip System at the Global Insights Meeting

Key highlights



High-friction, porous acetabular cup structures, such as CONCELOC[®], may allow for good bony fixation in revision surgery³

Monobloc titanium stems, such as REDAPT monobloc stem, may allow for subsidence control and early mobilization^{7,9}

REDAPT Fully Porous Cup and monobloc stem can be used to help address difficult acetabular and femur defects with the addition of augments^{7,8}

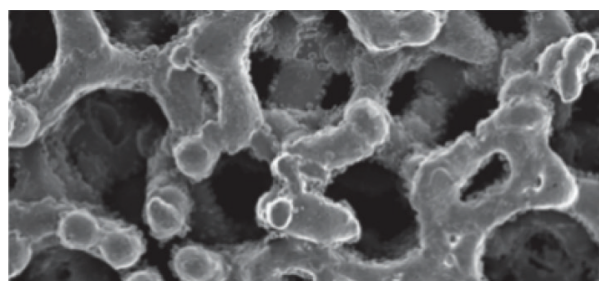
The third Global Insights Meeting was held 21-23 June 2018 in London, UK with a panel of international experts covering the latest research, evidence and experience in hip and knee reconstructive surgery. A number of important contributions relating to REDAPT Revision Hip System were presented in the hip sessions. REDAPT Revision Hip System is comprised of the REDAPT Revision Acetabular System Fully Porous Cup and the REDAPT Revision Femoral System.

Key points from these presentations are summarised below:

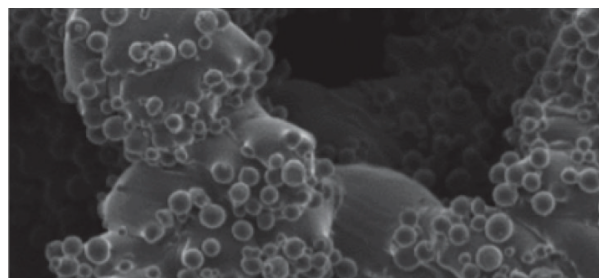
Stability

The most common reason for revision hip surgery is aseptic loosening¹, which can be caused by osteolysis.² In a presentation on “Improved fixation with new coatings”,³ Mr Stephen Jones from University Hospital Llandough, South Glamorgan, UK, stressed that there is a need to consider the interaction of the fixation and the implant surface, as well as the interaction between the surface coating and the surface structure. Ideal implant surfaces should be osteo-conductive, osteo-inductive, mechanically stable, anti-microbial and biocompatible. Mr Jones highlighted the importance of surface porosity and micro-texture of the surface, with interconnected pores to allow for enhanced ingrowth and vascular infiltration, compared to smooth implants.⁴ He suggested that **good fixation could be gained from high-friction, pro-osteogenic materials, such as that of CONCELOC.**

CONCELOC Advanced Porous Titanium has an interconnected network of pores with a porosity of up to 80%, which is designed to mimic cancellous bone (Figure 1).



CONCELOC at 25x magnification



CONCELOC at 80x magnification

Figure 1. REDAPT CONCELOC structure

Evidence in focus (continued)

The rate of dislocation following primary hip arthroplasty is between 0.2 and 10% per year,⁵ and increases drastically following revision surgery. In a presentation on “Managing the unstable hip”⁶ Professor Dick Van der Jagt from Sandton Medi-Clinic, Randburg, South Africa, highlighted the well-known reasons for instability due to the acetabular or femoral component. The acetabular component may be placed too high, too low, too lateral or with inappropriate version, whilst the femoral component may have insufficient lateralisation, short head length, stem subsidence or inappropriate version. Professor Van der Jagt suggested that an acetabular solution for revision should give good bony fixation from high friction metals, with acetabular augments and bearing choices, such as the REDAPT[®] Fully Porous Cup (Figure 2). In addition, femoral solutions should also give good bony fixation with stable version correction, appropriate offset and a modular head for fine tuning, such as the REDAPT monobloc stem.



Figure 2. REDAPT Revision Acetabular System Fully Porous Cup



Figure 3. REDAPT Revision Femoral System

In a talk titled “Algorithm for femoral reconstruction”,⁷ Dr Ran Schwarzkopf, from NYU Hospital for Joint Diseases, New York, USA, mentioned the results of a study of 100 hip revision cases presented at the World Arthroplasty Congress, in which the REDAPT monobloc stem was shown to be extremely stable with minimal subsidence (within the 5mm acceptable range). This stability may be attributable to REDAPT’s three degree tapered stem with proprietary ROCKTITE[®] fixation, comprised of a multi-level spline pattern designed for subsidence control and rotational stability.

Adaptability

In his second presentation, Mr Jones presented an “Algorithm for acetabular reconstruction”,⁸ in order to overcome the challenge of reproducibility in hip revision surgery. By using locking screws and augments, he addressed how a porous cup, such as the REDAPT Fully Porous Cup, could be used to help address Paprosky Type IIIA and Type IIIB acetabular defects, via the adaptability of modular assembly. In addition, in his talk on “Algorithm for femoral reconstruction”,⁷ Dr Schwarzkopf advocated the use of tapered, fluted titanium stems, such as REDAPT monobloc stems. He suggested that these stems can achieve stability in short ischaemic segments and address all Paprosky femur defects, including difficult Type IVs.

To end the Global Insights hip sessions, Mr Sujith Konan from the University College London Hospitals, UK, spoke about “Distal femoral reconstruction fixation in revision”.⁹ He stated that monobloc titanium stems restore leg length, offset and centre of rotation, in a similar way to a primary hip arthroplasty. Mr Konan described his experience of the REDAPT Revision Femoral System for cases such as aseptic loosening, fracture, instability and infection. He found that REDAPT allowed for early mobilisation (as early as day one), no subsidence, no stress shielding and no revision from stem failure. He concluded that in his experience, monobloc titanium stems such as the REDAPT monobloc stem, can be used for all revision scenarios and allow for reliable fixation.

References

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