

MeRG®

ORTHOPAEDICS

Collagen membrane
for guided regeneration
of osteochondral defects



MERG®

DOUBLE-LAYER COLLAGEN MEMBRANE

Collagen membrane for guided regeneration of osteochondral defects

MeRC® is a two-layer membrane based on type I collagen obtained from equine tendon, also available with a template for measuring the defect.

MeRC® is designed to support the regeneration of focal cartilage lesions involving the subchondral bone.

It is used in combination with bone marrow stimulation techniques (such as Steadman microfractures), creating an ideal environment for tissue healing and reconstruction.

PROPERTIES



DOUBLE-LAYER
MEMBRANE



COMPLETELY
RESORBABLE



STRUCTURAL INTEGRITY EVEN
AFTER HYDRATION

THE BENEFITS



BIOLOGICAL CHAMBER

Maintains mesenchymal cells *in situ*, thus preventing them from being washed away and allowing them to reach a high concentration.



SUPERCOAGULUM

Composed of high concentrations of cells and growth factors, allows for accelerating tissue healing.



2 MEMBRANES IN 1

The smooth side protects and insulates the graft site, while the rough side allows for better fluid absorption and therefore easier stabilisation.

WHEN TO USE

MeRG® is indicated for the treatment of:

- Grade III and IV focal cartilage lesions according to the Outerbridge classification, with subchondral bone involvement
- Defect size > 2 cm²
- Defect depth of 5–6 mm

- KNEE
- SHOULDER
- ANKLE AND FOOT



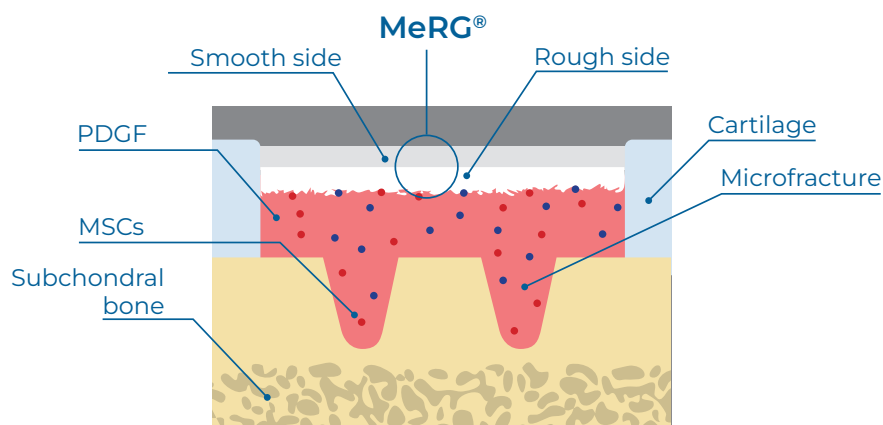
ARTHROSCOPY



ARTHROTOMY

HOW TO USE

1. Preparation of the chondral lesion.
2. Measurement with template and dry shaping of the membrane.
3. Hydration with sterile saline solution or biological fluids for cell enrichment (PRP, bone marrow concentrate) for 1-2 minutes.
4. Positioning of the membrane over the lesion on which spinal cord stimulation techniques have previously been performed, with the rough side facing the defect. Alternatively, fibrin glue can also be applied inside the lesion before applying the membrane.
5. Fixation of the membrane by applying fibrin glue along the edges.
6. Apply light pressure to the membrane to improve adhesion. Wait 1-2 minutes for the fibrin to polymerise.



Application of MeRG® to close the biological chamber

Clinical cases



REPAIR OF A CHONDRAL DEFECT OF THE KNEE IN A SINGLE SURGICAL PROCEDURE (ONE STEP): ARTHROSCOPIC SURGERY

(Gigante A. et al, Università Politecnica delle Marche (Marche Polytechnic University, Ancona, Italy))

[Go to clinical case](#)



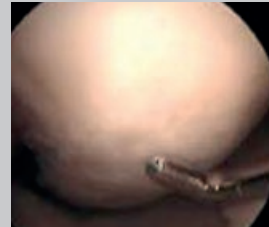
Preoperative magnetic resonance imaging in sagittal section. The arrow highlights the signal inhomogeneity in the anterior area of the medial femoral condyle.



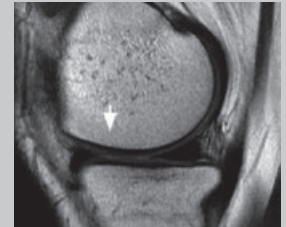
Debridement of the lesion and microfractures performed at a distance of 2-3 mm.



The collagen membrane soaked in bone marrow concentrate once implanted.



The second arthroscopy for biopsy sample collection at 12 months follow-up.



Postoperative magnetic resonance imaging in sagittal section at 12 months after surgery. Note the optimal filling of the defect and the homogeneity of the signal in the repaired region (white arrow).



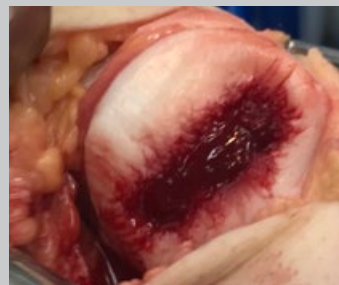
REPAIR OF A CHONDRAL DEFECT IN A PATIENT WITH PATELLAR CHONDROMALACIA: OPEN SURGERY

(Dr. Geraldo Sérgio de Mello Granata Jr., Università Santo Amaro di San Paolo (Santo Amaro University of São Paulo) (Brazil))

[Go to clinical case](#)



Cartilage defect of the patella after debridement.



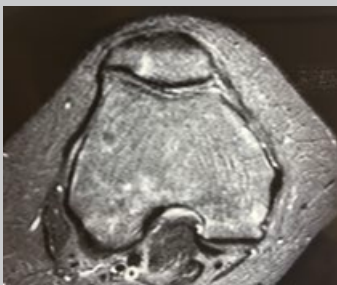
Application of bone marrow concentrate to the surface of the defect.



Application the appropriately shaped MeRG® membrane with the smooth side facing outwards.



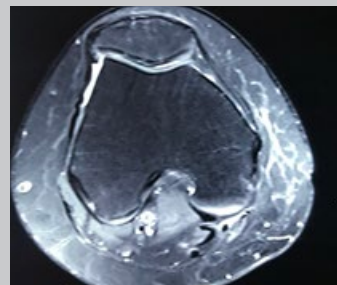
Fixing the MeRG® membrane with fibrin glue.



Pre-surgery magnetic resonance imaging. Cartilage damage of grade IV on the Outerbridge scale is noted at the patella.



Magnetic resonance imaging 12 months after surgery: new cartilage tissue is visible.



Magnetic resonance imaging 24 months after surgery: the regenerated tissue is maintained.

POST-OPERATIVE TREATMENT:

1-6 WEEKS

Reduced load bearing with crutches.
Continuous passive movement 0°-90°.

FROM 6th WEEK

Gradual increase in load bearing up to full load bearing over the next two weeks.



[Go to active literature](#)

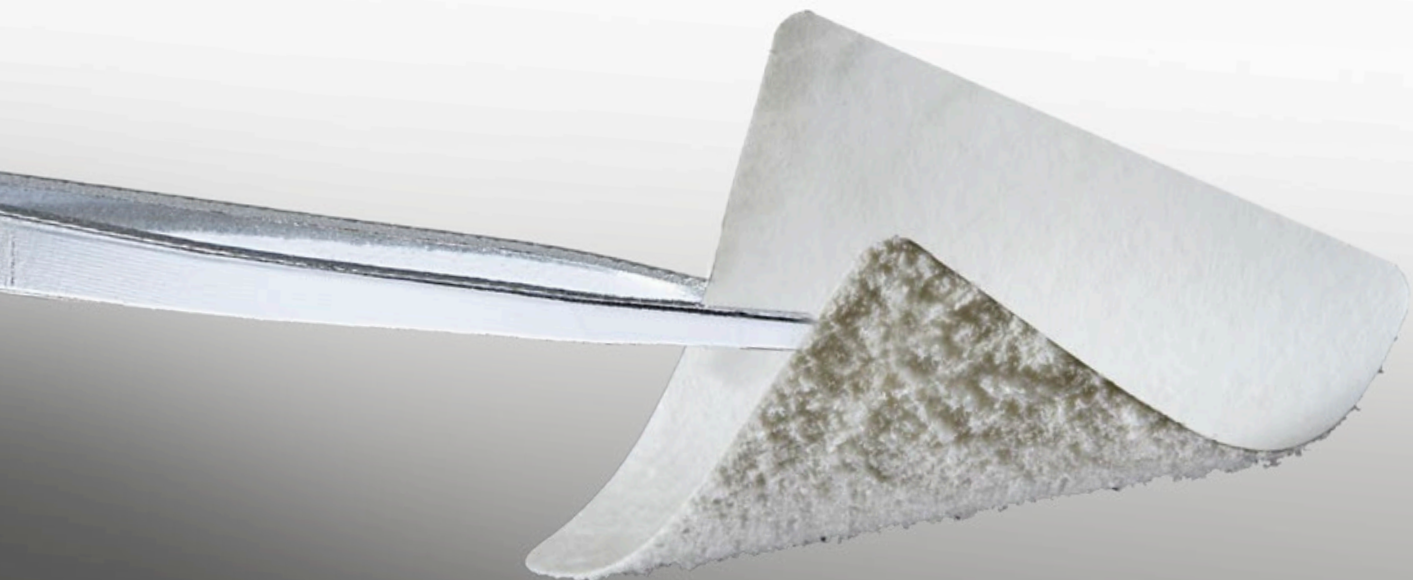
THE RANGE MeRG®



CE₀₄₇₇

MERG®

BCG-merg	Collagen membrane - 1 pc. 50 x 50 x 0.2 mm + sterile template
BCG-mergW	Collagen membrane - 1 pc. 50 x 50 x 0.2 mm
BCG-mergK	Collagen membrane - 1 pc. 30 x 30 x 0.2 mm + sterile template
BCG-mergQ	Collagen membrane - 1 pc. 30 x 30 x 0.2 mm





BIOTECK®. INNOVATING BIOMATERIALS.

Bioteck® is an Italian company that has been producing bone substitutes and protective membranes and solution successfully used in orthopaedics, neurosurgery and oro-maxillo facial surgery since 1995.

Scientific research and innovation are the guiding principles that have enabled Bioteck® to patent new production processes and to create unique bio-materials of high quality in terms of performance level and safety guarantees. Materials now used in 72 countries worldwide.

At its multi-functional centre for research and development and thanks to state-of-the-art production processes, every day Bioteck® works to pursue its key objective: to innovate bio-materials.

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BIOTECK ACADEMY. SCIENTIFIC COMMUNITY FOR THE CULTURE OF THE CONSCIOUS CHOICE.

Bioteck Academy is the innovative scientific community which promotes the circulation and sharing of knowledge in the field of tissue regeneration applied to dentistry, maxillo-facial surgery, orthopaedics and neurosurgery.

Established as a hub for the clinical and scientific expertise focussed on by Bioteck® spanning twenty years of research, today it is an entity open to all professionals who decide to join and share their own surgical experience.

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BIOTECK®



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