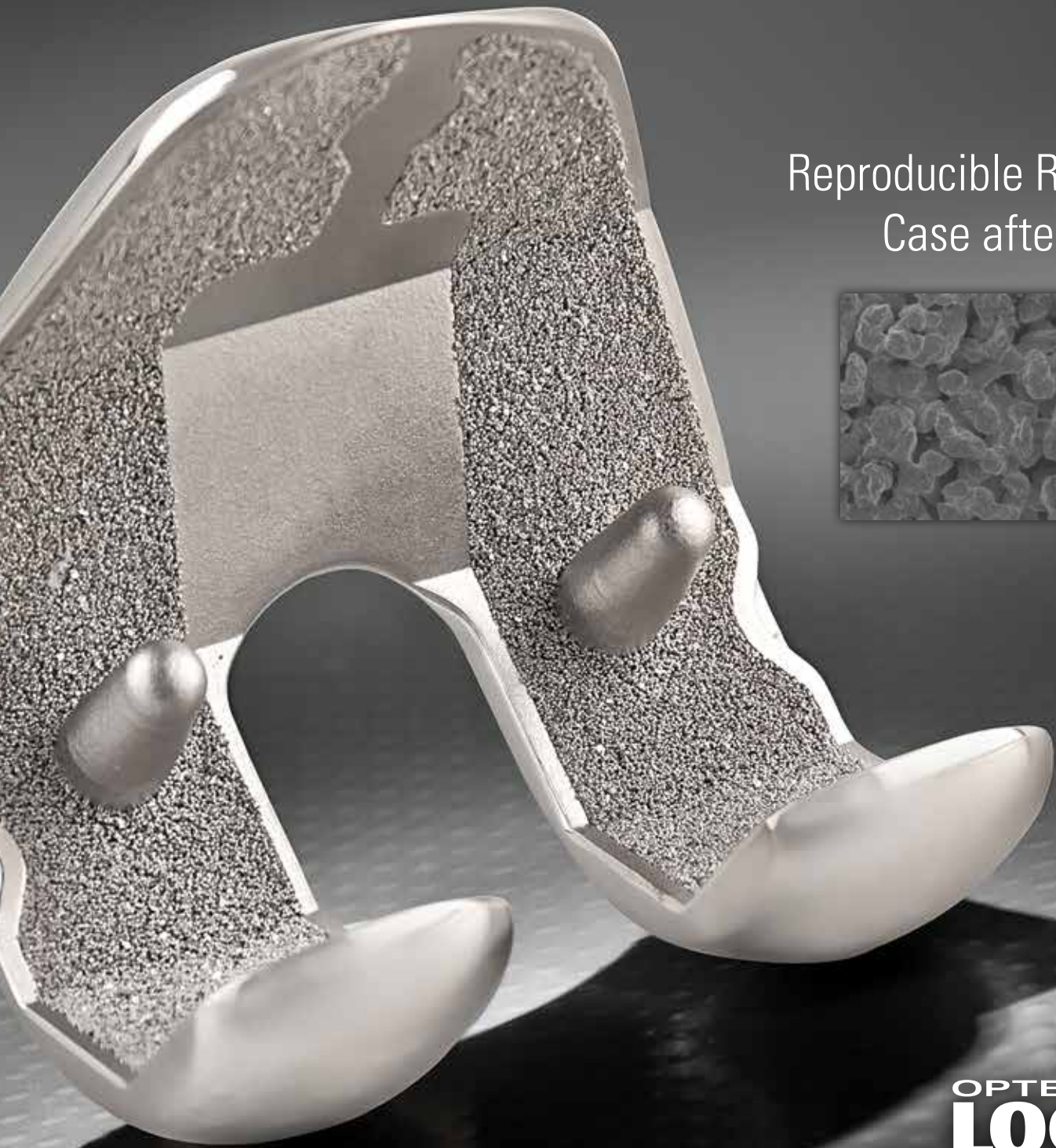
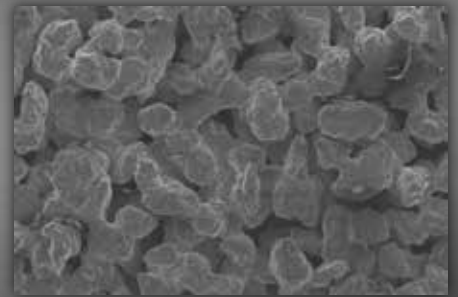


EXACTECH | KNEE

Performance over time.

Reproducible Results,
Case after Case.



OPTETRAK[®]
LOGIC[®]

Porous Coating
Technology

Optetrak Logic[®] Porous coating technology strikes the optimal balance between material strength, pore size and porosity for a reproducible cementless fixation solution in total knee replacement. The system's proprietary material creates a unique 3-D structural lattice of irregular shaped particles with increased average pore size and greater porosity than traditional spherical beads.¹ This combination of features provides consistent, reproducible results, case after case.

To evaluate the *in vivo* performance of the new Logic Porous coating compared to traditional porous-bead coating, an animal study using an established ovine model was conducted at the University of New South Wales, Australia.

In the study, the Logic Porous structure demonstrated:¹

- Greater shear strength at the cortical interface after 12 weeks of implantation

- Higher overall bone in-growth rates at the cancellous interface after 12 weeks of implantation
- Higher total bone in-growth rates at the cortical interface after four weeks and 12 weeks of implantation
- Greater forgiveness to sub-optimal implantation conditions

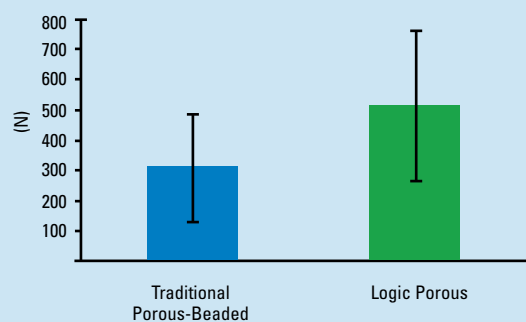
When comparing Logic Porous with other surface technologies on the market, Exactech's surface attributes for pore size, porosity and friction coefficient were found to be comparable or superior.² (Figure 1)

In another measurement, Logic Porous showed greater initial fixation stability than CoCr porous beaded surface,¹ an important biomechanical attribute to reduce the risk of interface motion and better facilitate biological fixation.¹ (Figure 2)

Figure 1: Competitive Comparison*

Porous Technology	Average Pore Size	Percentage Porosity	Coefficient of Friction
Exactech Logic Porous¹	~350 µm	~65%	~0.9
CoCr Porous Beads ¹	100 to 400 µm	30% to 50 %	0.53
CSTi (Zimmer) ²	520 µm	50% to 60%	N/A
Peri-Apatite (PA) Technology (Stryker) ³	425 µm	35%	N/A
Trabecular Metal (Zimmer) ²	550 µm	75% to 85%	0.88
Porous Plasma Spray (PPS [®]) (Biomet) ²	300 µm	40-70%	N/A
Porocoat [®] (DePuy) ⁴	250 µm	20-60%	0.8

Figure 2: Pull-out Force Comparison in Cadaver Study*



References:

1. Data on file at Exactech.
2. Levine et al. Porous metals in orthopedic applications – A review. *Materialwissenschaft und Werkstofftechnik*, 41(12), 2010.
3. Harwin et al. Excellent Fixation Achieved With Cementless Posteriorly Stabilized Total Knee Arthroplasty. *The Journal of Arthroplasty*. Vol. 28 No. 1 2013.
4. Obtained from publicly available source.

* Laboratory testing may not necessarily be predictive of clinical performance

In the USA, the Optetrak Comprehensive Knee Systems are indicated for cemented use only, except for the Optetrak Logic PS and CR Porous femoral components, which are indicated for cemented or cementless use.

Exactech, Inc. is proud to have offices and distributors around the globe. For more information about Exactech, Inc. products available in your country, please visit www.exac.com.