







### **G7**<sup>®</sup> Acetabular System

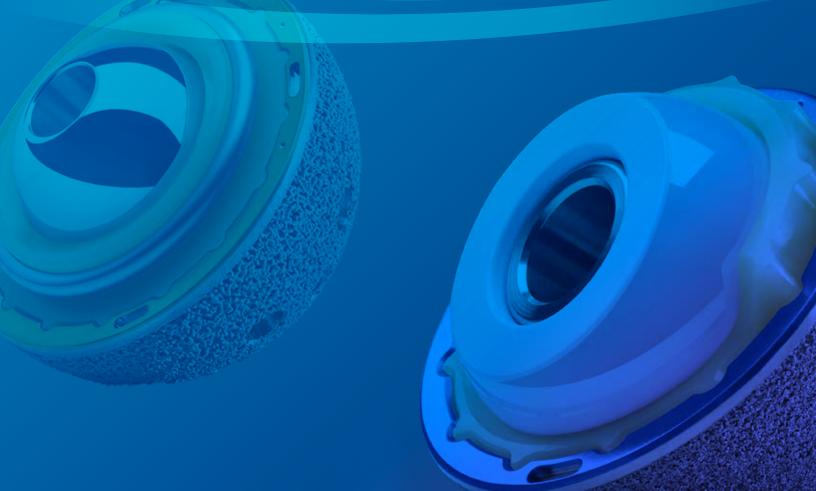


# SIMPLICITY. EFFICIENCY. PERFORMANCE.

The G7 acetabular system is specifically designed to simplify implant and instrument delivery for optimized operative efficiency and maximized clinical performance.

The interchangeability of the system enables you to use any liner with any shell, with consistent sizes throughout the system while providing offerings that cover the full continuum of constraint.

With a comprehensive implant offering and full system interchangeability, G7 maximizes treatment options through a highly flexible, system-based approach to patient specific hip replacement.



## COMPREHENSIVELY SIMPLE

THE G7 ACETABULAR SYSTEM OFFERS THE LARGEST RANGE OF SIZING COMBINATIONS

FULL SYSTEM INTERCHANGEABILITY WITH CONSISTENT SIZING AND OPTIMIZED HEAD TO SHELL RATIO ACROSS THE FULL RANGE OF SHELL OPTIONS<sup>1, 2, 3</sup>



# **DUAL MOBILITY**

PROVIDING STABILITY AND HIGH RANGE OF MOTION WITHOUT THE NEED TO CONSTRAIN THE HEAD

#### **Reduced Wear**

Smaller diameter heads, like the inner head in this construct, have been clinically proven to lead to lower rates of wear<sup>11</sup>

#### **Seating and Alignment**

Hard bearing inserter ring helps ensure the CoCr liner is aligned properly during implantation to help limit micro-motion

#### **Dislocation Resistance**

Large diameter heads, like the polyethylene bearing in this construct, have been clinically shown to increase jump height which makes it more difficult for the head to dislocate<sup>4, 14, 15</sup>

#### Stability

Optimized 40mm bearing to 50mm shell ratio with option to convert to a constrained liner if needed

### **FREEDOM CONSTRAINED**

DESIGNED TO COUNTER THE DISTRACTIVE FORCES THAT CAN LEAD TO RECURRENT HIP DISLOCATION

#### **Simplified Reduction**

Circumferential flats on Freedom heads allow for in-vivo reduction and pre-assembled Freedom<sup>®</sup> liners and rings

#### **Enhanced Constraint**

Preassembled constraining ring increases resistance to lever-out forces without need to assemble in-vivo

#### Reduced Risk of Impingement and Instability

Increased ranges of motion, as found in the Freedom constrained liner at 114 degrees, have been clinically shown to reduce the risk of impingement and instability<sup>12</sup>

#### Stability

Interchangeability between all G7 components allows surgeons to customize stability to the patient's needs

### **HIGH PERFORMANCE** TECHNOLOGY

#### **OSSEOTI - A PROPRIETARY ADDITIVE MANUFACTURING TECHNOLOGY**

OsseoTi Porous Metal technology uses digitized human CT data to mimic the architecture of human cancellous bone and a proprietary additive manufacturing (3D printing) process to deliver:

- Average pore size of 475 microns<sup>13</sup>
- $\geq$ Approximately 70% porosity<sup>13</sup>
- Material strength between that of cancellous and cortical bone<sup>13</sup>

OsseoTi enables surgeons to realize the benefits of highly porous technology without compromising head to shell ratio.

### VIVACIT-E<sup>®</sup> - TESTED FOR A LIFETIME OF WEAR RESISTANCE

Vivacit-E HXLPE is specifically designed to maximize performance through a proprietary process providing: 5-9

#### Ultra-low Wear<sup>6,7</sup>

Vivacit-E HXLPE is irradiated to an equivalent of 10 MRad with warm electron beam (e-beam) irradiation, resulting in an ultra-low wear HXLPE that has been tested out to 100 million cycles (Mc) in a 40 mm hip wear simulator test.<sup>16</sup>

### **Improved Mechanical** Strength<sup>5, 8, 9</sup>

Long term, Vivacit-E HXLPE's material strength has been shown to be stable even after extreme lengths of accelerated aging.

Vivacit-E HXLPE has been laboratory tested to 100 million cycles to mimic the number of walking steps a patient will typically take during a lifetime following a total joint replacement.<sup>16</sup>

**Exceptional Oxidative Stability**<sup>6,9</sup> The vitamin E in Vivacit-E

HXLPE is a powerful antioxidant that continuously quenches harmful free radicals to prevent oxidative degradation.<sup>1</sup>

## DESIGNED FOR PERFORMANCE

### DUAL MOBILITY: DESIGN FEATURES THAT MATTER

The Hard Bearing Inserter Ring is designed to correctly align the CoCr liner within the G7 shell to help avoid the micromotion & disassociation that can result from malalignment or incomplete seating in modular dual mobility constructs.

Internal in-vitro testing demonstrates the fretting and corrosion resistance of the taper interface between the G7 acetabular shell and the G7 Dual Mobility CoCr liner.<sup>10</sup>



**10 million** cycle fatigue test<sup>10</sup>



No signs of fretting corrosion<sup>10</sup>



Å₽

Debris analysis showed rates **lower** than those clinically reported in patients **three years post THA**<sup>10</sup>

### INTUITIVELY EFFICIENT INSTRUMENTS

THE EFFICIENT TRAY FACILITATES COST AND TIME SAVINGS, HOLDING ALL GENERAL G7 INSTRUMENTS IN ONE CASE

> All Stainless Steel Construction Designed for fast sterilization and dry times

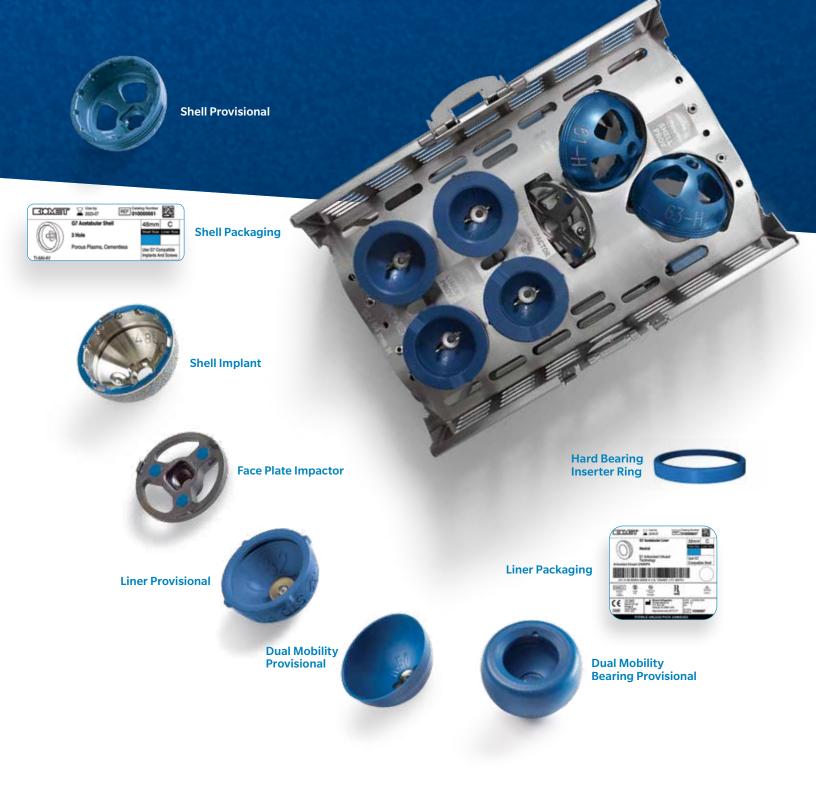
> > **Perforated Tray** Designed to promote sterilizing steam flow and maximum drainage

Unique Wave Construction Securely holds instruments while reducing overall case weight

ALLOWS FOR EASE IN LOCATING INSTRUMENTS AND REDUCED CLUTTER IN THE OPERATING ROOM

### PATIENT-SPECIFIC MINITRAYS

PATENTED COLOR-CODED SYSTEM OPTIMIZES IMPLANT AND INSTRUMENT SELECTION DURING SURGERY



# **PERSONALIZED:**

### TRANSFORMING THE PRIMARY EPISODE OF CARE, ONE PATIENT AT A TIME

From implants to instruments, surgical systems and support services, each piece of the Zimmer Biomet portfolio has been designed to address the distinct needs of individual patients, while simplifying the surgical work-flow.



Taperloc<sup>®</sup> Complete Stem with G7

Avenir<sup>®</sup> Complete Stem

with G7

#### References

\* Laboratory testing is not necessarily indicative of clinical performance.

- Pinnacle Hip Solutions. Polyethylene Surgical Technique. Part No 0612-83-512. DePuy Orthopaedics, Inc. 2013.
- R3 Acetabular System. Surgical Technique. (2010). Part No 71381395 (v1.0). Surgical Technique. Part No 71381395. Smith & Nephew, Inc. 2010.
- 3. Trident Acetabular System. Hemispherical Surgical Protocol. Part No TRIDEN-SP-2. Stryker Corporation. 2015.
- Jibodh, SR, et al., Minimum Five Year Outcome and Wear Analysis of Large Diameter Femoral Heads on Highly-Cross-linked Polyethylene Liners, Poster No. 2445, 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, 2009
- 5. Zimmer ZRR \_\_WA\_2409\_11\*
- 6. Zimmer ZRR\_WA\_2399\_11\*
- 7. Zimmer ZRR\_WA\_2402\_11, Rev. 1\*
- Peiserich, M.S. *et al.* Retention of Mechanical Properties in a Blended Vitamin E Polyethylene After Extreme Oxidative Challenge. Poster No. 1060. ORS Annual Meeting, 2013.\*
- Pletcher, D.L. et al. Vitamin E Grafted HXPE Shows Superior Mechanical Property Retention Compared to Conventional UHMWPE and Sequentially Annealed HXPE. Poster 1868. ORS Annual Meeting, 2014.\*

- Popoola, O. "Evaluation of Fretting and Corrosion at the Shell and Liner Interface of G7 Dual Mobility Hip Implants." 0443.2-GLBL-en-REV1019.\*
- Callaghan, J; Pedersen, D.; Johnston, R.; Brown, T. "Clinical Biomechanics of Wear in Total Hip Arthroplasty." *The Iowa Orthopaedic Journal*. 2003; 23: 1–12
- Berend, K. et al. A Constrained Device with Increased Range of Motion Prevents Early Dislocation. Clinical Orthopaedics and Related Research. Number 447. June 2006
- OsseoTi Porous Metal For Enhanced Bone Integrationan Animal Study. Gautam Gupta, Ph. D., Study Completed August 2012. BMET0718.0-GBL. Laboratory testing is not necessarily indicative of clinical performance.
- Beaule, P; Schmalzried, T; Udomkiat, P; Amstutz, H. "Jumbo Femoral Head for the Treatment of Recurrent Dislocation Following Total Hip Replacement." JBJS 84-A, no. 2 (2002): 256-263.
- Burroughs, B.; Hallstrom, B.; Golladay, G.;Hoeffel, D.; Harris, W. "Range of Motion and Stability in Total Hip Arthropalsty with 28-, 32-, 38-, and 44-mm Femoral Head Sizes." Journal of Arthroplasty 20, no. 1 (2005): 11-19.
- Mimnaugh,K. et al. 100 Million-Cycle Wear Evaluation of crosslinked Vitamin E Grafted Polyethylene (VE-HXPE) Acetabular Liners. Paper No.0403. ORS Annual Meeting. Orlando, Florida. 2016.\*

Third party product names used herein are the property of their respective owners.

All content herein is protected by copyright, trademarks and other intellectual property rights, as applicable, owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals, distribution to any other recipient is prohibited.

For indications, contraindications, warnings, precautions, potential adverse effects and patient counseling information, see the package insert or contact your local representative; visit www.zimmerbiomet.com for additional product information.

BIOLOX<sup>®</sup> is a trademark of CeramTec GmbH.

©2020, 2022 Zimmer Biomet



0234.2-US-en-Issue Date-2022-07



Biomet Orthopedics P.O. Box 587 56 F. Bell Drive

Warsaw, Indiana 46581-0587 USA Zimmer, Inc.

1800 W. Center Street Warsaw Indiana 46580 USA

zimmerbiomet.com