Pick Your Tech

A complete shoulder solution,
completely for you.

20 YEARS
equinoxe

exactech

active
INTELLIGENCE

• CHIME

Get and share expertise with surgeons worldwide with Exactech's Clinical Exchange App.

•• PREDICT+

Data-driven, clinical decision support tool that uses machine learning to provide predictions of individual patient outcomes after surgery.[20-26]

1 **FIRST** to market with machine learning tool

Equinoxe Planning App and GPS Shoulder connect the preoperative plan with real-time intraoperative instrument guidance.

Better glenoid fixation[17,18]

98% of GPS cases completed as planned[16]

>40% worldwide adoption **50,000** cases

Accuracy within **2** degrees/**2mm** of plan [13, 14, 15]

2-year study: Improved clinical outcomes, including improved range of motion, reduced postoperative complications, revision rates and adverse events.[16,19]

1st and only shoulder navigation technology that connects the preoperative plan with real-time intraoperative instrument guidance and verifies implant placement.

••• PLANNING APP

⠶ EXACTECHGPS

EQUINOXE SYSTEM

Solutions for 100% of shoulder arthroplasty procedures, from straightforward to challenging. Our platform system design has remained unchanged since its inception and is the most-studied shoulder on the market. With solutions for aTSA and rTSA procedures, surgeons have total intraoperative flexibility.

ANATOMIC

With **20 years of clinical use**[27-29], the Equinoxe anatomic system replicates a patient's unique anatomy *in situ*.

- **97.3%** rTSA and **96.0%** aTSA clinical survivorship at 8-year follow-up[1]
- **300+** peer-reviewed journal articles
- **16,000** patients | **35** clinical sites
- **>93%** Patient satisfaction after Equinoxe aTSA or rTSA [2,3]

REVERSE

The groundbreaking reverse system addresses a myriad of surgical challenges, such as glenoid fixation, scapular notching and instability.

- **>81%** of rTSA patients achieve internal rotation to the sacrum or higher[4]
- Low aseptic loosening rate: **<0.75%** after rTSA[5]
- **<1%** instability after rTSA[6]
- **1.52%** scapular /acromial fracture rate after rTSA[7,8]
- **>20%** of aTSA patients achieve ASES ceiling score; **>40%** of aTSA patients achieve SST ceiling score[9,10]

STEMLESS

A 3D-printed, bone conserving aTSA prosthesis designed for intraoperative flexibility and simplified surgical technique.[32,33]

PRESERVE STEM

Our bone-preserving platform stem provides intraoperative flexibility and a streamlined technique.[30]

GLENOID SOLUTIONS

Equinoxe glenoid solutions, in a wide range of options, are designed to address challenging bony defects.

- **2X** stronger in shear resistance and **5X** stronger in peg pull-off[11]
- **1st** to offer reverse augments
- Able to withstand **225lbs** for 200,000 cycles (~20 years of use)[11]
- **10+** years of clinical use; documented positive clinical results [34-42]

LASER CAGE GLENOID

Our original cage glenoid outperformed required ASTM testing standards. Our newest design, the Laser Cage Glenoid, is even stronger.

SMALL REVERSE
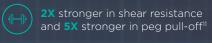
Based on a proprietary CT analysis, this unique implant is designed to treat patients with small glenohumeral anatomy.[31]

FRACTURE STEM

The platform fracture stem features a patented anterior-lateral fin and asymmetric tuberosity beds for anatomic greater and lesser tuberosity reconstruction.[43]

HUMERAL AUGMENTED TRAY

Our solution for proximal humeral bone loss is designed to increase humeral lateralization and deltoid wrapping, and improve joint mechanics and stability.

HUMERAL RECONSTRUCTION PROSTHESIS

The first-to-market biomechanically designed humeral reconstruction system provides a unique and stable solution for complex and challenging cases with humeral bone loss.

2-year study: Significant improvements in range of motion, pain and outcome scores, with no cases of humeral component loosening.[12]

References:

1. **Flurin, PH et al.** Comparison of survivorship and performance of a platform shoulder system in anatomic and reverse total shoulder arthroplasty. *JSES Int.* 2020 Jul 27;4(4):923-928. doi: 10.1016/j.jseint.2020.07.001.

2. **Friedman, RJ et al.** Comparison of Reverse and Anatomic Total Shoulder Arthroplasty in Patients With an Intact Rotator Cuff and No Previous Surgery. *J Am Acad Orthop Surg.* 2022 Oct 1;30(19):941-948.

3. **Harries, LW et al.** Effect of subscapularis repair in patients with an intact rotator cuff undergoing reverse total shoulder arthroplasty. Seminars in Arthroplasty: *JSES.* #32 (1): 100-106. 2022.

4. **Rohman, E. et al.** Factors Associated with Improvement or Loss of Internal Rotation After Reverse Shoulder Arthroplasty. *JSES.* In press. 2022.

5. **Schell, L. et al.** Aseptic Glenoid Baseplate Loosening after Reverse Total Shoulder Arthroplasty with a Single Prosthesis. *JSES.* In press. 2023.

6. **Le, J. et al.** Risk Factors for Instability After Reverse Shoulder Arthroplasty. *Seminars in Arthroplasty: JSES.* In press. 2022.

7. **Roche, C. et al.** Impact of Accumulating Risk Factors on the Acromial and Scapular Fracture Rate after Reverse Total Shoulder Arthroplasty with a Medialized Glenoid/Lateralized Humerus Onlay Prosthesis. *J. Shoulder Elbow Surg.* January 2023. https://doi.org/10.1016/j.jse.2022.12.026.

8. **Routman, HD et al.** Acromial and Scapular Fractures After Reverse Total Shoulder Arthroplasty with a Medialized Glenoid and Lateralized Humeral Implant: An Analysis of Outcomes and Risk Factors. *J Bone Joint Surg.* Article in press. 2020 Aug 26. DOI:10.2106/JBJS.19.00724.

9. **Schoch, B. et al.** Characteristics of Anatomic and Reverse Total Shoulder Arthroplasty Patients Who Achieve Ceiling Scores with 3 Common Patient Reported Outcome Measures. *JSES.* In press. 2022.

10. **Roche, C. et al.** Validation of a machine learning-derived clinical metric to quantify outcomes after total shoulder arthroplasty. *J Shoulder Elbow Surg.* 2021 Oct;30(10):2211-2224.

11. **Vanasse, T. et al.** Extreme Bending Fatigue Testing of a New Hybrid Anatomic Glenoid Implant. ORS Poster. 2023.

12. **Srinivasan, R. et al.** Two-Year Outcomes of the Reverse Humeral Reconstruction Prosthesis. *JSES online and In Press.* February 2023.

13. **Kida, H. et al.** Implications of navigation system use for glenoid component placement in reverse shoulder arthroplasty. *Sci Rep.* 2022 Dec 7;12(1):21190. doi: 10.1038/s41598-022-25833-8.

14. **Jones, R. et al.** Accuracy and precision of placement of the glenoid baseplate in reverse total shoulder arthroplasty using a novel computer assisted navigation system combined with preoperative planning: A controlled cadaveric study. *JSES Seminars in Arthroplasty.* 2020 May;30(1):73-82.*

15. **Nashikkar, P. et al.** Role of intraoperative navigation in the fixation of the glenoid component in reverse total shoulder arthroplasty: a clinical case-control study. *J Shoulder Elbow Surg.* 2019 Sept.;28(9):1685-1691.

16. **Larose, G. et al.** High Intraoperative Accuracy and Low Complication Rate for Computer Assisted Navigation of the Glenoid in Total Shoulder Arthroplasty. *J Shoulder Elbow Surg.* 2023 Jun;32(6S):S39-S45.

17. **Nashikkar, P. et al.** Computer navigation re-creates planned glenoid placement and reduces correction variability in total shoulder arthroplasty: an in vivo case-control study. *J Shoulder Elbow Surg.* 2019 Dec;28(12):e398-e409.

18. **Roche, C. et al.** Impact of screw length and screw quantity on rTSA glenoid fixation for two different sizes of glenoid baseplates. JSES Open Access. 2019 Nov 1;3(4):296JSES Open Access. 2019 Nov 1;3(4):296-303.*

19. **Youderian, A. et al.** Two-year clinical outcomes and complication rates of glenoid components in anatomic and reverse shoulder arthroplasty implanted with intraoperative navigation. *J Shoulder Elbow Surg.* 2023. In press.

20. **Kumar, V. et al.** What Is the Accuracy of Three Different Machine Learning Techniques to Predict Clinical Outcomes After Shoulder Arthroplasty? *Clin Orthop Relat Res.* 2020 Oct;478(10):2351-2363.

21. **Kumar, V. et al.** Using Machine Learning to Predict Clinical Outcomes After Shoulder Arthroplasty with a Minimal Feature Set. *J Shoulder Elbow Surg.* 2021 May;30(5):e225-e236.

22. **Kumar, V. et al.** Use of Machine Learning to Assess the Predictive Value of 3 Commonly Used Clinical Measures to Quantify Outcomes After Total Shoulder Arthroplasty. *Seminars in Arthroplasty:* JSES. 2021.

23. **Kumar, V. et al.** Using Machine Learning to Predict Internal Rotation after Anatomic and Reverse Total Shoulder Arthroplasty. *JSES.* 2021. In press.

24. **Kumar, V. et al.** Development of a Predictive Model for a Machine Learning Derived Shoulder Arthroplasty Clinical Outcome Score. *Seminars in Arthroplasty: JSES.* 2021. In press.

25. **Simmons, C. et al.** Surgeon Confidence in Planning Total Shoulder Arthroplasty Improves After Consulting Clinical Decision Support Tool. *European Journal of Orthopaedic Surgery & Traumatology.* 2022.

26. **Allen C. et al.** Evaluating the Fairness and Accuracy of Machine Learning Based Predictions of Clinical Outcomes after Anatomic and Reverse Total Shoulder Arthroplasty. *JSES.* 2023. In press.

27. **Roche, C. et al.** Longitudinal Analysis of Shoulder Arthroplasty Utilization, Clinical Outcomes, and Value: a Comparative Assessment of Changes in Improvement Over 15 Years with a Single Platform Shoulder Prosthesis. *JSES.* 2023. In press.

28. **Friedman, RJ. et al.** Longitudinal Comparison of Long-term Clinical and Radiographic Outcomes for Cemented Keel, Cemented Peg, and Hybrid Cage Glenoids with Anatomic Total Shoulder Arthroplasty Using the Same Humeral Stem. *Bone and Joint Journal.* 2023. In press.

29. **Neel, G. et al.** Prospective Observational Study of Anatomic and Reverse Total Shoulder Arthroplasty Utilizing a Single Implant System With Long-Term Follow-Up. Seminars in Arthroplasty: *JSES.* 2022.

30. **Reeves, J. et al.** Implications of Humeral Short Stem Diametral Sizing on Implant Stability. *JSES International.* 2023. In press.

31. **Roche, C. et al.** Impact of Screw Length and Screw Quantity on rTSA Glenoid Fixation for Two Different Sizes of Glenoid Baseplates. JSES Open Access. 2019 Nov 1;3(4):296-303.

32. **Magone, K. et al.** Short-Term Radiographic Analysis of a Stemless Humeral Component for Anatomic Total Shoulder Arthroplasty. *JSES International.* 2023. In press.

33. **Tramer J et al.** Comparison of humeral head resurfacing versus stemless humeral components in anatomic total shoulder arthroplasty: a multicenter investigation with minimum two-year follow-up. *Seminars in Arthroplasty: JSES.* 2023. In press.

34. **Friedman, R. et al.** Clinical and Radiographic Comparison of a Hybrid Cage Glenoid to a Cemented Polyethylene Glenoid in Anatomic Total Shoulder Arthroplasty. *J Shoulder Elbow Surg.* 2019 Dec;28(12):2308-2316.

35. **Virk, M. et al.** Clinical and Radiographic Outcomes with a Posteriorly Augmented Glenoid For Walch B2, B3, and C Glenoids in Reverse Total Shoulder Arthroplasty. *J Shoulder Elbow Surg.* 2020 May;29(5):e196-e204.

36. **Grey, S. et al.** Clinical and Radiographic Outcomes with a Posteriorly Augmented Glenoid for Walch B Glenoids in Anatomic Total Shoulder Arthroplasty. *J Shoulder Elbow Surg.* 2020 May;29(5):e185-e195.

37. **Liuzza, L. et al.** Reverse Total Shoulder Arthroplasty with a Superior Augmented Glenoid Component for Favard Type-E1, E2, and E3 Glenoids. *J Bone Joint Surg Am.* 2020 Nov 4;102(21):1865-1873.

38. **Gulotta, L. et al.** Clinical Outcomes of Augmented rTSA Glenoid Baseplates. *Seminars in Arthroplasty: JSES.* Vol 31, #4: 810-815. 2021. https://doi.org/10.1053/j.sart.2021.05.010.

39. **Levin, J. et al.** Reverse Shoulder Arthroplasty with and without Baseplate Wedge Augmentation in the Setting of Glenoid Deformity and Rotator Cuff Deficiency – A Multicenter Investigation. JSES. 2022. In press.

40. **Colasanti, C. et al.** Augmented Baseplates Yield Optimum Outcomes When Compared to Bone Graft Augmentation for Managing Glenoid Deformity During Reverse Total Shoulder Arthroplasty—A Retrospective Comparative Study. *JSES.* 2022. In press.

41. **Schoch, B. et al.** Characteristics of Anatomic and Reverse Total Shoulder Arthroplasty Patients Who Achieve Ceiling Scores with 3 Common Patient Reported Outcome Measures. *JSES.* 2022. In press.

42. **Friedman, RJ. et al.** Longitudinal Comparison of Long-term Clinical and Radiographic Outcomes for Cemented Keel, Cemented Peg, and Hybrid Cage Glenoids with Anatomic Total Shoulder Arthroplasty Using the Same Humeral Stem. *Bone and Joint Journal.* 2023. In press.

43. **Simovitch, R. et al.** Rate and Effect of Tuberosity Healing on Clinical Outcomes in Elderly Patients Treated with a Fracture Specific Reverse Shoulder Arthroplasty for Three and Four Part Proximal Humerus Fractures. *J Orthop Trauma.* 2019 Feb;33(2):e39-e45.

In vitro (bench) test results or laboratory testing may not necessarily be predictive of clinical performance.

Exactech is proud to have offices and distributors around the globe.
For more information about Exactech products available in your country, please visit www.exac.com

EXACTECH, INC.
2320 NW 66TH COURT
GAINESVILLE, FL 32653 USA

+1 352.377.1140
+1 800.EXACTECH
+1 352.378.2617 (FAX)
www.exac.com