

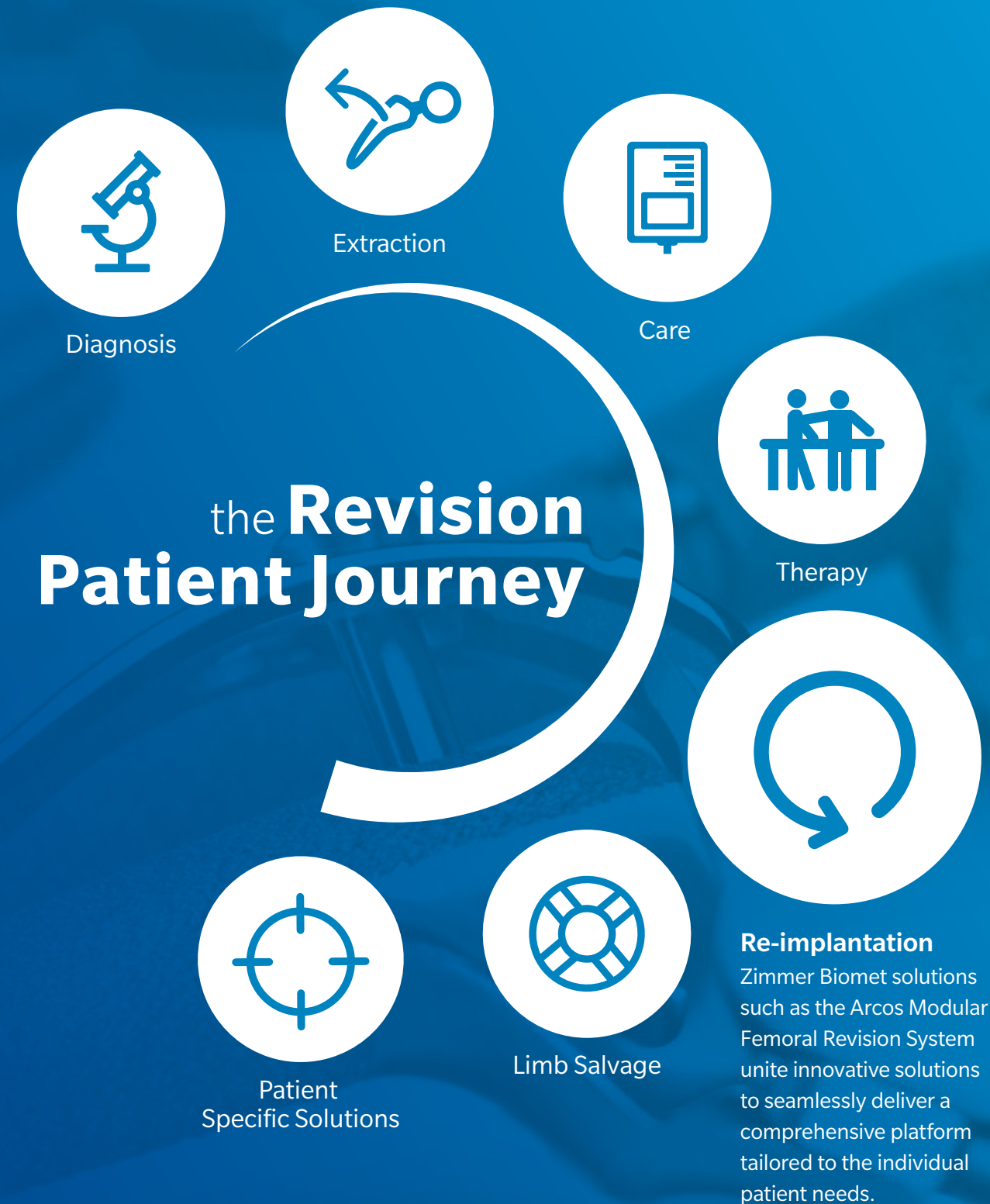


ARCOS[®] MODULAR FEMORAL
Revision System

BREAKING^{the} REVISION CYCLE

Zimmer Biomet offers customers solutions to address the most common issues leading to revision procedures.

It is time to break the revision cycle to focus on the entire patient journey from before, during and after surgery and provide surgeons the tools to make informed decisions in order to establish an appropriate treatment plan. From diagnostics to re-implantation, the innovative solutions seamlessly deliver a comprehensive platform transforming the revision patient journey with customizable, interconnected and interdependent services and solutions.

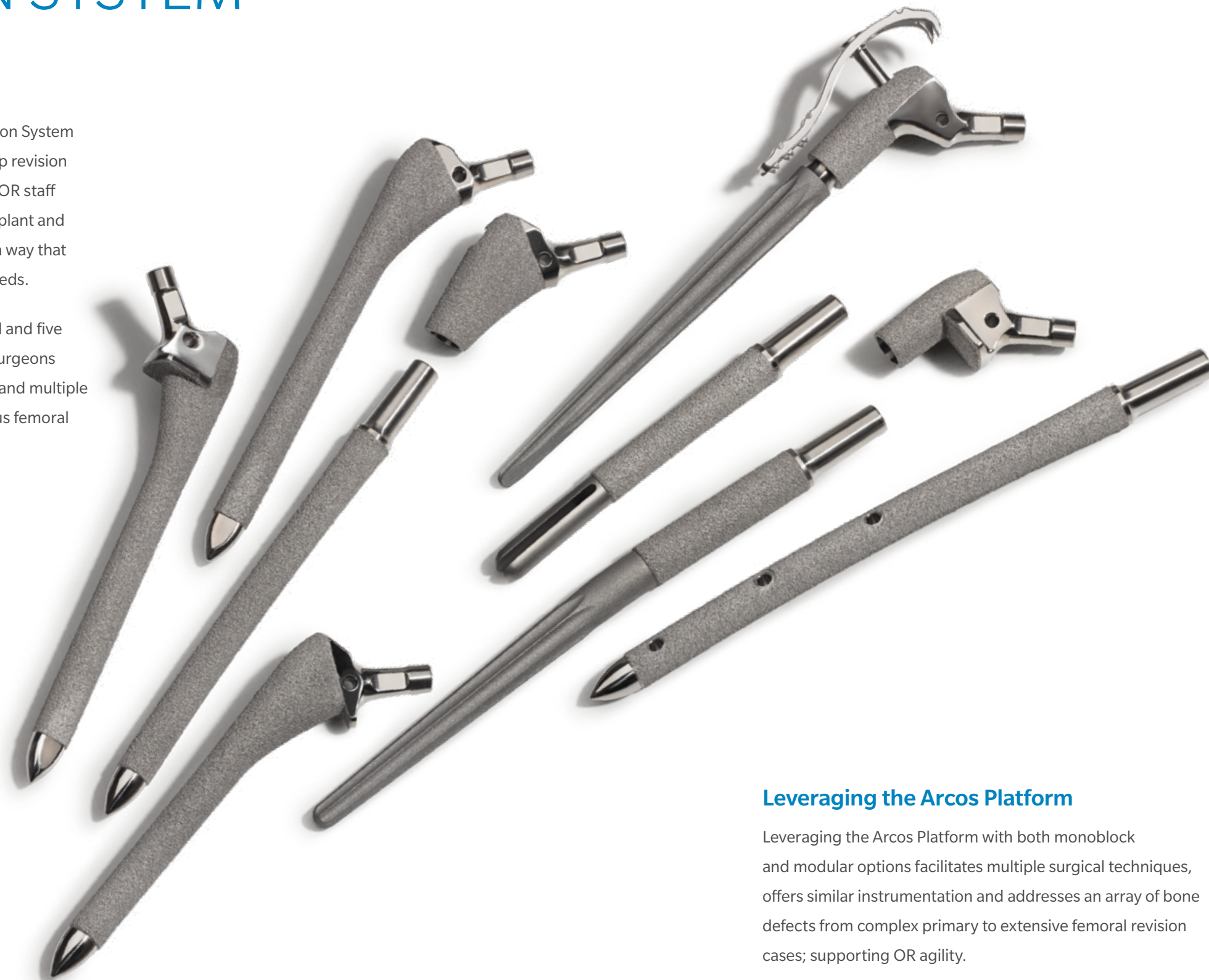


ARCOS MODULAR FEMORAL REVISION SYSTEM

Simplify the Complex

The Arcos Modular Femoral Revision System meets the demands of complex hip revision surgery by offering surgeons and OR staff the ability to customize the hip implant and its corresponding instruments in a way that addresses patient and practice needs.

The Arcos System's three proximal and five distal geometry options provide surgeons 117 proximal/distal combinations and multiple auxiliary fixation options for various femoral defects.



Leveraging the Arcos Platform

Leveraging the Arcos Platform with both monoblock and modular options facilitates multiple surgical techniques, offers similar instrumentation and addresses an array of bone defects from complex primary to extensive femoral revision cases; supporting OR agility.

Auxiliary Implant Designs

The bolt and claw/button auxiliary implant is distinctively engineered to reattach the trochanteric fragment directly to the implant. The soft tissues and bony fragment are stabilized by this reattachment method, providing an added level of joint stability.



Taper Strength

Taper junction fracture remains a concern for many revision surgeons and specialists. The Arcos Modular Femoral Revision System has been designed to address strength by encompassing Zimmer Biomet's roller forming technology, a proprietary process that is critical to the clinical success of the implant.⁵



Modularity That Works

Proximal Bodies

CONE

Offset Option

Standard and high offset options reproduce various patient anatomies without lengthening the leg.

Clinically Proven PPS Coating¹⁻³

Allows for initial scratch-fit stability and bone fixation.

Trochanteric Reattachment Bolt Hole

Allows for reattachment of the trochanteric fragment directly to the implant, increasing stability and aiding in bony repair.

Version Control

Proximal body design allows for intraoperative version adjustment independent of distal stem position.

Conical Design

Allows for multiple surgical techniques and vertical offset options.



CALCAR

Offset Option

Standard and high offset options reproduce various patient anatomies without lengthening the leg.

Clinically Proven PPS Coating¹⁻³

Allows for initial scratch-fit stability and bone fixation.

Trochanteric Reattachment Bolt Hole

Allows for reattachment of the trochanteric fragment directly to the implant increasing stability and aiding in bony repair.

Version Control

Proximal body design allows for intraoperative version adjustment independent of distal stem position.

Calcar Shelf

Three resection options, for differing levels of bone loss, are designed to transfer load from proximal body to medial bone.



BROACHED

Offset Option

Standard and high offset options reproduce various patient anatomies without lengthening the leg.

Clinically Proven PPS[®] Coating¹⁻³

Allows for initial scratch-fit stability and bone fixation.

Trochanteric Reattachment Bolt Hole

Allows for reattachment of the trochanteric fragment directly to the implant, increasing stability and aiding in bony repair.

Version Control

Proximal body design allows for intraoperative version adjustment independent of distal stem position.

Fit and Fill Design

Provides initial stability and bone contact when deficiencies are minimal.



Distal Stems

STS[™] SPLINED TAPERED

Roller Forming

Roller-formed tapers provide up to three times more strength in cantilever beam testing than non-roller hardened tapers.⁵

Splined Tapered

3 degree splined tapered design transfers load distally and provides rotational stability.⁴

Grit Blast

Provides for potential long-term stability through bone fixation.

Stem Design and Length Options

Straight stem available in 150 and 190 mm lengths.



SLOTTED

Roller Forming

Roller-formed tapers provide up to three times more strength in cantilever beam testing than non-roller hardened tapers.⁵

Clinically Proven PPS Coating¹⁻³

Allows for initial scratch-fit stability and bone fixation.

Anatomic Bow

Matches the natural anatomy of the femur.

Coronal Slot

Designed to reduce the risk of anterior impingement, allow for extended distal fixation and reduce thigh pain.

Stem Design and Length Options

Bowed stem available in 150, 200 and 250 mm lengths.



BULLET-TIP

Roller Forming

Roller-formed tapers provide up to three times more strength in cantilever beam testing than non-roller hardened tapers.⁵

Clinically Proven PPS Coating¹⁻³

Allows for initial scratch-fit stability and bone fixation.

Anatomic Bow

Matches the natural anatomy of the femur.

Polished Bullet-shaped Distal Tip

A gradual separation from cortex provides for reduction in distal stresses.

Stem Design and Length Options

Straight stem available in 115 mm length; bowed stem available in 150, 200 and 250 mm lengths.



INTERLOCKING

Roller Forming

Roller-formed tapers provide up to three times more strength in cantilever beam testing than non-roller hardened tapers.⁵

Clinically Proven PPS Coating¹⁻³

Allows for initial scratch-fit stability and bone fixation.

Anatomic Bow

Matches the natural anatomy of the femur.

Polished Bullet-shaped Distal Tip

A gradual separation from cortex provides for reduction in distal stresses.

Distal Locking Screw Holes

Provide for initial rotational stability in complex femoral reconstruction.

Stem Design and Length Options

Bowed stem available in 200, 250 and 300 mm lengths.



ETO (EXTENDED TROCHANTERIC OSTEOTOMY)

Roller forming

Roller-formed tapers provide up to three times more strength in cantilever beam testing than non-roller hardened tapers.⁵

Splined Tapered

3 degree splined tapered design transfers load distally and provides rotational stability.⁴

Clinically Proven PPS Coating¹⁻⁴

Allows for initial scratch-fit stability and bone fixation.

Grit Blast

Provides for potential long-term stability through bone attachment.

Anatomic Bow

Matches the natural anatomy of the femur.

Dual Mode Fixation

Provides biologic fixation for the trochanteric fragment and rotational stability for the intact portion of the femur when an ETO is necessary.

Stem Design and Length Option

Kinked stem available in 250 mm length.



ARCOS INSTRUMENTATION

Surgeon Preference

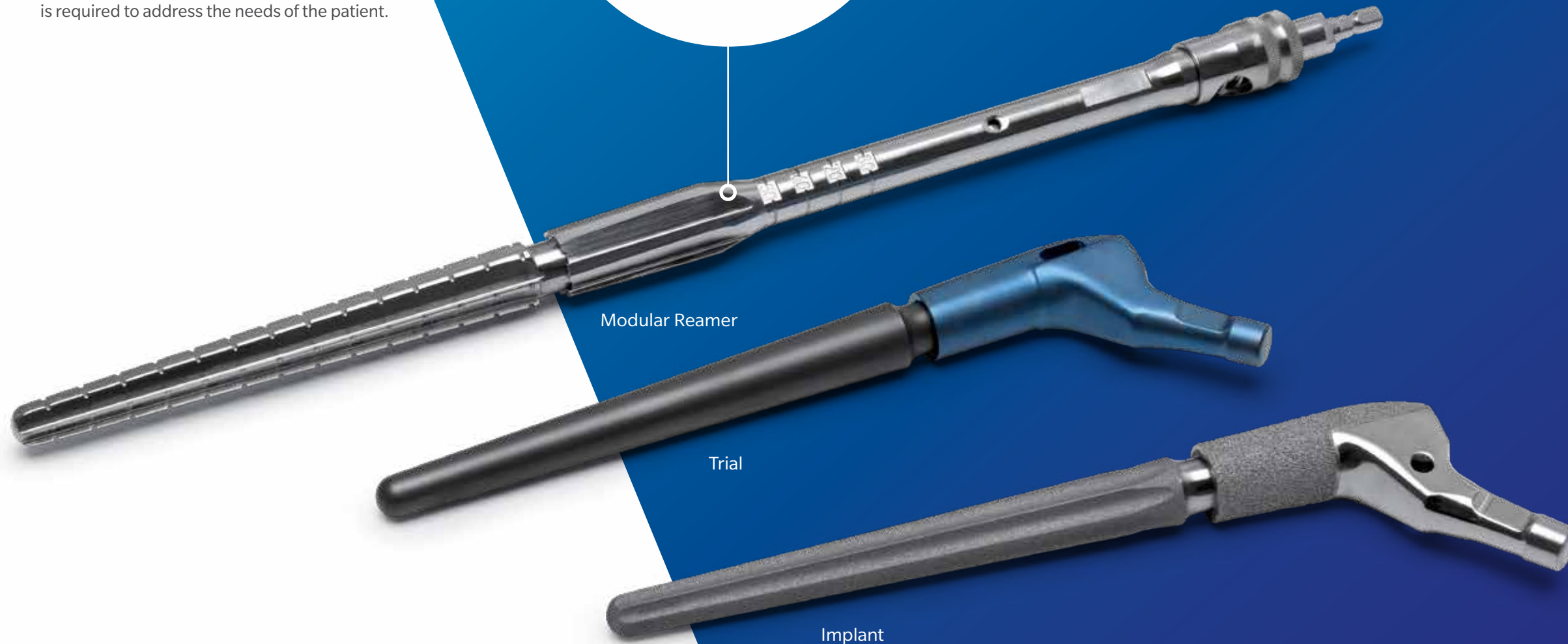
Instrumentation should not limit surgeons' implant selection or preferred surgical technique.

The Arcos Modular Femoral Revision System is designed to provide the option to use any distal and proximal implant combination with the surgical technique that is required to address the needs of the patient.



Modular Reamer

The proximal and distal reamer can be combined or used independently to prepare the proximal and distal portion of the femur, based on the preferred surgical technique.



Modular Reamer

Trial

Implant

Intraoperative Efficiency

Designed with common proximal implant and instrument geometries, the Arcos Platform design allows for intraoperative revision efficiency by reducing the number of instrument cases required to a number comparable to a primary hip surgery.



Geometric Alignment



ARCOS SYSTEM

Fulfilling Patient Needs

Often times revision hip surgery involves both the femur and the acetabulum. Zimmer Biomet offers implants designed for advanced fixation, low wear and dislocation resistance allowing surgeons to address the most complex revision situations.

Trabecular Metal™ Acetabular Revision System (TMARS)

The TMARS System's modular design provides intraoperative flexibility to address a wide range of bone deficiencies, offering a tailored acetabular solution of each patient. Combined with clinically proven Trabecular Metal Technology⁶⁻⁸ to resemble the structure, function and physiology properties of cancellous bone.

- Pore size and shape is shown to support bony ingrowth and vascularization.⁹⁻¹⁰
- Modulus of elasticity (Flexibility) similar to cancellous bone¹¹
- High coefficient of friction (0.98) against cancellous bone increases initial implant stability during implantation.¹²
- Over 350 clinical publications documenting effectiveness in a variety of applications¹³

Address Chronic Dislocation Head-On

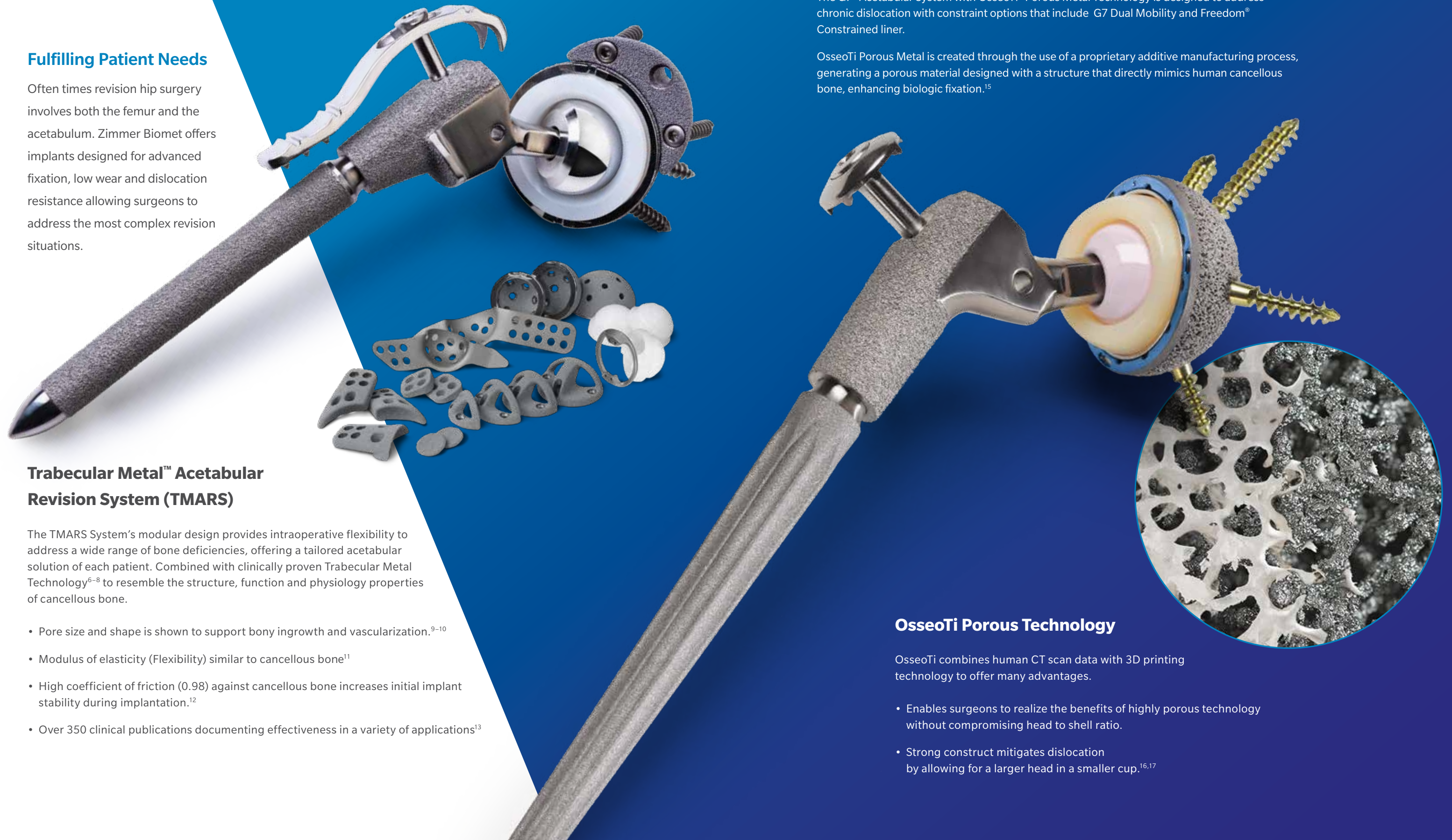
Accounting for 20% of all revision hip surgeries, dislocation is a leading cause for revision THA.¹⁴ The G7® Acetabular System with OsseoTi® Porous Metal Technology is designed to address chronic dislocation with constraint options that include G7 Dual Mobility and Freedom® Constrained liner.

OsseoTi Porous Metal is created through the use of a proprietary additive manufacturing process, generating a porous material designed with a structure that directly mimics human cancellous bone, enhancing biologic fixation.¹⁵

OsseoTi Porous Technology

OsseoTi combines human CT scan data with 3D printing technology to offer many advantages.

- Enables surgeons to realize the benefits of highly porous technology without compromising head to shell ratio.
- Strong construct mitigates dislocation by allowing for a larger head in a smaller cup.^{16,17}



The Revision Patient Journey



Infection Diagnosis

The **Synovasure® Alpha Defensin ELISA Test** is the first and only laboratory test specifically designed and validated to aid in the diagnosis of Periprosthetic Joint Infection (PJI) by measuring alpha defensin levels in synovial fluid. Results are delivered to physicians typically within 24 hours with minimal cost to the clinic.



Extraction

Minimizing additional bone loss while ensuring successful prior implant removal is key for the revision surgery whether the procedure is complex or not. The **Explant® Acetabular System** is designed for controlled bone dissection at the bone-cup interface, while femoral Symmetry Medical Revision Osteotomes are available in a number of shapes specifically designed to also aid in bone cement and femoral component removal. The **Ultra-Drive® System** is designed to remove porous-coated implants and cemented acetabular components and provides audible feedback when impacting cortical bone or the implant.¹⁹



Care

Irrigation and debridement are considered essential components of wound management and infection control.²⁰ **Bactisure™ Wound Lavage** is used to remove debris including microorganisms from wounds. The **Pulsavac® (jet)** lavage system was specifically designed to remove structurally resistant forms of bacteria.



Therapy

Used in conjunction with systemic antimicrobial therapy, the **StageOne™ Select Hip Spacer Molds** consists of independent femoral and acetabular molds with interchangeable sizing options to create an articulating hip spacer that can accommodate various patient anatomies.

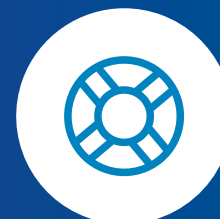


Re-implantation

From simple to complex revision hip arthroplasty, having the right re-implantation products and surgical approach can drive success and limit the instance of re-revision for a patient. We address acetabular bone loss while mitigating infection with the modular **Trabecular Metal Acetabular Revision System (TMARS)** using clinically proven Trabecular Metal Technology.

The **G7® Acetabular System** is a modular, color-coated system effective in addressing dislocation with a comprehensive portfolio of shell, fixation and bearing options designed to establish a stable joint.

The **Arcos® Platform** incorporates both one-piece monoblock and modular designs to address fixation, version control and femoral bone loss while supporting ease in the OR. Combining these products along with our medical education support and the surgical approach of choice helps bridge the gap and secure a successful revision procedure.



Limb Salvage

In cases of severe revision that would require a limb salvage procedure, our goal is to preserve bone while restoring mobility as much as we can. The **OSS™ Orthopedic Salvage System** is a modular platform offering surgeons intraoperative flexibility often required during challenging reconstructions and includes the Arcos platform in the system.

Alternatively, The **Compress® Device** is a mode for fixing a segmental construct to host bone, intended to create a stable bone-prosthesis interface giving surgeons an alternative to a stemmed prosthesis.



Patient Specific Solutions

With products including the **TriFlange Acetabular Component** and CT Based Hip Stems, **Zimmer Biomet's PMI® Patient-Matched Implant** team strives to provide the right solution for each patient in extremely complex or advanced cases. Personalized care in partnership with surgeons transforms the patient journey, while offering specialized engineering services to better support the surgeon and the process.



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