Looking to grow bone in the **foot & ankle?**

Meet **MagnetOs**™

Powered by **NeedleGrip**™ surface technology to harness the immune system and stimulate bone growth

MAGNETOS
for predictable fusions

Kuros Biosciences

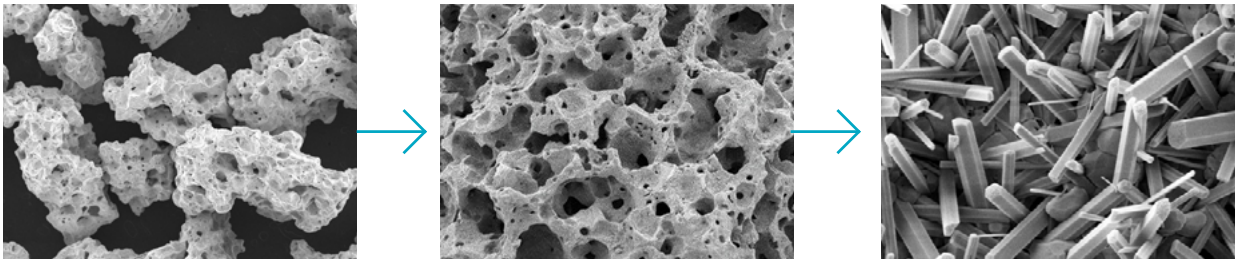
Foot & Ankle

MagnetOs: harnesses the immune system to stimulate bone formation

MagnetOs is ideally suited to foot and ankle surgery. Supported by a wealth of clinical evidence, it grows bone on its own thanks to NeedleGrip – a proprietary submicron surface technology that harnesses the immune system to stimulate bone growth without the need for added cells or growth factors.*†‡§[1-6]

MagnetOs also delivers predictable handling and performance for hindfoot, midfoot and forefoot. And it's brought to you by Kuros Biosciences.

Explore how NeedleGrip makes a difference – watch the magnification video at 25x, 50x, and 20,000x.



1mm; 25x magnification *500µm; 50x magnification* *2µm; 20,000x magnification*

Show me the 20,000x magnification

Why MagnetOs for the foot and ankle?

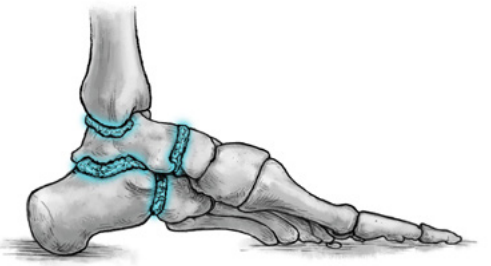
MagnetOs is a novel advanced synthetic bone graft, distinguished by its supporting evidence, surgical handling, and bone growth mechanism. But why is this beneficial for foot and ankle fusions?

Proven Level I clinical evidence¶[7]

Predictable handling and designed to stay put[8,9]

Powered by NeedleGrip submicron surface technology†§[2]

The problem



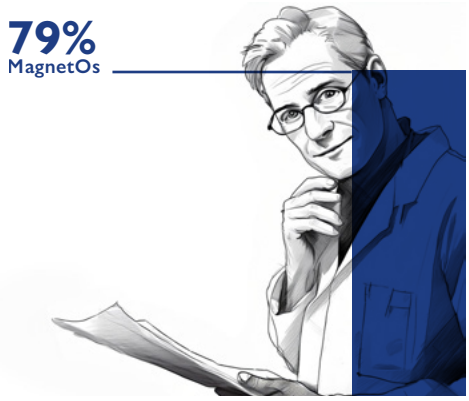
The solution

View our MagnetOs Global Research Summary

Proven Level I clinical evidence[7]

At Kuros Biosciences we go beyond what's required. While the FDA primarily requires animal data for clearance, we believe surgeons and patients deserve more.[10] That's why we continue to make significant investments in robust human clinical studies to provide the highest level of evidence and confidence in MagnetOs.

To put that into perspective, MagnetOs is the subject of Level I human clinical studies, including one demonstrating nearly double the fusion rate of autograft.



One-year fusion rates from a Level I investigator-led, randomized, controlled, intrapatient, multi-center human clinical trial for posterolateral fusions (PLF) in spine.[7]

Where there's smoke, there's fusion

Among active smokers, MagnetOs achieved more than twice the fusion rate of autograft in a Level I human clinical study.[#‖7,11]

High fusion rates in a challenging patient population[12]

1 in 5 active smokers
(19% of patients)

One-year fusion results in active smokers[‖7,11]

	MagnetOs (levels fused)	**Autograft** (levels fused)
Smokers	**74%** (20/27)	**30%** (8/27)

Based on 27 fused segments from 19 active smokers with one-year CT follow-up

Grow bone
with **MagnetOs**™

Show me the Level I study

Predictable handling and designed to stay put*‡[13]

MagnetOs is ideally suited to the unique challenges of foot and ankle surgeons. Available in multiple formulations, it is ready-to-use and provides exceptional versatility in handling.

Designed to stay put

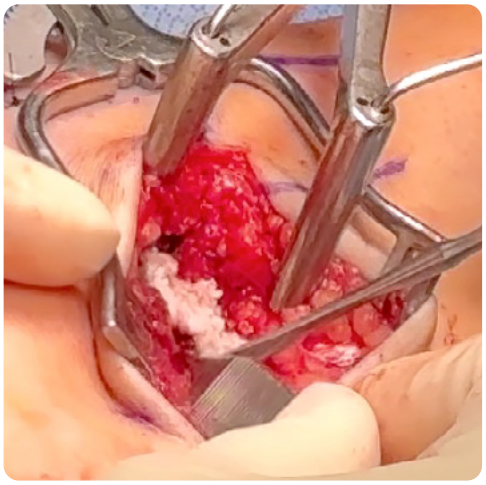
The robust formulation is designed to withstand some of the common challenges faced by foot and ankle surgeons – including joint compression, irrigation, and leaking.[14]

Ready when you are

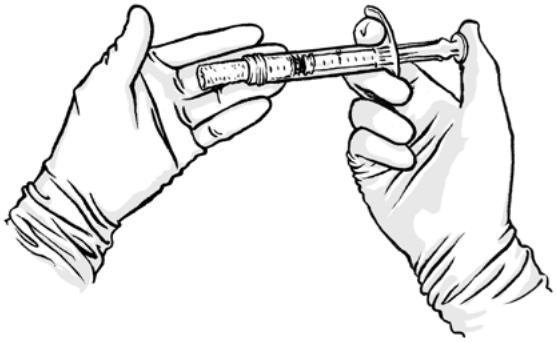
MagnetOs is ready-to-use with no mixing, thawing, or specialized storage requirements – saving you valuable time in the operating room.

Versatile handling

Use MagnetOs your way in the hindfoot. Twist it, tear it, fold it, and mold it to fill even the most difficult-to-access joint spaces.[5]



Example image of MagnetOs Easypack Putty placement in a subtalar joint



Softest formulation with MagnetOs Easypack Putty

Firm but moldable formulation with MagentOs Putty

Show me a real subtalar fusion featuring MagnetOs

Powered by NeedleGrip submicron surface technology[†§2]

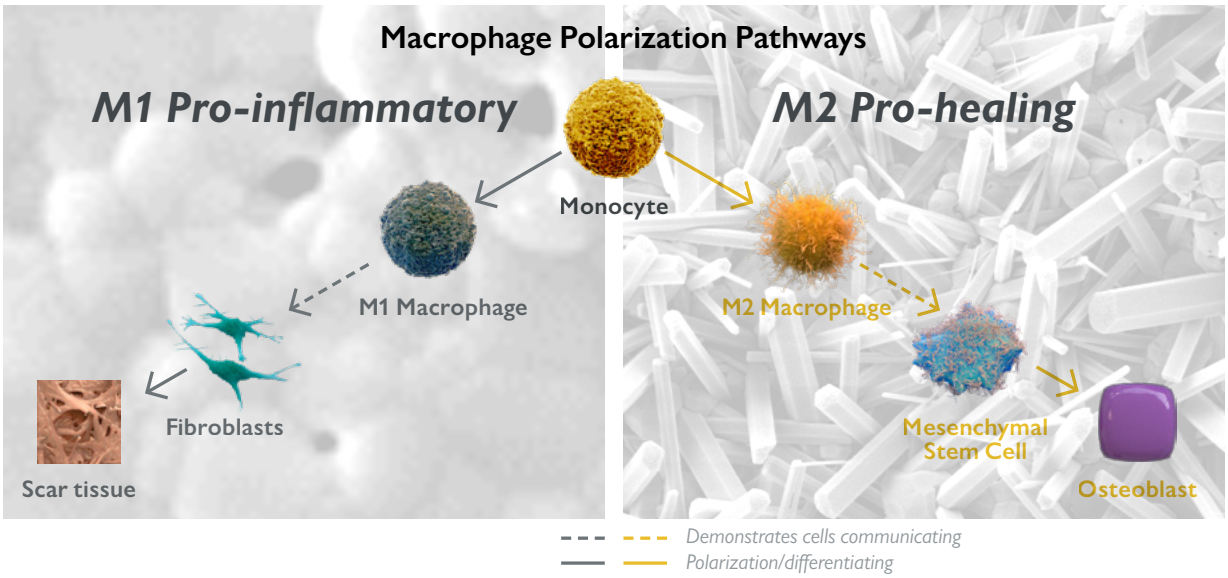
MagnetOs grows bone on its own thanks to NeedleGrip – a proprietary submicron surface technology that harnesses the immune system to stimulate bone growth without the need for added cells or growth factors.[*†‡§1-6]

As the immune system's 'first responders', monocytes react to their environment by polarizing into different cell types.[15] This in turn unlocks previously untapped potential to stimulate stem cells - and form new bone throughout the graft.[†‡7,13,14]

Harnessing the immune system via macrophage polarization

Conventional surface
Vitoss® bone graft surface

NeedleGrip surface technology
MagnetOs bone graft

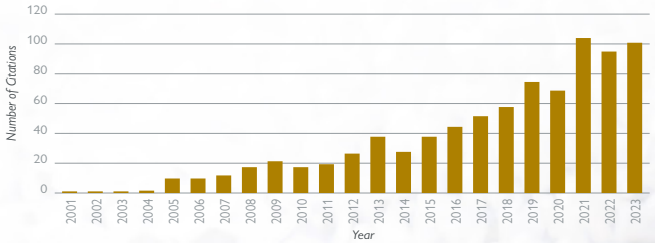


M1 pro-inflammatory pathway: Macrophages polarize to the M1 phenotype, which then polarize to M1 phenotype, which are pro-inflammatory and promote fibroblast proliferation, often leading to scar tissue.[15]

M2 pro-healing pathway: Macrophages polarize to the M2 phenotype, which then polarize to M2 phenotype, which are pro-healing and upregulate stem cells to create bone.[15,16] MagnetOs NeedleGrip surface technology has been shown in pre-clinical studies to enhance the pathway to M2 macrophages.[*†1,2]

Osteoimmunology: a growing body of scientifc research

PubMed search query: Osteoimmunology count



Needlegrip is made possible due to advancements in the field of osteoimmunology over the last 20 years.[17,18]

Research centers around the globe are investigating the role our immune response plays in bone regeneration.

Show me how MagnetOs works

Kuros Biosciences

Our purpose: dedication to foot and ankle fusion biology

Evidence isn't optional for Kuros. Through our Project Fusion global research, development and technology program we are committed to generating high-quality evidence, including in foot and ankle, enabling our team to discover, develop, and deliver innovative biologic technologies with one goal in mind: To give foot & ankle surgeons the confidence to make evidence-based decisions for their patients.

Versatile handling options for hindfoot, midfoot, or forefoot

MagnetOs is most commonly used in hindfoot fusions – specifically, triple arthrodesis, subtalar fusions, and standalone talonavicular fusions. However, it can also be an effective choice for charcot, midfoot fusions, and even forefoot fusions. We offer five formulations cleared for foot and ankle surgery – all of which can be used either standalone or as an extender to autograft:

Indication	**MagnetOs** Easypack Putty	**MagnetOs** Putty	**MagnetOs** Granules
Extremities fusions and trauma	✓	✓	✓
Standalone or mixed	✓	✓	✓
Product characteristics	• Pre-filled syringe • Ready-to-use • Softer mold-ability	• Ready-to-use • Firmer mold-ability	• Strong, proven foundation
			

* Results from in vitro or in vivo laboratory testing may not be predictive of clinical experience in humans. For important safety and intended use information please visit kurosbio.com.
† MagnetOs is not cleared by the FDA as an osteoinductive bone graft.
‡ In large animal models.
§ MagnetOs has been proven to generate more predictable fusions than two commercially available alternatives in an ovine model of posterolateral fusion.
¶ Even though the primary aim of the current study was to demonstrate noninferiority, the findings indicate superiority of the BCP<µm (MagnetOs) in terms of CT-determined PLF at one year. The McNamar test, with a noninferiority margin of 15%, confirmed the noninferiority of MagnetOs with an absolute difference in paired proportions of 39.6% (95% CI = 26.8-51.2, $p<0.001$).
# 19 of initial 100 subjects were active smokers.
|| Radiographic fusion data of the smoker subgroup were not statistically analyzed as a subgroup and were not included in the peer-reviewed publication of the study.[7]

References: 1. Van Dijk, et al. *eCM*. 2021;41:756-73. **2.** Duan, et al. *eCM*. 2019;37:60-73. **3.** Van Dijk, et al. *J Immunol Regen Med*. 2023;19:100070. **4.** Instructions for Use (IFU) MagnetOs Granules (US). **5.** Instructions for Use (IFU) MagnetOs Putty (US). **6.** Instructions for Use (IFU) MagnetOs Easypack Putty (US). **7.** Stempels, et al. *Spine*. 2024;49(19):1323-1331. 8. Data on File. **9.** Fusco TA, et al. *FASTRAC*. 2022;2(1):100150. **10.** U.S. Food and Drug Administration. (n.d.). Content of a 510(k). Retrieved May 7, 2025, from https://www.fda.gov/medical-devices/premarket-notification-510k/content-510k. **11.** Van Dijk, LA. 24th SGS Annual Meeting (SwissSociety of Spinal Surgery). Basel, Switzerland. Aug 2024. **12.** Berman, et al. *Int J Spine Surg*. 2017;11(4):29. **13.** Van Dijk, et al. *Clin Spine Surg*. 2020;33(6):E276-E287. **14.** Data on File. **15.** Italiani, et al. *Front Immunol*. 2014;5:514. **16.** Loi, et al. *Stem Cell Res Ther*. 2016;7:15. **17.** Van Dijk et al. *JOR Spine*. 2018;e1039. **18.** Van Dijk et al. *J Biomed Mater Res*. Part B: Appl Biomater. 2019; 107(6):2080-2090.

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Grow bone with **MagnetOs**™

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