



# Hyalofast<sup>®</sup>

*The Scaffold for Cartilage Repair*

Clinical Evidence Compendium



**Anika.** *Restore Active Living.*<sup>™</sup>

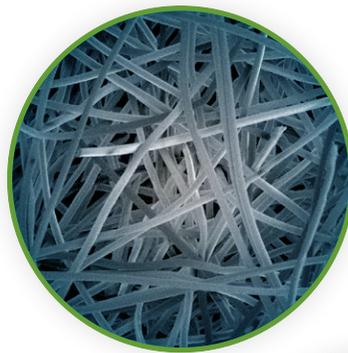
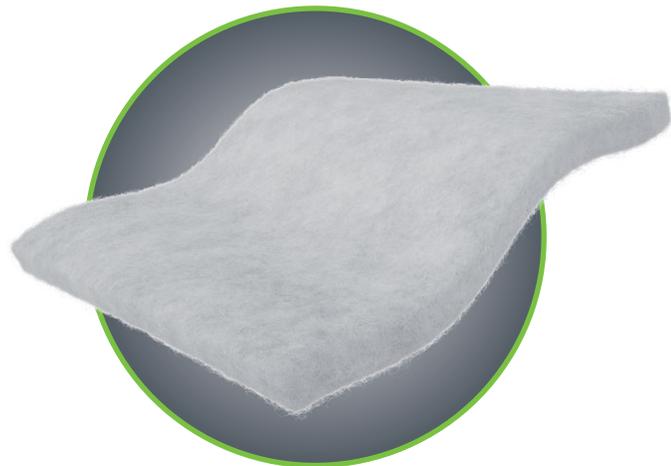
# Hyalofast Clinical Evidence Compendium

Hyalofast is a hyaluronic acid scaffold designed for the one-stage treatment of chondral and osteochondral lesions.<sup>1</sup>

Made from HYAFF<sup>®</sup>, Anika's proprietary non-animal HA fiber technology, it offers a biocompatible and biodegradable solution that resorbs in vivo over approximately six months.<sup>2</sup>

Its 3D fibrous structure supports mesenchymal stem cell (MSC) adhesion and entrapment,<sup>3</sup> while its degradation creates an HA-rich environment that promotes MSC differentiation and chondrogenesis.<sup>4,5,6</sup>

Hyalofast is suitable for arthroscopic or mini-open implantation and is backed by over 14 years of clinical data demonstrating significant and durable improvements in pain and function.<sup>7</sup>



# The Evidence for Superior Cartilage Regeneration in the Ankle

## Hyalofast + BMAC

CLINICAL EVIDENCE	CLINICAL REFERENCE
Excellent clinical and MRI results at short and medium term in osteochondral ankle defects	1, 2, 3, 4, 7
Hyaline-like cartilage regeneration was verified via second-look biopsies, arthroscopies, or MRI T2 mapping	1, 2, 3, 4, 5
Clinical results at medium-term follow-up superior to nanofracture alone	5
Clinical results equivalent to matrix-induced ACI (MACI) at medium term follow-up	3, 4
Durable results up to a minimum of 10 years in osteochondral lesions of the talus	6

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2. **Battaglia M, et al.** Validity of T2 mapping in characterization of the regeneration tissue by bone marrow derived cell transplantation in osteochondral lesions of the ankle. Eur J Radiol. 2011 Nov;80(2):132-9
3. **Giannini S, et al.** Cartilage repair evolution in post-traumatic osteochondral lesions of the talus: From open field autologous chondrocyte to bone-marrow-derived cells transplantation. Injury. 2010 Nov;41(11):1196-203
4. **Buda R., et al.** Regenerative treatment in osteochondral lesions of the talus: autologous chondrocyte implantation versus onestep bone marrow derived cells transplantation. Int Orthop. 2015 May;39(5):893-900
5. **Tahta M et al.** Arthroscopic treatment of osteochondral lesions of the talus: nanofracture vs Hyaluronic acid-based cell-free scaffold with concentration of autologous bone marrow aspirate. J Orthop Surg 25(2): 1-5, 2017
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7. **Manti N. et al.** Functional and radiographic outcomes of talar osteochondral lesions repaired with a combination of autologous bone graft, cell-free hyaluronic acid-based scaffold, bone marrow aspirate concentrate (BMAC) and fibrin glue. International Orthopaedics (2025) 49:1667–1677.

# The Evidence for Superior Cartilage Regeneration in the Knee

## Hyalofast + BMAC

CLINICAL EVIDENCE	CLINICAL REFERENCE
Excellent clinical and MRI outcomes were observed at short- and medium-term follow-up, including in patients with osteochondritis dissecans (OCD)	1, 2, 3, 5, 6
Hyaline-like cartilage regeneration was confirmed through second-look biopsies, arthroscopies, or MRI T2 mapping	1, 2, 3, 4, 6
Effective treatment for large patellofemoral chondral defects with results stable up to medium term	4, 8
Effective treatment for large knee chondral defects in patients over 45 years with results stable up to medium term follow-up	6
Clinical results at medium-term follow-up superior to microfracture alone	5
Clinical results equivalent to matrix induced ACI (MACI) at medium term follow-up	4
Good to excellent clinical outcomes in cartilage lesions of the knee at long-term follow-up	9, 10, 15

## Hyalofast + MFX

CLINICAL EVIDENCE	CLINICAL REFERENCE
Good clinical and MRI outcomes superior to microfracture alone at short term follow-up	7
Statistically significant clinical and MRI improvement were observed and remained stable through short- to medium-term follow-up, including in middle-aged patients.	11, 12, 13, 14, 16
Hyalofast combined with microfracture (MFX) treatment, followed by a full weight-bearing rehabilitation program initiated one day post-operatively, significantly reduces the time required for athletes to return to their pre-injury performance level—even in individuals over 45 years of age.	14, 16

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5. **Gobbi A, et al.** One-Stage Cartilage Repair Using a Hyaluronic Acid-Based Scaffold with Activated Bone Marrow-Derived Mesenchymal Stem Cells Compared with Microfracture: Five-Year Follow-up. *Am J Sports Med.* 2016 Nov;44(11):2846-2854
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8. **Buda R et al.** A useful combination for the treatment of patellofemoral chondral lesions: realignment procedure plus mesenchymal stem cell-retrospective analysis and clinical results at 48 months follow-up. *Eur J Orthop Surg Traumatol.* 2019 Feb;29(2):461-470
9. **Gobbi A et al.** Long-term Clinical Outcomes of One-Stage Cartilage Repair in the Knee with Hyaluronic Acid-Based Scaffold Embedded with Mesenchymal Stem Cells Sourced from Bone Marrow Aspirate Concentrate. *Am J Sports Med.* 2019 Jun;47(7):1621-1628.
10. **Buda R et al.** Osteochondral Lesions of the Femoral Condyles: Are the Results of the One-Step Repair Technique Still Satisfactory at Longterm? *Abstarct ISAKOS congress 12-15 May 2019*
11. **Chen Chou AC et al.** Clinical Outcomes of an All-Arthroscopic Technique for Single-Stage Autologous Matrix-Induced Chondrogenesis in the Treatment of Articular Cartilage Lesions of the Knee. *Arthrosc Sports Med Rehabil.* 2020 Jun 26;2(4):e353-e359
12. **Tan SI, et al.** Biological resurfacing of grade IV articular cartilage ulcers in knee joint with Hyalofast.. *J Orthop Surg (Hong Kong).* 2020 Jan-Apr;28(1):2309499020905158
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15. **Whyte G, et al.** One-Step Cartilage Repair of Full-Thickness Knee Chondral Lesions Using a Hyaluronic Acid-Based Scaffold Embedded with Bone Marrow Aspirate Concentrate Long-term Outcomes After Mean Follow-up Duration of 14 Years. *Am J Sports Med.* 2024 Dec;52(14):3561-3568.
16. **Kacprzak B, et al.** Effective Treatment of Cartilage Abnormalities in Middle-Aged Individuals (Aged 45-60): Bounding Molecular Biology with Microfracture and Hyalofast Membrane Approach Show Positive Outcomes. *Cell Physiol Biochem* 2025;59:100-115.

# Unique composition, unique characteristics



## ONE STEP

No need for 2nd surgery



## VERSATILE

Arthroscopic or mini open, chondral/osteochondral lesions, MFX or BMAC



## ADAPTABLE

Conformable, foldable, stackable, cut/tear to shape, 2 sizes available



## FAST

Self adherent, no need for secondary fixation, apply either side up



## HA RELEASE

Favourable micro-environment for regeneration



## SAFE

100% natural, non-animal sourced ultra-pure HA

### Hyalofast is indicated for the repair of chondral or osteochondral defects in knee and ankle:

- ICRS grade III and IV
- Symptomatic or asymptomatic
- Single or multiple

### Caused by:

- Acute trauma
- Repeated micro-trauma
- Instability and/or malalignment (in association with reconstructive and/or corrective surgery)
- Osteochondritis Dissecans (OCD)

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### Anika Therapeutics S.r.l.

Corso Stati Uniti 4/U - 35127 Padova, Italy

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