

ROSA[®] Hip System



ROSA[®] Hip

Precisely Personalized

ROSA Hip is a personalized robotic system that enables direct anterior surgeons to evaluate and execute a surgical plan based on real-time feedback and the patient's unique anatomy, while seamlessly integrating into the surgeon's workflow.

The system was designed by surgeons for surgeons as an accurate and efficient surgical assistant that also produces data.



SURGEON-CENTERED



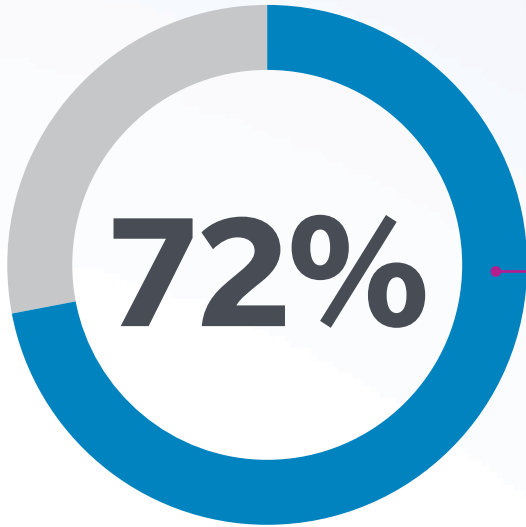
ACCURATE¹



EFFICIENT

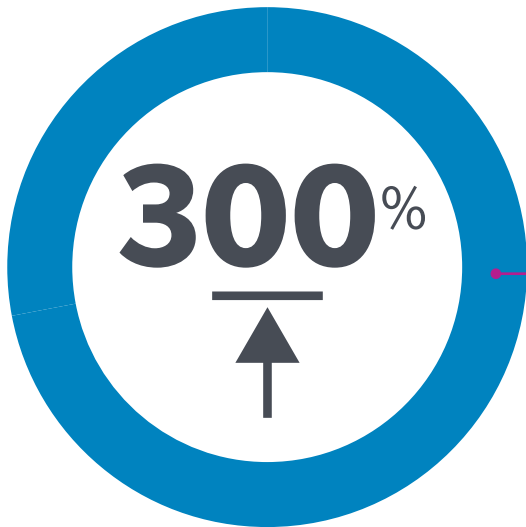


DATA DRIVEN

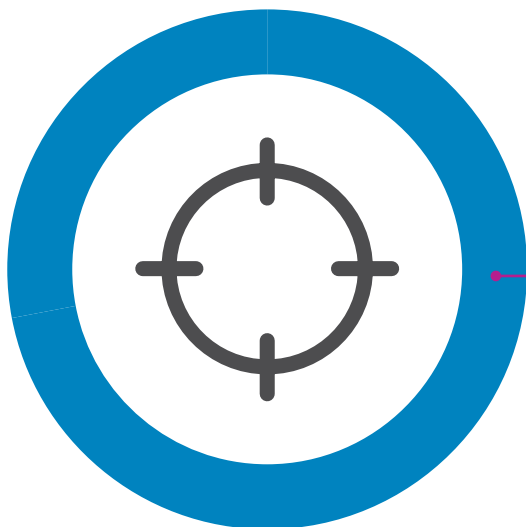


IN A 2016 GLOBAL SURVEY ASSESSING PERCEPTIONS ABOUT ROBOTIC-ASSISTED SURGERY, 72% OF RESPONDENTS INDICATED ROBOTIC-ASSISTED SURGERY WAS

SAFER, FASTER AND LESS PAINFUL OR OFFERED BETTER RESULTS THAN MINIMALLY INVASIVE CONVENTIONAL SURGERY.²



HIP DISLOCATION IS ONE OF THE LEADING CAUSES OF REVISION^{3,4,5} AND CAN INCREASE HOSPITAL COSTS BY UP TO 300% WHEN COMPARED TO PRIMARY TOTAL HIP ARTHROPLASTY.^{6,7}



TECHNOLOGIES THAT AID IN COMPONENT IMPLANTATION WILL REDUCE OUTLYING POSITIONS, WHICH MAY REDUCE RISK OF DISLOCATION.⁸

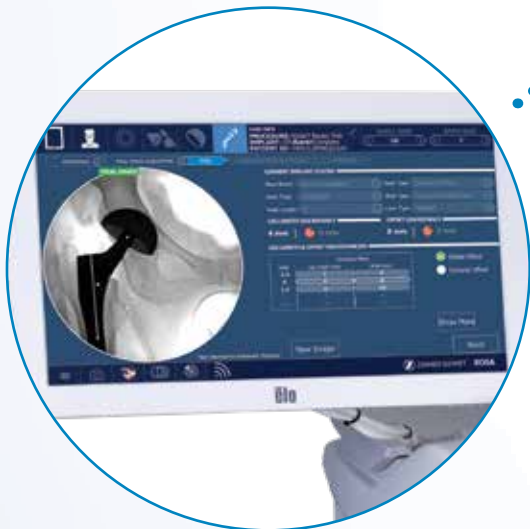
SURGEON-CENTERED

ROSA HIP IS CUSTOMIZED TO A SURGEON'S EXISTING DIRECT ANTERIOR WORKFLOW TO MAINTAIN SURGICAL EFFICIENCY.



FLUOROSCOPY-BASED WORKFLOW
MIRRORS CURRENT PROCEDURE

NO PINS, REFERENCE ARRAYS
OR CAMERAS RESULTING IN NO
ADDITIONAL PROCEDURE SETUP



EASY-TO-USE USER INTERFACE

Compatible with
Avenir Complete[®] Hip System
and **G7[®] Acetabular System**

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

The Avenir Complete Hip System together with the G7[®] 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 workflow and maximize hospital and operating room efficiencies.



ROSA Hip is also compatible with Taperloc[®] Complete Hip System, Avenir[®] Hip System, and Echo Bi-Metric[®] Stem

ACCURATE

PRECISELY ASSISTS WITH ACCURATE ACETABULAR COMPONENT ORIENTATION AND LEG LENGTH THROUGH ROBOTIC GUIDANCE¹

- Component positioning with ROSA Hip has been shown to be **more accurate and reproducible** than conventional instrumentation.¹
- **Provides real-time data** to evaluate leg length and offset decision making intra-operatively.
- ROSA Hip resulted in **100% of cases within the Lewinnek and Callanan Safe Zones** (fewer outliers compared to conventional instrumentation).¹
- **ONE Planner™ Hip**, our web-based surgical software utilized to plan a hip replacement case by using pre-operative X-ray patient images to plan implant components and neck cut, restore leg length and offset and evaluate pelvic tilt.
 - When utilizing ONE Planner Hip, surgeon pre-operative plans will be directly available on the ROSA user interface.



EFFICIENT

SIMPLIFIED SETUP MAY MINIMIZE ADDITIONAL TIME TO PROCEDURE

- **Auto landmarking and overlay tool supports a streamlined procedure.**
 - Manual landmarking may be tedious and time consuming. After your first two image uploads, ROSA Hip automatically identifies and places landmarks.
 - Overlay tool provides a comparison of X-ray images to quickly identify inconsistencies in patient and C-arm positioning.
- Plan case virtually with intuitive web-based **ONE Planner Hip.**
- **Trial panel** enables surgeons to evaluate **best possible implant combinations** for each patient.
- No pins or reference arrays required.
- No CT scans required.



DATA DRIVEN

ROSA Hip is a cornerstone of ZBEdge™, Zimmer Biomet's suite of integrated digital and robotic technologies, purposefully engineered to deliver data-powered clinical insights shared seamlessly across the patient journey. Part of these integrated digital and robotic technologies include ROSA Knee, ROSA Partial Knee, ROSA Hip, mymobility® with Apple Watch and OrthoIntel Orthopedic Intelligence Platform.

ORTHOINTEL ORTHOPEDIC INTELLIGENCE PLATFORM

OrthoIntel Orthopedic Intelligence Platform combines **pre-, intra- and post-operative data** from ZBEdge Connected Intelligence Suite to help surgeons **uncover clinical insights effortlessly**. This meaningful data is intended to help healthcare professionals **optimize care** by efficiently **exploring the connections between surgery and outcomes**.

ORTHOINTEL INTERACTIVE REPORTS

OrthoIntel Interactive provides **interactive and customizable** reports that allow clinicians to explore data across the continuum of care to **enable insights** on variables that **impact outcomes and experience**.

OrthoIntel Interactive Reports are available to all mymobility customers. The data can be further enriched with intra-operative metrics from ROSA Robotics.

ZBEdge™

by  ZIMMER BIOMET

OPTIMIZE CARE THROUGHOUT THE SURGICAL JOURNEY

The following data metrics are currently captured in OrthoIntel Orthopedic Intelligence Platform combining pre- and post-operative mymobility with Apple Watch data and intra-operative data from ROSA Hip.

PRE- AND POST-OPERATIVE METRICS GATHERED THROUGH MYMOBILITY WITH APPLE WATCH

Patients can choose to share their data, which is de-identified, aggregated and analyzed in OrthoIntel Orthopedic Intelligence Platform to uncover clinical insights to help healthcare professionals optimize care.



Mobility/Functional Data Collected

- Steps
- Stairs Climbed
- Stand Hours
- Exercise Completion



Gait Quality Data

- Gait Speed***
- Double Support Percentage***
- Step Length***
- Speed Ascending and Descending Stairs
- Asymmetry*, ***



Engagement Data Collected

- Exercise Adherence
- PROMs Adherence
- Patient Reported Pain Management Tracking
- Patient Reported Narcotic/Non-narcotic Tracking**
- Education Adherence



Additional Data Collected

- Falls Detection*
- Sleep*



Heart Rate Data Collected

- Average Resting Heart Rate
- Average Walking Heart Rate Variability
- VO2 Max*

INTRA-OPERATIVE METRICS GATHERED BY ROSA HIP



Cup Version



Cup
Inclination



Leg Length



Offset

* Available separately upon request

** Via prompted patient-reported check-ins

*** Collected through iPhone only

These data points are collected and connected in OrthoIntel Orthopedic Intelligence Platform, but not currently displayed: Engagement Data, Exercise Completion, Step Length, Speed Ascending/Descending Stairs, Asymmetry, Falls Detection and Sleep.

References

1. Data on file. FER-SM210407-01
2. Boys, J. A., Alicuben, E. T., DeMeester, M. J., Worrell, S. G., Oh, D. S., Hagen, J. A., & DeMeester, S. R. (2016). Public perceptions on robotic surgery, hospitals with robots, and surgeons that use them. *Surgical endoscopy*, 30(4), 1310–1316. 2016.
3. Hailer N P, Weiss R J, Stark A, Kärrholm J. The risk of revision due to dislocation after total hip arthroplasty depends on surgical approach, femoral head size, sex, and primary diagnosis: an analysis of 78,098 operations in the Swedish Hip Arthroplasty Register. *Acta Orthop* 2012; 83 (5): 442-8
4. Kostensalo I, Junnila M, Virolainen P, Remes V, Matilainen M, Vahlberg T, Pulkkinen P, Eskelinen A, Mäkelä KT. Effect of femoral head size on risk of revision for dislocation after total hip arthroplasty: a population-based analysis of 42,379 primary procedures from the Finnish Arthroplasty Register. *Acta Orthop* 2013; 84 (4): 342-7
5. Gwam CU, Mistry JB, Mohamed NS, Thomas M, Bigart KC, Mont MA, et al. Current epidemiology of revision total hip arthroplasty in the United States: National Inpatient Sample 2009 to 2013. *J Arthroplasty* 2017;32:2088e92
6. Abdel MP, Cross MB, Yasen AT, Haddad FS. The functional and financial impact of isolated and recurrent dislocation after total hip arthroplasty. *Bone Joint J* 2015;97:1046e9.
7. Sanchez-Sotelo J, Haidukewych GJ, Boberg CJ. Hospital cost of dislocation after primary total hip arthroplasty. *J Bone Joint Surg* 2006;88:290.
8. Rowan, Fiachra E., Benjamin, Biju, Pietrak, Jurek R., Haddad, Fares S. Prevention of Dislocation After Total Hip Arthroplasty. *The Journal of Arthroplasty* 33 (2018) 1316e1324.



A close-up photograph of a white aircraft engine nacelle. The word "ROSA" is printed in a bold, blue, sans-serif font on the side of the nacelle. The background is a bright, out-of-focus white, suggesting a clean, industrial environment. The lighting is soft and even, highlighting the smooth texture of the white surface.

ROSA

For more information contact
your local representative or visit
zimmerbiomet.com/rosahip



Legal Manufacturer
ROSA Hip
Zimmer CAS
75 Queen Street Suite 3300
Montreal (Quebec) H3C 2N6
Canada
Tel +1.866.3D.ORTHO or
514.395.8883 EC



Legal Manufacturer
ONE Planner Hip
Zimmer CAS
75 Queen Street Suite 3300
Montreal (Quebec) H3C 2N6
Canada
Tel +1.866.3D.ORTHO or
514.395.8883 EC



Legal Manufacturer
mymobility App Platform
Zimmer U.S., Inc. Connected Health
601 5th St. NW
Suite 200
Grand Rapids, MI 49504 USA

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 counselling information, see the package insert or contact your local representative; visit <http://www.zimmerbiomet.com> for additional product information.

Not for distribution in France. Check for country product clearances and reference product specific instructions for use.

Patients must have a compatible smartphone to use mymobility. Not all patients are candidates for the use of this product and surgeons should evaluate individually to determine which patients are appropriate for therapy at home. All names used in the mymobility app examples are fictitious. No identification with actual patients or health care professionals is intended or should be inferred. Apple, Apple Watch, Mac and iPhone are trademarks of Apple Inc., registered in the U.S. and other countries. Zimmer Biomet Connected Health mymobility Application.

©2021 Zimmer Biomet

 **ZIMMER BIOMET**
Moving You Forward.™

3527.1-GLBL-en-Issue Date-2021-08-12