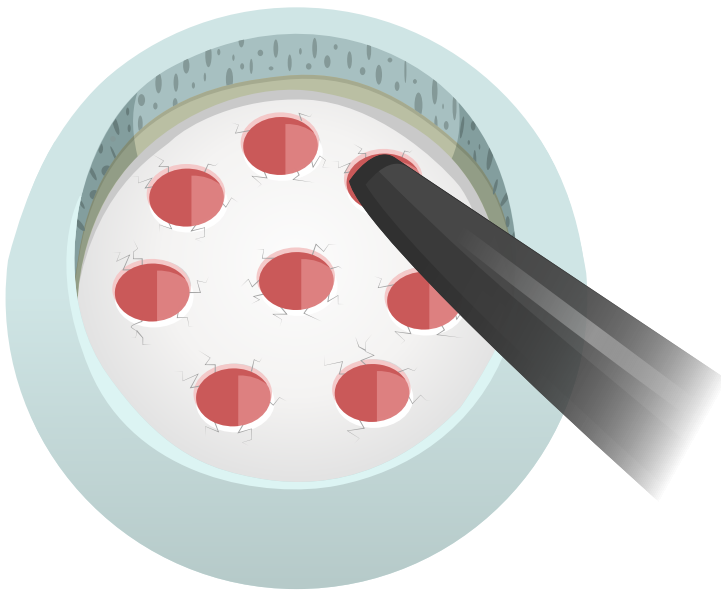
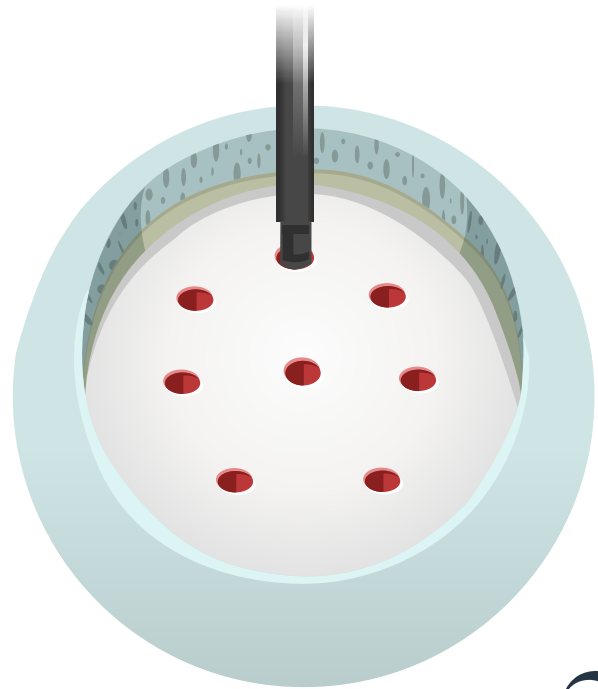


MORE STIMULATION & LESS DISRUPTION



Microfracture 1.0
LARGER, SHALLOW CHANNELS
LESS STIMULATION, MORE DISRUPTION
Channel Area=39.2mm²



Microfracture 2.0 = nano fx
SMALLER, DEEPER CHANNELS
MORE STIMULATION, LESS DISRUPTION
Channel Area=6.3mm²

SMALLER. DEEPER. BETTER. **PROVEN**

Backed by 12 peer reviewed studies, the science shows that there is a better way to Stimulate

2009 - Chen H, et al. Drilling and microfracture. J Orthop Res. 2009;27(11):1432-1438 **2011** - Chen H, et al. Depth of subchondral perforation. J Orthop Res. 2011 Aug;29(8):1178-84. **2011** - Chen H, et al. Characterization of subchondral bone repair. Am J Sports Med. 2011 Aug;39(8):1731-40. **2012** - Orth P, et al. Effect of subchondral drilling on the microarchitecture. Am J Sports Med. 2012 Apr;40(4):828-36. **2013** - Benthien JP, et al. Reviewing subchondral cartilage surgery. Int Orthop. 2013;37(11):2139-2145. **2013** - Hoemann CD, et al. Characterization of initial microfracture defects. J Knee Surg. 2013; 26(5):347-355. **2014** - Eldracher M, et al. Small subchondral drill holes improve marrow stimulation. Am J Sports Med. 2014 Nov;42(11):2741-50. **2016** - Orth P, et al. Small-Diameter Awls Improve Articular Cartilage. Am J Sports Med. 2016 Jan;44(1):209-19. **2016** - Gianakos AL, et al. The Effect of Different Bone Marrow Stimulation. Arthroscopy. 2016 May 24. pii: S0749-8063(16)00269-3. **2016** - Aspey B et al. Effect of Subchondral Bone Needling on Suture Anchor Pull Out Strength: A Cadaveric Study. EC Orthopaedics 4.6 (2016): 641-652. **2016** - Zedde P et al. Subchondral bone remodeling: comparing nanofracture with microfracture. An ovine in vivo study. Joints. 2016 Aug 18;4(2):87-93. **2016** - Zedde P et al. Second Generation Needling Techniques for the Treatment of Chondral Defects in Animal Model. Joints. 2017 Jun 5;5(1):27-33.



Visit Arthrosurface.com/nanofx to **SCHEDULE A DEMO**