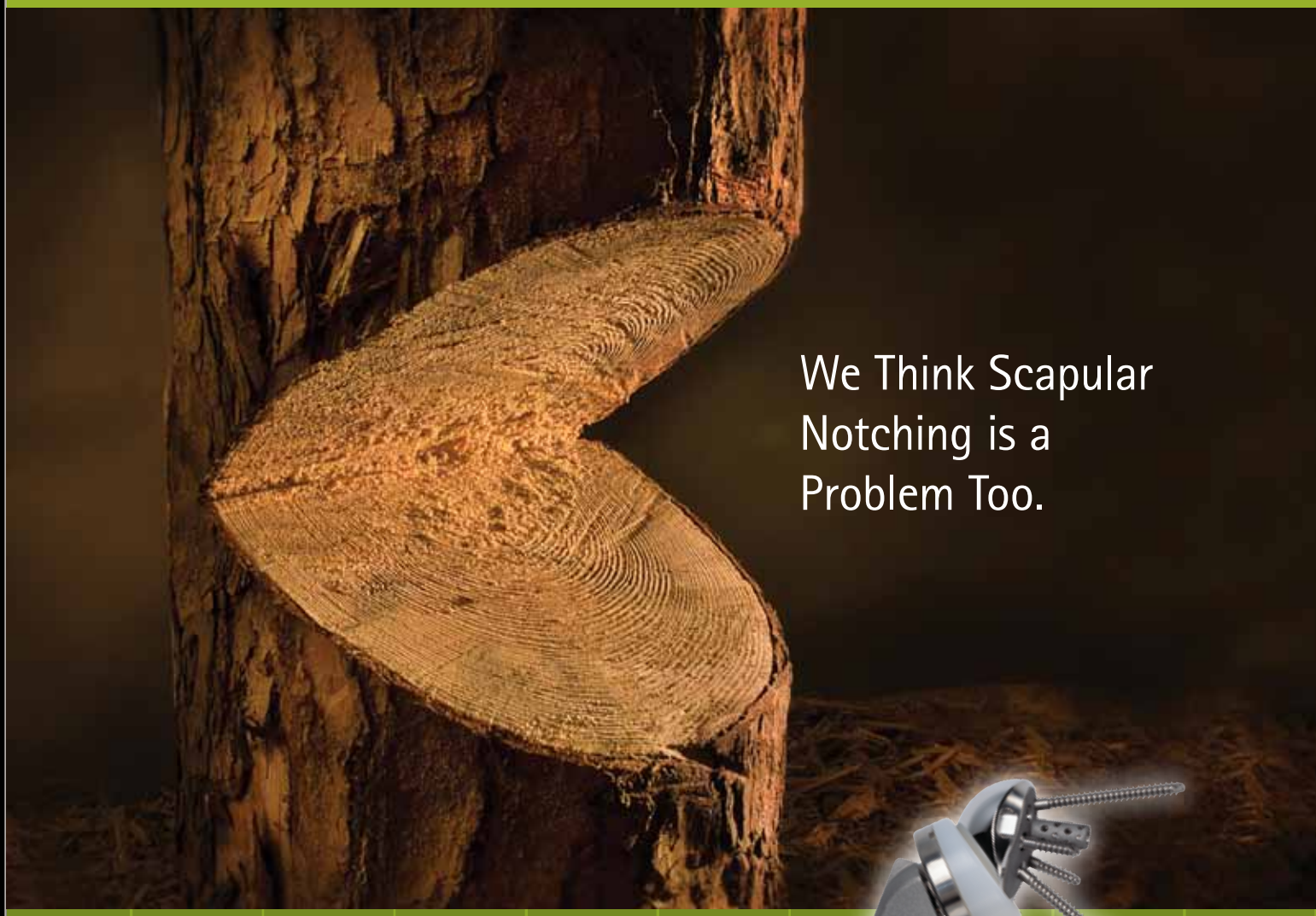
equinoxe®
SHOULDER SYSTEM

EQUINOXE® REVERSE DESIGN RATIONALE

- Minimized Scapular Notching
- Enhanced Glenoid Fixation
- Seamlessly Integrated System

equinoxe®
SHOULDER SYSTEM



We Think Scapular Notching is a Problem Too.

Minimized Scapular Notching

Grammont Style

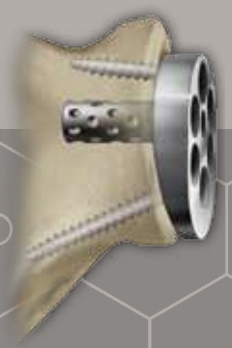
Equinoxe

Lateralized Humeral Components

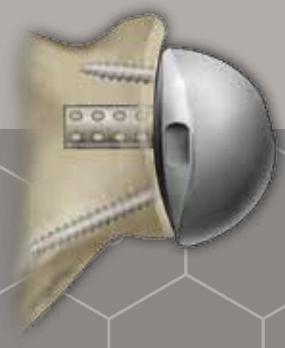
- The three larger diameter glenospheres (38, 42 and 46mm) lateralize the humerus (without lateralizing the center of rotation) and increase joint stability.[1,2]
- Decreasing the humeral neck angle to 145 degrees further lateralizes the humerus (without lateralizing the center of rotation) and helps restore anatomic tensioning of the remaining intact rotator cuff.[1,2] Additionally, placing the humeral tray on top of the resection eliminates the need to conically ream the proximal humerus, improves exposure and allows for larger glenospheres to be implanted (i.e., the size of the proximal humerus does not dictate the size of the glenosphere).

Greater Range of Motion

- The innovative glenoid baseplate design has a built-in offset which distally shifts the glenosphere to a position that prevents humeral liner impingement on the inferior glenoid. This offset negates the need for additional bone-consuming implantation techniques (i.e., inferiorly tilting the baseplate or pre-notching the bone).[1,2]
- The increased stability provided by the larger diameter glenospheres enable the humeral liners to be less constrained relative to other systems and thereby permits greater range of motion prior to impingement.[1,2]
- The extended glenosphere articular surface and chamfered sides maximize inferior overhang to minimize the potential for scapular notching and improve range of motion.

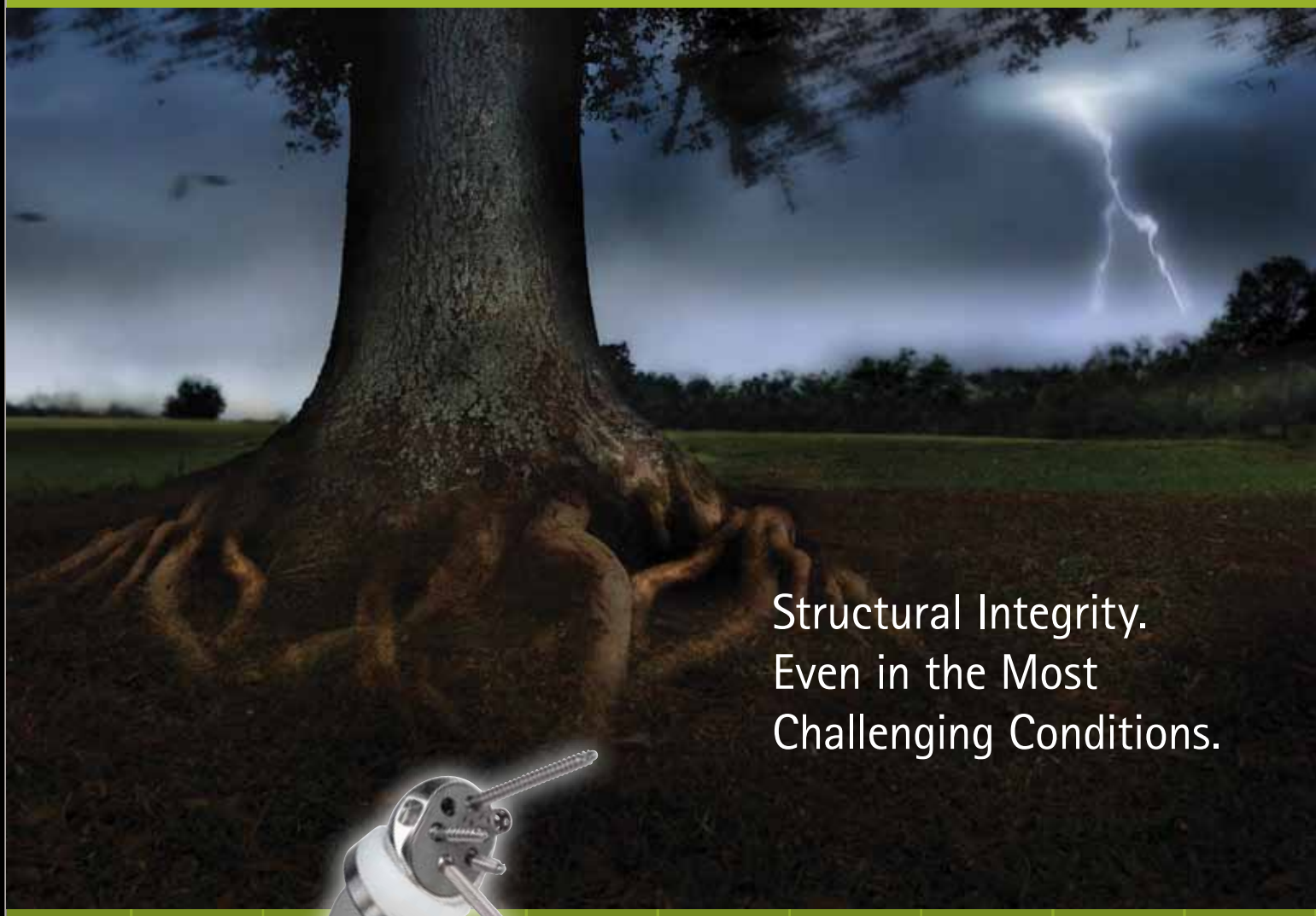


Innovative Baseplate



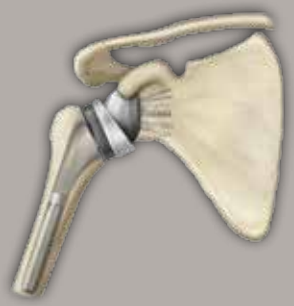
Larger Glenosphere

equinoxe®
SHOULDER SYSTEM



Structural Integrity.
Even in the Most
Challenging Conditions.

Enhanced Glenoid Fixation



Stable Construct

Minimized Torque on the Glenoid

- The larger diameter glenospheres result in a medialized center of rotation, thereby minimizing the torque on the glenoid. This medialized center of rotation has a long history of clinical success.[3]
- The curved back of the glenoid baseplate further enhances fixation by converting destabilizing shear forces into stabilizing compressive forces.

Multiple Options for Screw Placement

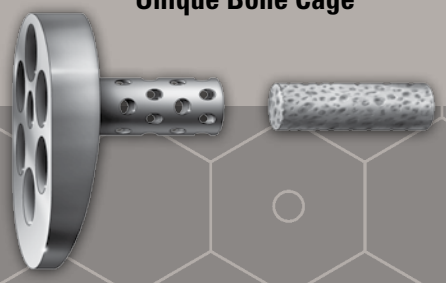
Strong Initial Fixation

- Strong initial fixation can be achieved with the press-fit bone cage of the glenoid baseplate, while the six-hole baseplate design provides up to 30 degrees of screw variability to ensure optimal compression screw placement and purchase, even in poor quality bone.[4]
- Locking caps are provided to secure the compression screws to the glenoid baseplate at the desired variable angle.
- Bench testing conducted on the Equinoxe® reverse quantified micromotion values at approximately half of those published with other systems measuring fixation using similar testing methodologies.[4,5,6,7]

Long-Term Biologic Fixation

- Unique to the Equinoxe, bone graft can be inserted into the cage to promote bone through-growth, which enhances the probability of long-term biologic fixation.

Unique Bone Cage



equinoxe®
SHOULDER SYSTEM

Seamlessly Integrated System

Revision of a TSA to a Reverse

Standardized Humeral Preparation

- The Equinoxe's platform system enables a surgeon to convert from a total shoulder to a reverse without humeral stem removal.
- Using the same humeral stem, humeral instrumentation and humeral osteotomy for both indications standardizes the procedure and empowers the surgeon to intra-operatively decide 'primary vs. reverse'.

Standardized Glenoid Preparation

- The offset bone cage of the glenoid baseplate is sized and positioned to be placed in the center of the glenoid to fill a central bone defect while distally shifting the glenosphere to ensure inferior overhang.
- The six screw holes of the glenoid baseplate are positioned to provide screw fixation, even when revising a pegged or keeled glenoid to a reverse shoulder.

Revision Potential of Pegged and Keeled Glenoid

Conclusion

Scapular notching is currently addressed in the marketplace with implant designs that either a) lateralize the center of rotation, which causes greater torque on the glenoid, or b) require additional bone-consuming surgical techniques such as inferiorly tilting the baseplate or pre-notching the bone.[8] Both of these options create the potential for long-term glenoid fixation challenges. The Equinoxe Reverse Shoulder, however, minimizes scapular notching exclusively in design while maintaining a medialized center of rotation without unnecessary bone consuming techniques. These critical attributes, along with the seamlessly integrated platform stem, differentiate the Equinoxe and provide a compelling reason for a surgeon to *Experience the Power of the Equinoxe*.

1. **Roche C, Flurin PH, Wright T, Crosby L, Mauldin M, Zuckerman J.** Geometric Analysis of the Grammont Reverse Shoulder Prosthesis: An Evaluation of the Relationship Between Prosthetic Design Parameters and Clinical Failure Modes. Proceedings of the 19th Annual Congress of the International Society for Technology in Arthroplasty; 2006 Oct 6-9; New York, NY.

2. **Roche C, Flurin PH, Wright T, Crosby L, Mauldin M, Zuckerman J.** An Evaluation of the Relationship between Reverse Shoulder Design Parameters and Range of Motion, Impingement and Stability. *J shoulder Elbow Surg.* Forthcoming.

3. **Boileau P, Watkinson DJ, Hatzidakis AM, Balg F.** Grammont Reverse Prosthesis: Design, Rationale and Biomechanics. *J Shoulder Elbow Surg.* 2005 Jan-Feb;14(1 Suppl S):147S-161S.

4. **Roche C, Flurin PH, Wright T, Crosby L, Zuckerman J.** Effect of Varying Screw Configuration and Bone Density on Reverse Shoulder Glenoid Fixation following Cyclic Loading. Poster presented at the 54th Annual Orthopaedic Research Society Meeting; 2008 Mar 2-5; San Francisco, CA.

5. **Harman M, Frankle M, Vasey M, Banks S.** Initial Glenoid Component Fixation in Reverse Total Shoulder Arthroplasty: A Biomechanical Evaluation. *J Shoulder Elbow Surg.* 2005 Jan-Feb; 14(1 Suppl S):162S-167S.

6. **Virani N, et al.** Experimental and Finite Element Analysis of Baseplate Micromotion in the Reverse Shoulder Design. Trans. of 53rd Annual ORS Meeting, 2007.

7. Data on file at Exactech.

8. **Nyffeler RW, Werner CM, Gerber C.** Biomechanical Relevance of Glenoid Component Positioning in the Reverse Delta III Total Shoulder Prosthesis. *J Shoulder Elbow Surg.* 2005 Sept-Oct;14(5):524-8.

352-377-1140
1-800-EXACTECH
www.exac.com

Exactech®

718-04-90
Equinoxe Reverse 0109

A Great Day in the O.R.™