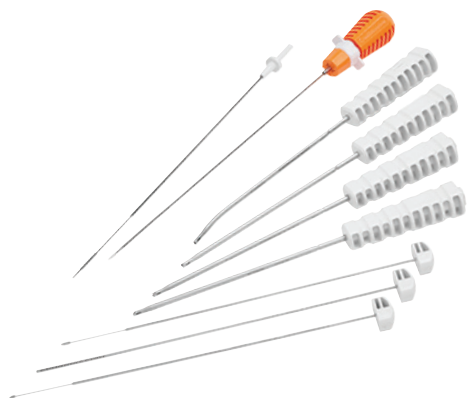


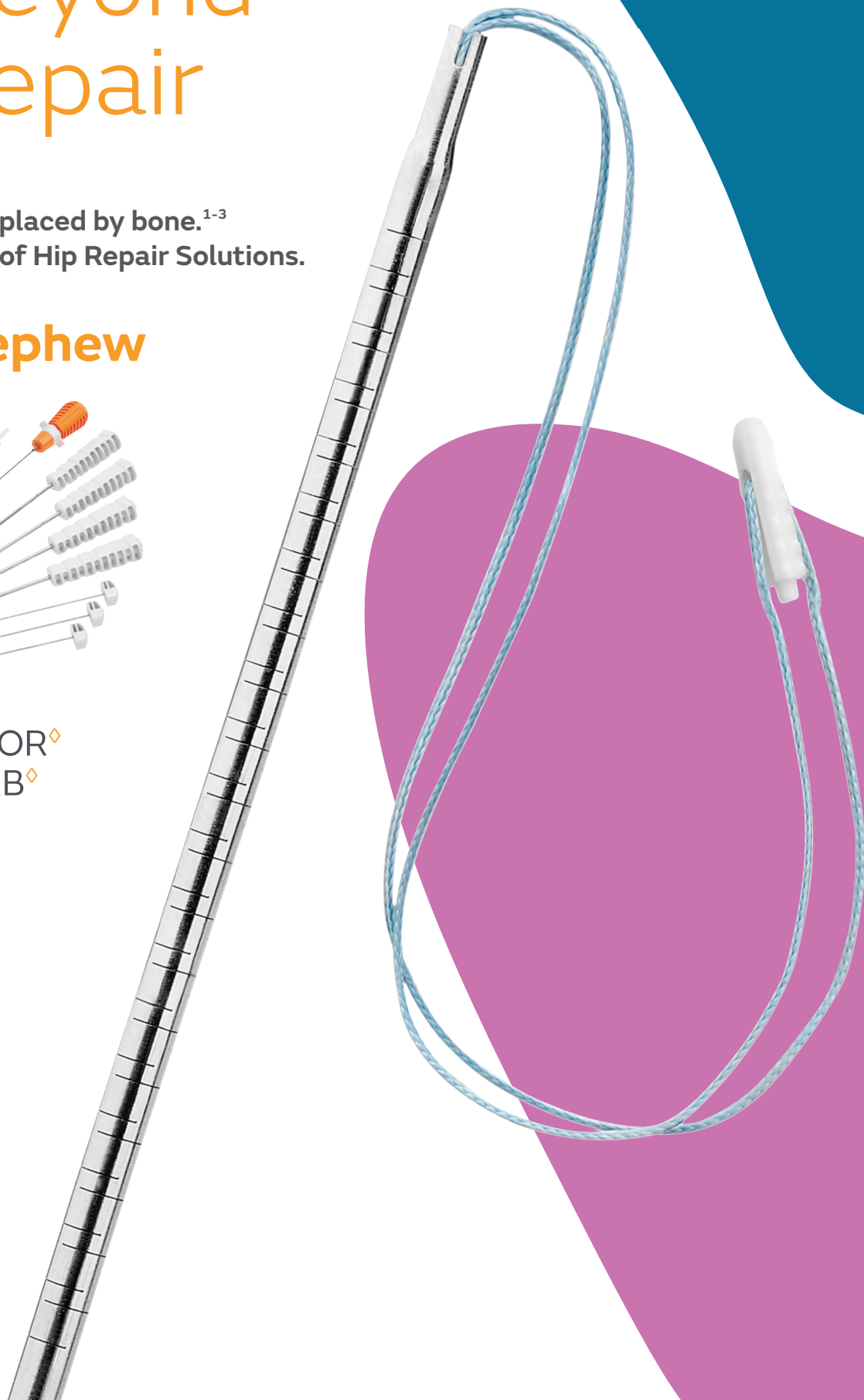
+ Go beyond the repair

Absorbed and replaced by bone.¹⁻³
An integral part of Hip Repair Solutions.

Smith+Nephew



MICRORAPTOR[◇]
REGENESORB[◇]
Suture Anchor



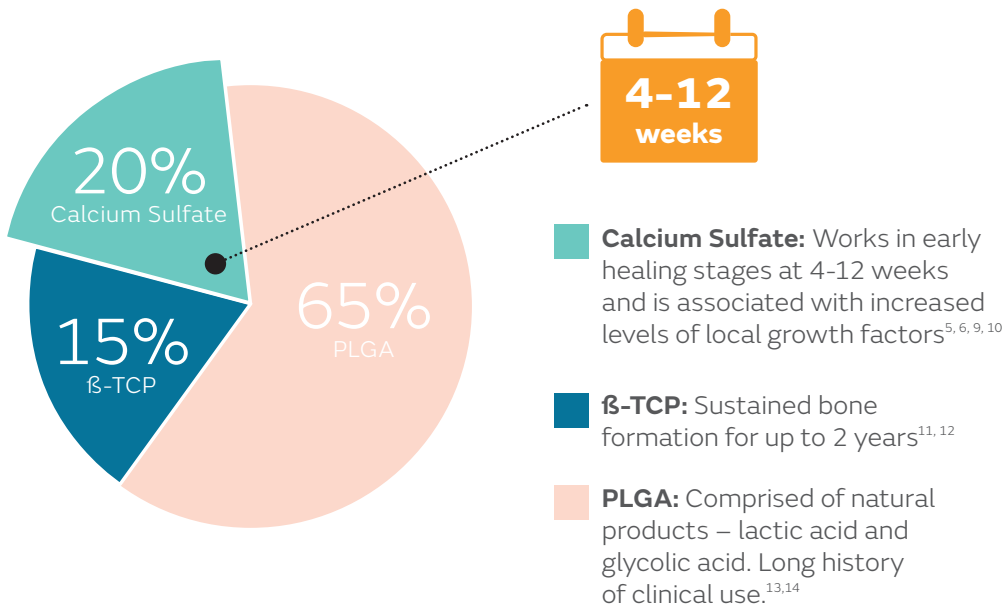


REGENESORB[®] material uses a novel poly (PLGA) based biocomposite material that contains **β -tricalcium phosphate (β -TCP) and calcium sulfate**, both accepted to be osteoconductive.⁴⁻⁷

Designed to provide a jump start in bone healing

A micro-class anchor with a shorter drill depth^{8*} that can be absorbed and effectively replaced by bone in 24 months¹⁻³ while providing a solid finished construct.

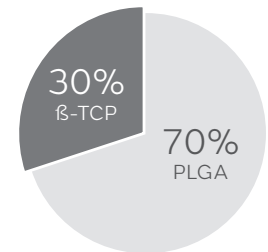
REGENESORB^o Material



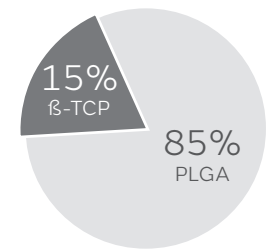
Most biocomposite materials rely solely on the osteoconductive properties of β-TCP. REGENESORB material contains two osteoconductive components – β-TCP and calcium sulfate – which act during different stages in the bone healing process and through different mechanisms of action, physical and biochemical. REGENESORB Material is unique in this regard.

No other biocomposite material can claim this.^{5,9,15}

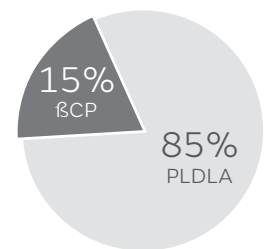
*Compared to Stryker NanoTack™, Mitek GRYPHON™ and Arthrex SutureTak™; benchtop testing performed in 2018



Mitek Biocryl^{o16}



Arthrex^o BioComposite^o Anchor¹⁷

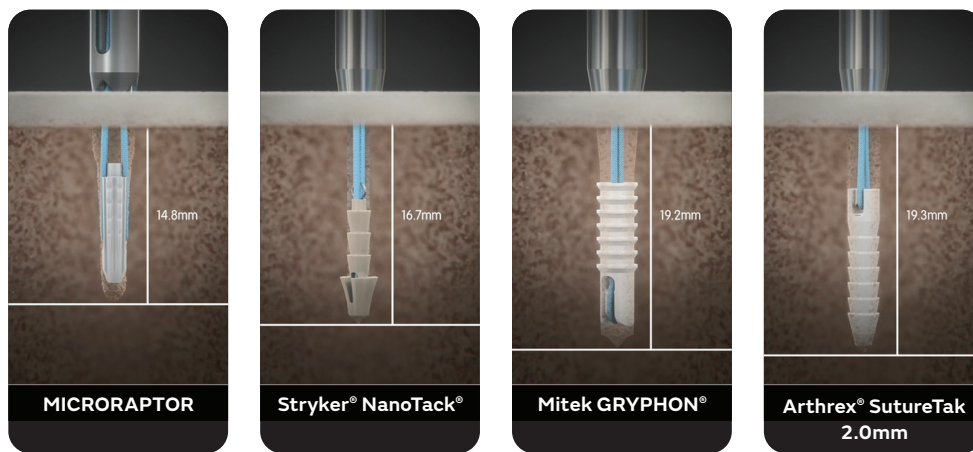


Arthrex^o BioComposite^o Screw¹⁷

MICRORAPTOR[◇] REGENESORB[◇] Anchor Features

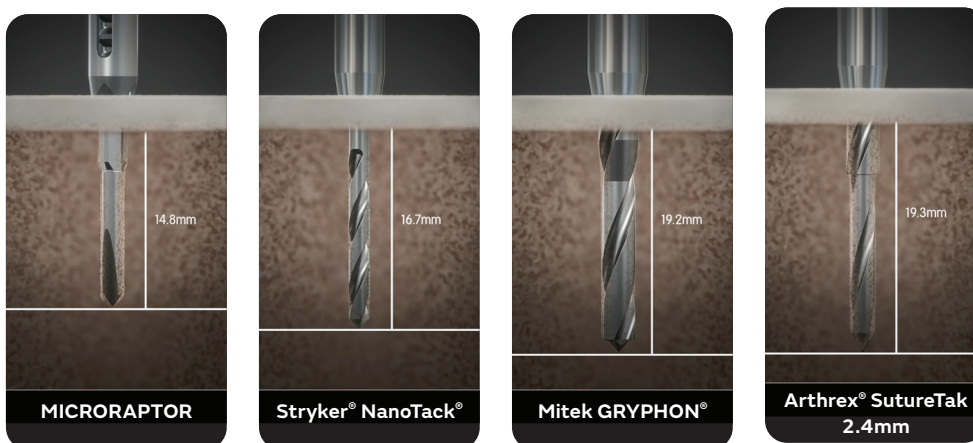
+ Smaller footprint

The MICRORAPTOR REGENESORB Suture Anchor's smaller footprint (2.95mm²*) area may allow you to place multiple anchors for increased points of fixation around the acetabulum, contributing to a secure repair.⁸



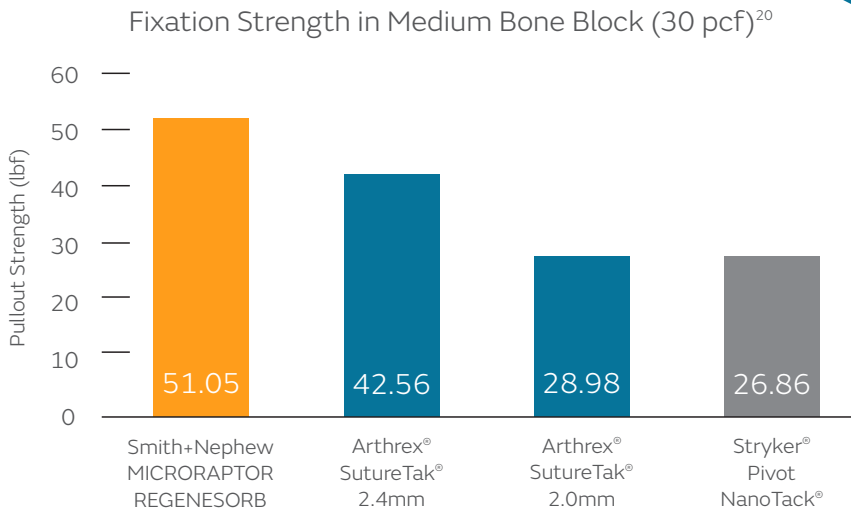
+ Shorter 15mm drill depth⁸

Shorter drill depth* which may minimise anatomic disruption.⁸



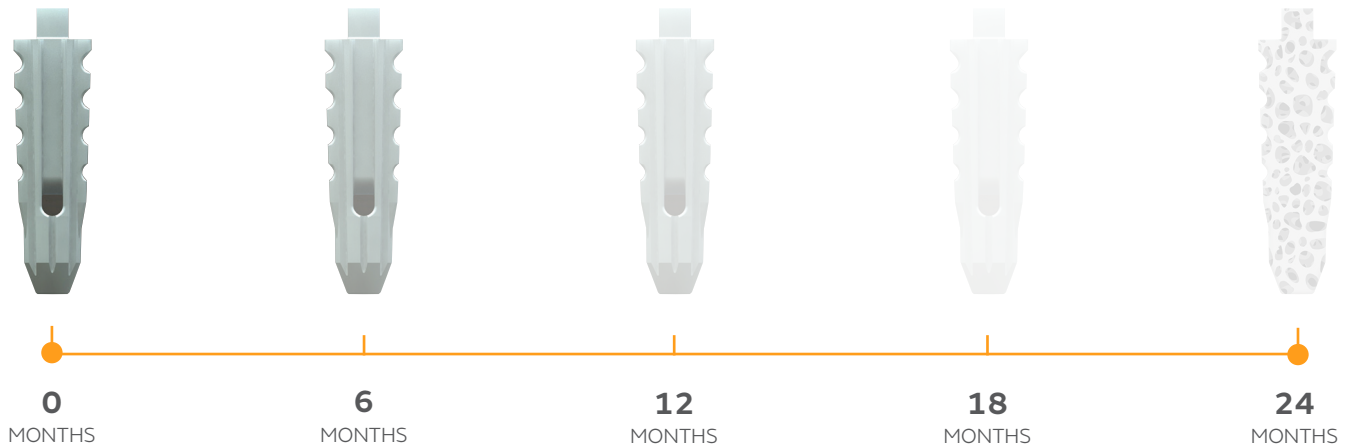
*Compared to Stryker NanoTack™, Mitek GRYPHON™ and Arthrex SutureTak™; benchtop testing performed in 2018

+ Higher fixation strength



+ Effectively replaced by bone¹⁻³

Smith+Nephew REGENESORB material is designed to remain mechanically stable for a minimum of six months* before being absorbed and replaced by bone within 24 months.**^{1-3, 18, 19}



* As demonstrated in vitro

** Demonstrated clinically and in vivo

Improved Access

The Curved Guide System allows access to challenging hip pathology²¹

MICRORAPTOR[®] REGENESORB[®] has the shortest drill depth among micro-class suture anchors* which may reduce the risk of articular surface perforation, bicortical perforation and converging tunnels.³

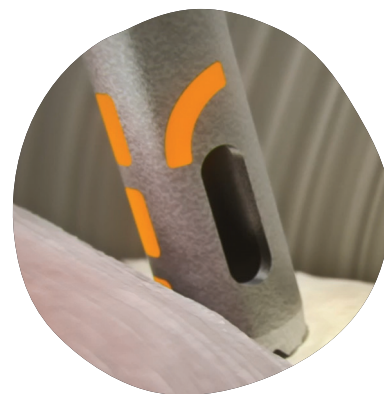
Curved and cannulated obturators available

By offering a flexible cannulated obturator option, the surgeon may use a curved or straight guide for a percutaneous approach.

*Compared to Stryker NanoTack™, Mitek GRYPHON™ and Arthrex SutureTak™; benchtop testing performed in 2018

+ Unique tactile and visual cues

The Curved Drill Guide has intuitive visual and tactile cues that facilitate drill guide positioning and anchor placement.



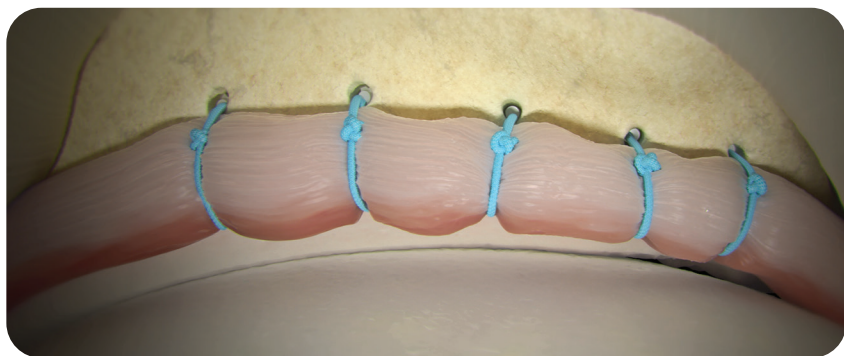
The posterior laser mark helps with orientation when in the hip. The crescent-shaped laser mark indicates the orientation of the curvature.



An 'orientation bump' provides tactile feedback that corresponds with the direction of the curve.

Hip indications

For hip labral repair, the Curved Drill Guide is designed to provide improved access to the acetabular rim when compared to traditional straight instruments. It allows for the anchor to be positioned closer to the articular side of the acetabular rim, with less risk for penetration of the articular cartilage when compared to straight delivery systems.^{21, 22}



Ordering information

MICRORAPTOR® REGENESORB® Suture Anchors

Reference	Description
72204983	MICRORAPTOR REGENESORB Suture Anchor with ONE ULTRABRAID® #1 Suture (Blue)
72204984	MICRORAPTOR REGENESORB Suture Anchor with ONE ULTRABRAID #1 Suture (Blue COBRAID)

MICRORAPTOR REGENESORB Drill Guides, Drills and Obturators

Reference	Description
72204988	MICRORAPTOR Drill, 1.6mm
72205267	MICRORAPTOR Hard Bone Drill, 1.8mm
72204991	MICRORAPTOR Drill Guide, Crown Tip
72204992	MICRORAPTOR Drill Guide, Spike Tip
72204993	MICRORAPTOR Drill Guide, Crown Tip, Curved
72204995	MICRORAPTOR Drill Guide, Fishmouth Tip
72204999	MICRORAPTOR Obturator, Blunt Tip, Cannulated
72205000	MICRORAPTOR Obturator, Blunt Tip, Cannulated
72205001	MICRORAPTOR Obturator, Trocar Tip

Learn more at smith-nephew.com

Sports Medicine
Smith & Nephew, Inc.
150 Minuteman Road
Andover, MA 01810

www.smith-nephew.com
T +978 749 1000
US Customer Service:
+1 800 343 5717

®Trademark of Smith+Nephew.
All trademarks acknowledged.
©2021 Smith+Nephew. All rights reserved. Printed in USA. 14715 V4 09/21

References

1. Vonhoegen J, John D, Hägermann C. Osteoconductive resorption characteristics of a novel biocomposite suture anchor material in rotator cuff repair. *Orthop Traumatol Surg Res.* 2019;14(1):12. **2.** Smith + Nephew 2010. Micro-CT and histological evaluation of specimens from resorbable screw study (RS-II / OM1-08) 24-month post-implantation. Internal Report WRP-TE045-700-08. **3.** Smith + Nephew 2016. HEALICOIL REGENESORB Suture Anchor – a study to assess implant replacement by bone over a 2 year period. NCS248. **4.** Hak DJ. The use of osteoconductive bone graft substitutes in orthopaedic trauma. *J Am Acad Orthop Surg.* 2007;15(9):525-536. **5.** Allison DC, Lindberg AW, Mirzayan R, Samimi B, Menendez LR. A Comparison of Mineral Bone Graft Substitutes for Bone Defects. *US Oncology and Hematol.* 2011. **6.** Constantino, Friedman. Synthetic Bone Graft Substitutes Otolaryngol Clin North Am. 1994 27(5):1037-1074. **7.** Ogose A, Hotta T, Kawashima H, et al. Comparison of hydroxyapatite and beta tricalcium phosphate as bone substitutes after excision of bone tumors. *J Biomed Mater Res B Appl Biomater.* 2005;72(1):94-101. **8.** Smith+Nephew 2018. MICRORAPTOR Geometric Claims. Internal Report. 15007769 Rev A. **9.** Walsh WR, Morberg P, Yu Y, et al. Response of a calcium sulfate bone graft substitute in a confined cancellous defect. *Clin Orthop Relat Res.* 2003(406):228-236. **10.** Calori GM, Mazza E, Colombo M, Ripamonti C. The use of bone-graft substitutes in large bone defects: Any specific needs? *Injury.* 2011;42(2):S56-S63. **11.** Arai E, Nakashima H, Tsukushi S, et al. Regenerating the fibula with beta-tricalcium phosphate minimizes morbidity after fibula resection. *Clin Orthop Relat Res.* 2005(431):233-237. **12.** Gaasbeek RD, Toonen HG, van Heerwaarden RJ, Buma P. Mechanism of bone incorporation of beta-TCP bone substitute in open wedge tibial osteotomy in patients. *Biomaterials.* 2005;26(33):6713-6719. **13.** Park K, Skidmore S, Hadar J, et al. Injectable, long-acting PLGA formulations: Analyzing PLGA and understanding microparticle formation. *J Control Release.* 2019;304:125-134. **14.** Chu C-C. Section IV:44, Biodegradable Polymeric Biomaterials: An Updated Overview. In: *The Biomedical Engineering Handbook.* Bronzino JD Ed. CRC Press.; 1995. **15.** Ogose A, Kondo N, Umezu H, et al. Histological assessment in grafts of highly purified beta-tricalcium phosphate (OSferions) in human bones. *Biomaterials.* 2006;27(8):1542-1549. **16.** Milewski MD, et al. Bone replacement of fast-absorbing biocomposite anchors in arthroscopic shoulder labral repairs, *AJSM.* 2012 1 **17.** Arthrex Inc. BioComposite SutureTak, BioComposite Corkscrew FT and BioComposite PushLock: An In Vitro Degradation Study, 2009. **18.** Smith+Nephew 2019 Verification, Microraptor Knotless Real Time Degredation. Revision B. Internal Report 15007134. **19.** Smith+Nephew 2019. Verification, Microraptor Knotless Accelerated Degredation. Internal Report 15007045. **20.** Smith+Nephew 2018. MICRORAPTOR Fixation Competitive Claims. Internal Report. 15007770 Rev A. **21.** Smith+Nephew 2018. Validation, MICRORAPTOR REGENESORB System. Internal Report. 15007391 Rev A. **22.** Nho SJ, Freedman RL, Federer AE, Mather RC 3rd, Espinoza Orias AA, Wang VM, Van Thiel GS. Computed tomographic analysis of curved and straight guides for placement of suture anchors for acetabular labral refixation. *Arthroscopy.* 2013 Oct;29(10):1623-7.