

# Avenir Complete™

## Hip System



ZIMMER BIOMET  
Your progress. Our promise.®

A hand holding a pen is shown in a dark blue silhouette against a lighter blue background. The pen is positioned diagonally across the upper half of the frame. In the lower right corner, a close-up of a silver-colored pen nib is visible, showing its fine lines and texture. The overall composition is clean and professional, with a strong color palette of blues.

# COMPLETION

## OF A LEGACY



## **PROVEN HERITAGE<sup>1</sup>**

## **OPERATIVE FLEXIBILITY**

## **SURGICAL EXCELLENCE**

The Avenir Complete Hip System is an evolution based on the clinically proven heritage of the Avenir Hip System<sup>2-5</sup>. By combining legacy features of the Avenir Hip System with new features, Avenir Complete was designed to deliver greater operative flexibility along with surgical excellence.

The Avenir Complete Hip System offers extensive stem options in an expanded size range with intuitive and precise instrumentation pairing seamlessly into a larger Zimmer Biomet portfolio of acetabular shells and liners.

On the following pages you will discover more about the heritage brought through from the Avenir Hip System, in addition to the new features incorporated to help you achieve surgical excellence.

# PROVEN HERITAGE:

BUILT ON THE LEGACY  
OF THE AVENIR HIP SYSTEM<sup>1-5</sup>

## Macro-structure

Designed to facilitate the distribution of loads, increase bone contact surface area and ease insertion of the stem

## Cross-Section

Rectangular with smoothed edges designed for rotational stability



### Ti-6Al-4V

Forged titanium alloy, Protasul®- 64 WF supporting a double layered coating of vacuum plasma sprayed commercially pure titanium under a thin layer of hydroxyapatite

### Fully Polished Neck

Designed to help minimize wear debris

### 12/14 Taper

Compatible with most of the Zimmer Biomet heads and adapters\*

### Proximal Geometry

The same as the legacy Avenir Hip System

## Double-layered coating designed for long-term stability<sup>1-2</sup>

The undercoat of commercially pure titanium vacuum plasma spray (CP-Ti) allows the application of a thin hydroxyapatite top coat.

Forged titanium alloy with sandblasted finish

Vacuum plasma spray of commercially pure titanium (50µm)

Hydroxyapatite coating (110µm)

\*See Zimmer Biomet Compatibility website for more information

<https://www.zimmerbiomet.com/medical-professionals/support/product-compatibility.html#hip>

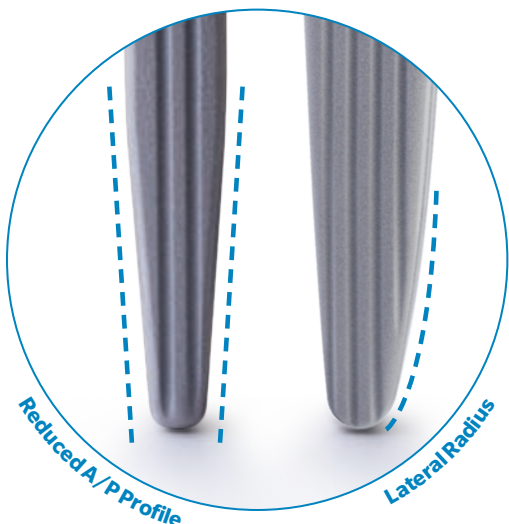
# OPERATIVE FLEXIBILITY

DELIVERED THROUGH AN EXPANDED FEATURE-SET



## Optimized Length

The length of the Avenir Complete stem has been optimized to facilitate insertion through modern surgical approaches including the muscle sparing anterior approach. The stem length grows in 3mm increments from size to size and ranges from 115mm-151mm measured from the lateral shoulder or 93mm-129mm measured from the medial resection line.



## Reduced Distal Geometry

The distal tip of the Avenir Complete stem includes a lateral radius along with a taper in the A/P plane. The reduced distal geometry combined with the optimized length of the stem is intended to address a wide range of femoral morphologies and help avoid distal potting.



## Extensive Options

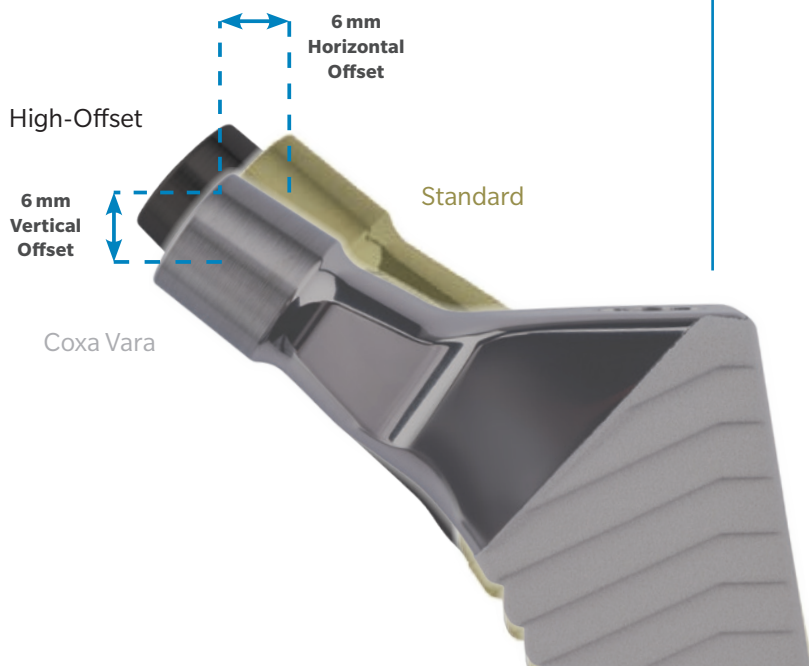
The Avenir Complete Hip System includes collared and collarless versions available in standard offset, high offset and coxa vara providing surgical options to best match patient anatomies.

## Expanded Size Range

The Avenir Complete System features 13 standard and high offset sizes as well as 12 coxa vara sizes to accommodate a wide range of patient anatomies. The wide size range along with small growth increments between sizes helps ensure proper fit within the femur.

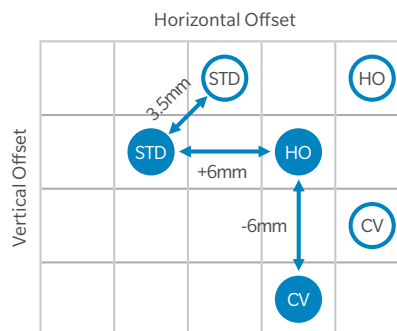
## Simple Offset System

Tissue tensioning is achieved through a simple 6mm offset system. The standard and high offset versions maintain a constant 135° neck angle. The high offset stem is lateralized by +6mm versus the standard offset stem increasing tissue tension without affecting leg length. The coxa vara neck angle is 126.5° and vertical offset is reduced by -6mm versus the high offset stem.



## Neck Length

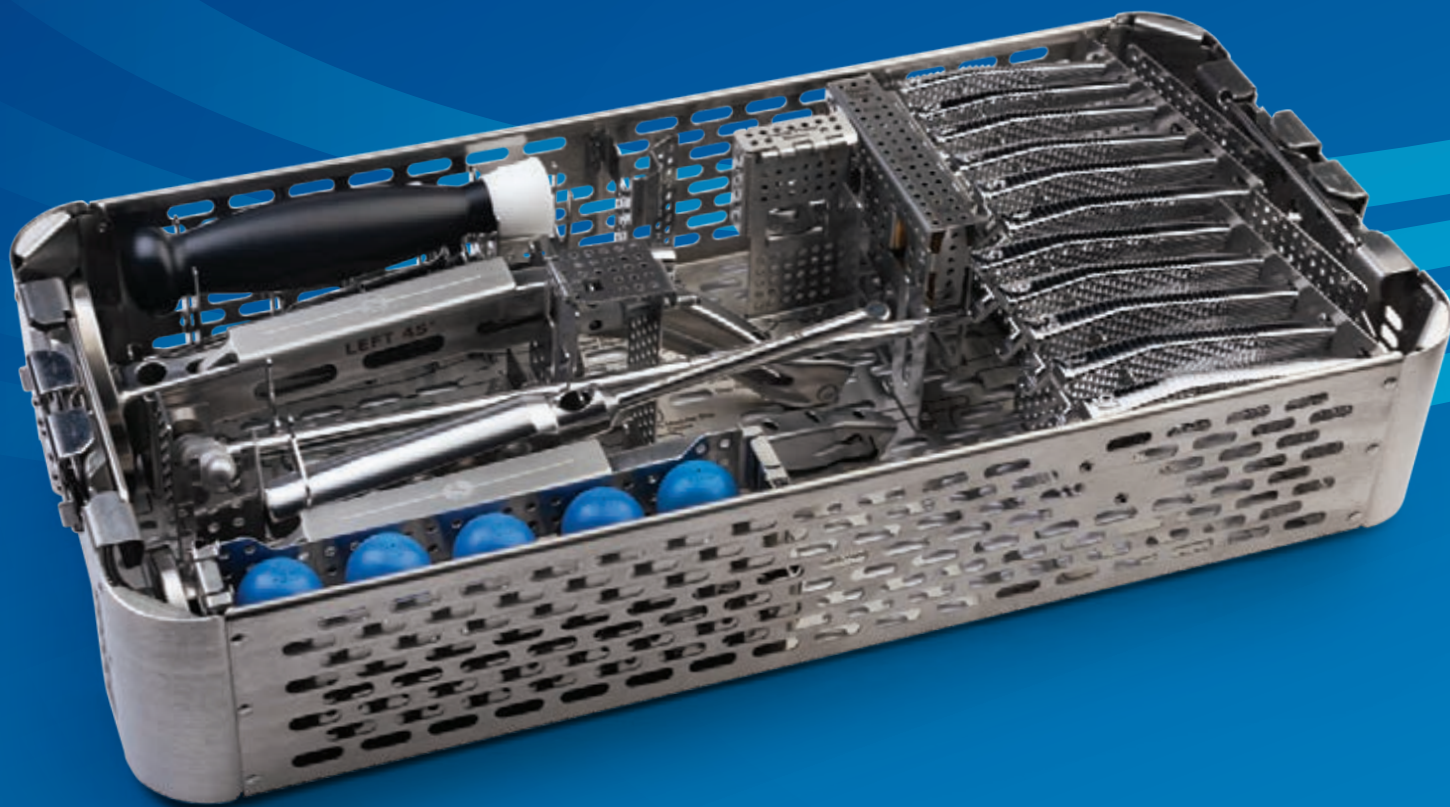
Neck length remains constant from sizes 0-7.5 and increases by 3.5mm for the three largest sizes (8-9). This provides a uniform system where sizes 0-7.5 can achieve a short neck length while providing additional neck length where needed in the largest sizes.



- Avenir Complete Size 0 to 7.5
- Avenir Complete Size 8 to 9

# SURGICAL EXCELLENCE:

FOSTERING OPERATING ROOM EFFICIENCY,  
REPRODUCIBLE SURGICAL TECHNIQUE,  
TOGETHER WITH FACILITATING  
ACCURATE AND PRECISE STEM SEATING.

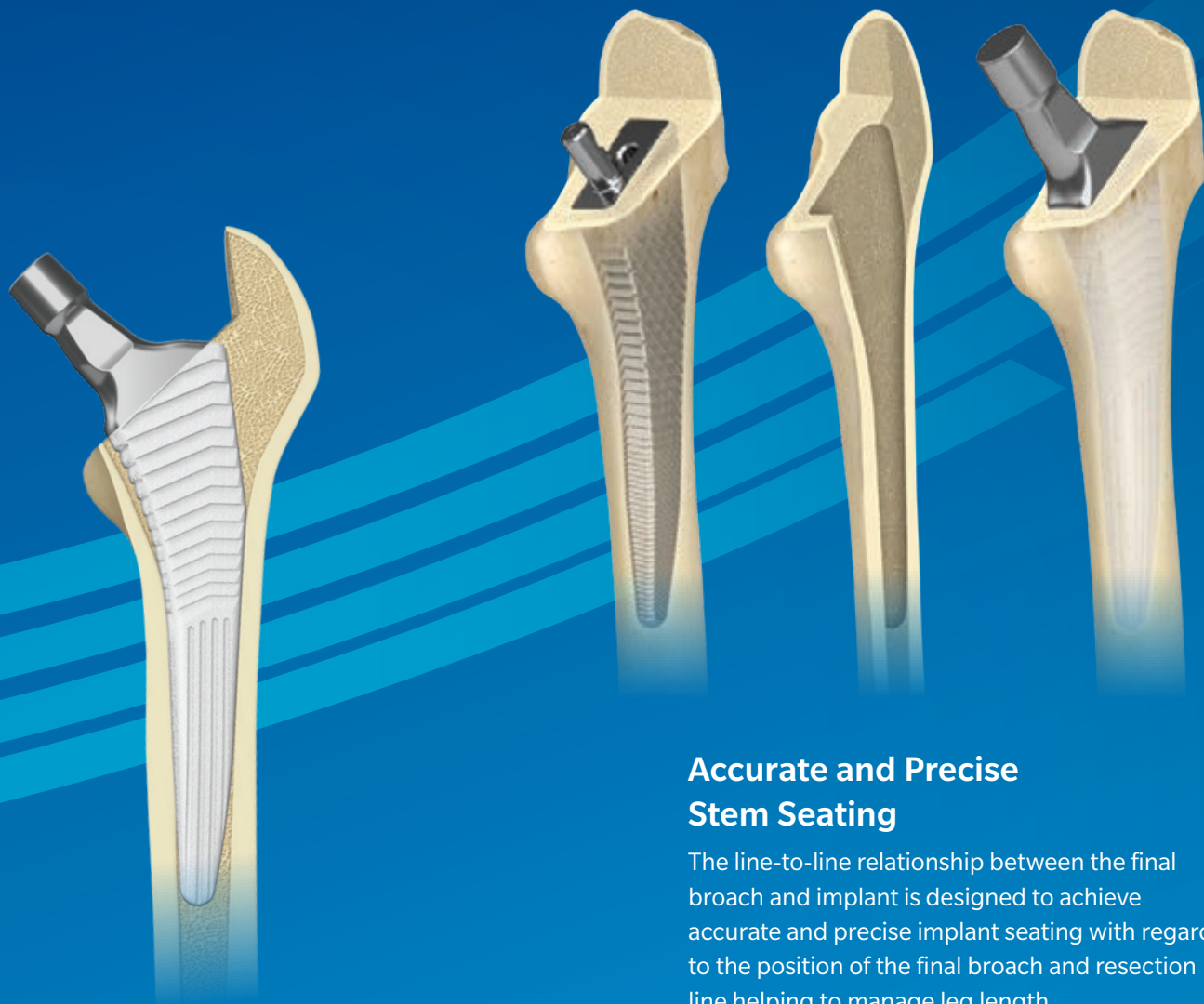


## Streamlined Instrumentation

The Avenir Complete Hip System incorporates streamlined instrumentation with a broach only surgical technique designed to help maximize operating room efficiencies.

All instrumentation needed to implant the core size range (0-7.5) is contained in a single instrument tray. Various broach handles are available to accommodate modern surgical approaches including the muscle sparing anterior approach.





### **Accurate and Precise Stem Seating**

The line-to-line relationship between the final broach and implant is designed to achieve accurate and precise implant seating with regard to the position of the final broach and resection line helping to manage leg length.

### **Intuitive and Reproducible**

Following its legacy, the Avenir Complete Hip System instrumentation was designed to facilitate precise, balanced and intuitive femoral preparation to address the risk of subsidence and foster long-term stability<sup>1-2</sup> while offering surgeons a straightforward operative technique.

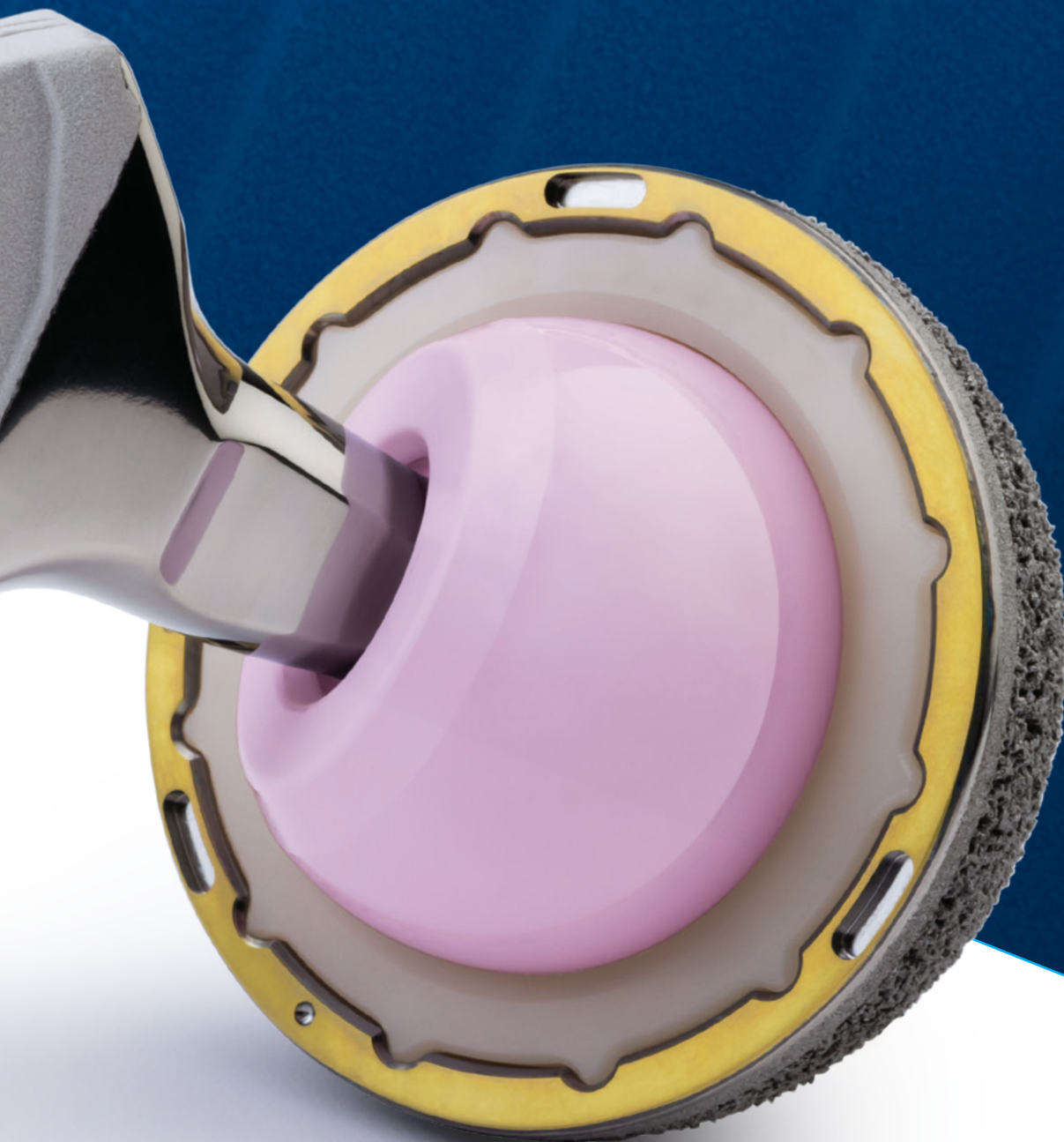
# PERSONALIZED:

TRANSFORMING THE PRIMARY CARE  
EPISODE STARTS 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.

The Avenir Complete Hip System together with the G7<sup>®</sup> Acetabular System pairs a comprehensive offering of stems, shells and liners (including Dual Mobility) with streamlined instrumentation designed to meet distinct patient needs, to simplify the surgical work-flow and maximize hospital and operating room efficiencies.



## References

1. 7A\* ODEP Rating. Latest ODEP ratings can be found at [www.odep.org.uk](http://www.odep.org.uk)
2. Boisgard S, Brientini J, et al. 7-year Results of Primary Total Hip Arthroplasty with the Uncemented Avenir Stem. *Hip International* 2018: 1-6. <https://doi.org/10.1177/1120700018810211>
3. Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR). 2018 Annual Report. <https://aoanjrr.sahmri.com/> (accessed 21 March 2019).
4. Endoprothesen Register Deutschland (EPRD). Annual Report, 2017. <https://www.eprd.de/de/> (accessed 21 March 2019).
5. NZ Joint Registry, New Zealand Orthopaedic Association. NZJR 19 Year Report Jan 1999 to Dec 2017. <https://nzoa.org.nz/nzoa-joint-registry> (accessed 21 March 2019).

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