Sports Medicine

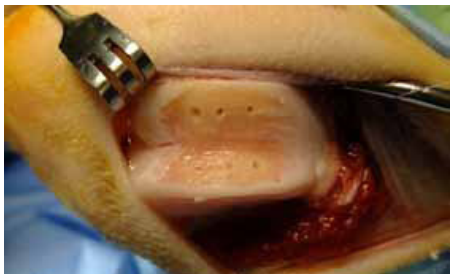
Evidence Matters

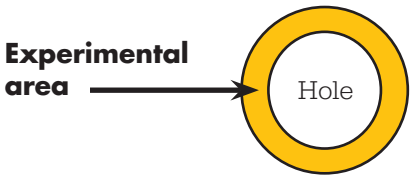
Research Bulletin

Stryker MicroFX OCD (OsteoChondral Drill) Results in Less Bone Compaction Around Microfracture Holes[1]

Top-Level Summary:

The density of the bone was compared around microfracture holes created with the Stryker MicroFX OCD and the Linvatec awl. **The Stryker MicroFX OCD drill resulted in significantly less bone compaction immediately around the microfracture hole.**[1]





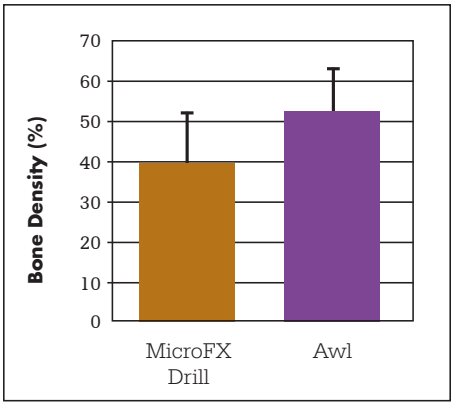
Methods:

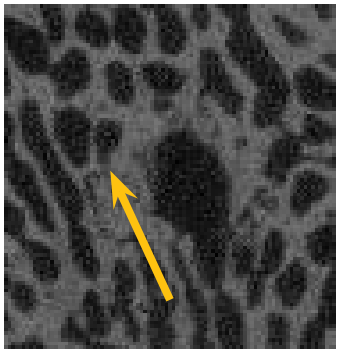
Microfracture holes were created in the condyles of six goats using either a 45 degree MicroFX OCD or a 45 degree awl. After 3 days the knees were harvested and the density of the bone in a cylindrical area from 0 to 0.5 mm adjacent to the microfracture hole was evaluated using microCT (uCT 80; SCANCO Medical, Bassersdorf, Switzerland). Significant differences were assumed at $p \leq 0.05$.

Results:

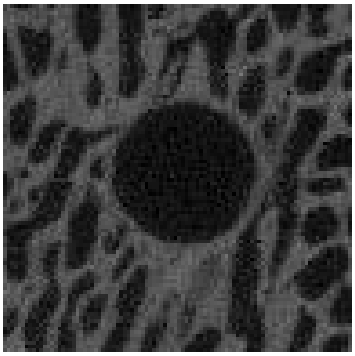
The bone around microfracture holes created with the drill was significantly less dense and had a consistent density when compared to the bone around holes created with the awl.

The bone around the microfracture holes created by the awl was very dense on one side - the side away from the direction of impaction (shown as a yellow arrow) and was less dense on the opposite side.





Awl



MicroFX OCD Drill

Clinical Relevance:

The Stryker MicroFX OCD drill resulted in significantly less bone compaction immediately around the microfracture hole providing more open channels for blood flow into the defect. Since the objective of creating microfracture holes is to encourage the flow of blood (with healing elements) into the defect in order to facilitate healing of chondral defects,[2] use of the OCD drill may result in excellent blood flow.

References:

1. Technical Report #RD13-019 Rev. 1
2. Steadman JR, Rodkey WG, Briggs KK "Microfracture: Its History and Experience of the Developing Surgeon" Cartilage 1(2) 78-86, 2010.

5670 Greenwood Plaza Blvd. Ste. 200
Greenwood Village, CO 80111
t: 201 831 5000
www.stryker.com
www.sportsmedicine.stryker.com

MFOCD-MM-2 Rev B

Printed in USA