

Exactech Presents Award-Winning Clinical Research at 2022 Orthopaedic Research Society Annual Meeting

Studies Highlight Exactech Active Intelligence® Smart Solutions for Joint Replacement

GAINESVILLE, Fla. (Feb. 11, 2022) – Exactech, a developer and producer of innovative implants, instrumentation and smart technologies for joint replacement surgery, announced today that eight studies featuring new scientific and clinical research were presented at the 2022 Orthopaedic Research Society (ORS) annual meeting, on Feb. 4-8 in Tampa, Fla.

Three studies, each of which used machine learning to predict outcomes after shoulder arthroplasty, were nominated for awards. One study¹, [*Using Machine Learning To Predict Internal Rotation After Anatomic And Reverse Total Shoulder Arthroplasty*](#), won first place for the top orthopaedic implant research podium/paper presentation at the 2022 annual meeting and has also been published recently in the *Journal of Shoulder and Elbow Surgery*².

Data from this research came from a multinational patient outcomes database drawn from more than a decade of active clinical collection efforts, which provides the engineering/development and clinical research teams, along with worldwide clinical collaborators, robust information to assess the performance of Exactech products. The machine learning analysis of this data was completed through a partnership with KenSci, Inc.

The two other machine learning-based shoulder studies^{3,4} nominated for ORS awards analyzed the fairness and bias of the algorithms within the Predict+® clinical decision support tool and also provided a validation of the algorithms for the Shoulder Arthroplasty Smart Score. Combined, this research demonstrates that the algorithms used in Predict+ treat all legally protected classes of patients with equivalent accuracy when predicting shoulder arthroplasty outcomes. Other presented research established new thresholds for patient satisfaction-based improvement after shoulder arthroplasty⁵ and demonstrated positive clinical and radiographic outcomes using the Equinoxe® Preserve humeral stem⁶. A final shoulder study was conducted in collaboration with Western University (London, Ontario) and analyzed the effect of Preserve humeral stem size selection on bony fixation⁷.

Two additional studies featured Newton™ Knee, the company's new approach to soft tissue balancing. In the first, research⁸ demonstrated the highly reliable and easy-to-use benefits of the intra-articular technology, which provides surgeons with a patient-specific surgical plan and verification of the joint balance during guided total knee arthroplasty. The second study⁹ provided *in-vitro* verification of Newton's quasi-constant forces that could allow for optimal knee soft tissue balancing.

“These powerful studies highlight the clinically meaningful focus of our investments in technologies to augment surgeon decision making,” said Darin Johnson, Exactech CEO. “Our Active Intelligence efforts are helping surgeons predict how shoulder patients will function using proprietary data and algorithms, and our Newton Knee provides surgeons with quantifiable measurements of joint gaps through the entire knee range of motion. These studies show Exactech is committed to providing improved decision-making solutions for

surgeons, ultimately helping provide better outcomes for their patients. It is rewarding for our teams to see ORS celebrate the quality of our work with a first-place award.”

Explore all of Exactech’s Active Intelligence® technologies at www.AISurgeon.com.

About Exactech

Exactech is a global medical device company that develops and markets orthopaedic implant devices, related surgical instruments and the Active Intelligence® platform of smart technologies to hospitals and physicians. Headquartered in Gainesville, Fla., Exactech markets its products in the United States, in addition to more than 30 markets in Europe, Latin America, Asia and the Pacific. Visit www.exac.com for more information and connect with us on [LinkedIn](#), [Vumedi](#), [YouTube](#), [Instagram](#) and [Twitter](#).

¹Kumar, V. et al. Using Machine Learning To Predict Internal Rotation After Anatomic And Reverse Total Shoulder Arthroplasty. ORS. Podium. 2022.

²Kumar V. et al. Using Machine Learning To Predict Internal Rotation After Anatomic And Reverse Total Shoulder Arthroplasty. J Shoulder Elbow Surg. 2021 Nov 20:S1058-2746(21)00811-9. doi: 10.1016/j.jse.2021.10.032.

³Allen, C. et al. Fairness Assessment Of Predictions In Total Shoulder Arthroplasty Outcomes. ORS. Poster. 2022.

⁴Kumar, V. et al. Development Of A Predictive Model For A Machine Learning Derived Shoulder Arthroplasty Clinical Outcome Score. ORS. Poster. 2022.

⁵Colasanti C, et al. Diagnosis Specific Thresholds For MCID, PASS and SCB After Anatomic and Reverse Total Shoulder Arthroplasty. ORS. Podium. 2022.

⁶Greene, A. et al. Radiographic And Survivorship Analysis Of A Short Humeral Stem For Total Shoulder Arthroplasty: Two-year Minimum Follow-up Results. ORS. Poster. 2022.

⁷Reeves, J. et al. The Effect Of Oversizing Humeral Short Stems On Implant-Bone Construct Stiffness. ORS. Poster. 2022.

⁸Angibaud, L et al. Reliability Of Laxity Acquisitions Under Controlled Load Environment During Navigated Total Knee Arthroplasty. ORS. Podium. 2022.

⁹Rueff, M et al. Intraarticular Quasi-constant Force Tension In Total Knee Arthroplasty Regardless Of Joint Gap And Knee Size. ORS. Poster. 2022.

Media Contact

Nancy Walsh, Exactech Marketing Communications
nancy.walsh@exac.com