

|bloocell®
the language of technology

Artificial Tissue

TECHNOLOGIES



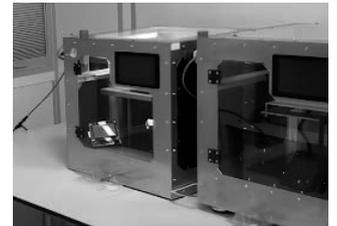
REAL TIME POWER

About us

Bloocell® manufactures equipment and automation systems at high standards to meet the quality requirements of the aerospace and medical / pharmaceutical industries. The biotechnology department established within our organization conducts research on artificial tissues and organs.

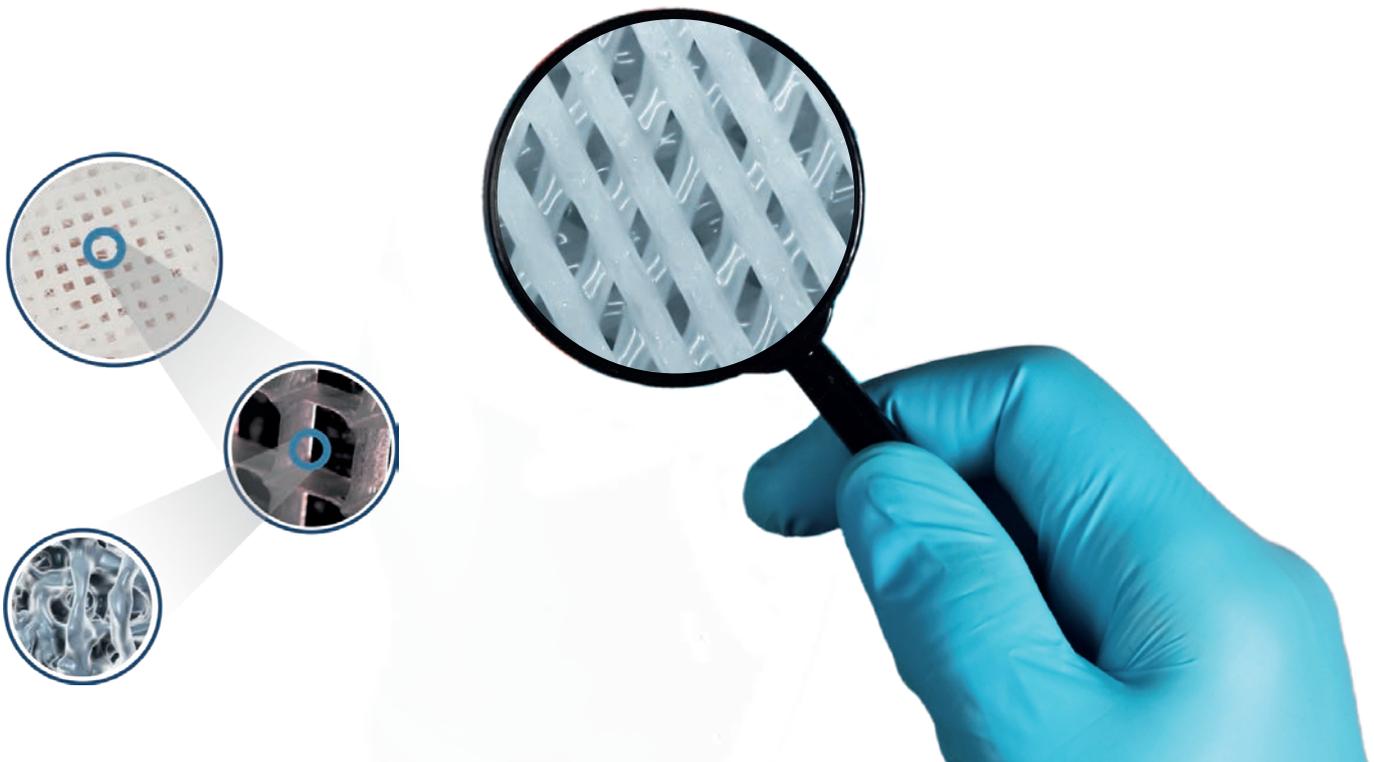
We serve the humanity with our products developed as a result of successful in vitro and in vivo studies.

We conduct and conclude valuable studies thanks to the strengths of our structure consisting of different branches of science. Our organization focuses on long-term academic work to provide new-generation and advanced health services. The Bloocell® technology offers innovations for the medical applications of the future.



WHAT'S BLOOCELL®

The world's leading brand that gives confidence to physicians in the field of tissue engineering. Bloocell® is the first "ARTIFICIAL TISSUE TECHNOLOGY" in the world that can be produced in complementary, therapeutic and personalized anatomical forms in the treatment of tissue deficiency.



GRAFT **Vs** SCAFFOLD

AUTOGRAFT

Lower risk of infection
There is no risk of graft rejection
? Limited availability and more than one surgery is required
? No Mechanical testing
? Weakening of the donor site
? Risk of site morbidity, pain
? infection and scarring



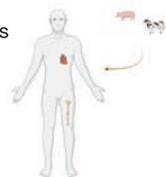
ALLOGRAFT

Greater availability than autograft
Minimizing surgical time
? Risk of immunological rejection
? Risk of disease transmission
? Risk of site morbidity, pain, infection and scarring
? Limited donor pool
? No mechanical testing



XENOGRAFT

Potential for greater availability
Variety of tissues
? Extremely high risk of rejection
? Ethical concerns
? Risk of zoonotic diseases



BIO SCAFFOLD

Mimicking the Natural Extracellular Matrix (ECM)
Mechanical Support
Tissue regeneration, making them versatile for various applications
Customized in terms of material, shape, porosity, and other properties
Drug or Growth Factor Delivery
Temporary Support and Gradual Degradation

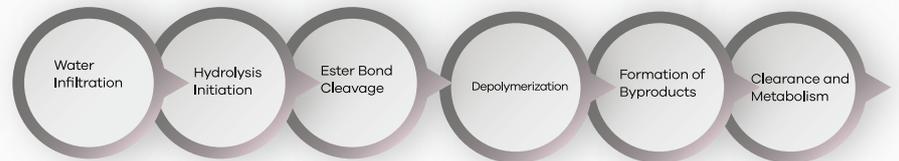


CONTENT OF BLOOCELL

Integral triple-1

-  Biocompatible, no immune response
-  Long-term structural support
-  Provide mechanical support
-  Favorable mechanical properties, including flexibility and strength
-  A framework for cells to attach, proliferate, and differentiate
-  Biodegradable, break down into non-toxic byproducts
-  Excellent candidate for applications that require load-bearing
-  The ability to incorporate bioactive molecules

POLYCAPROLACTONE (PCL)



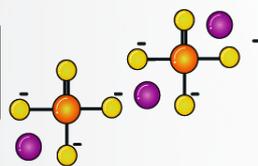
Integral triple-2

-  Biocompatible, no immune response or inflammation
-  Bioactive, integrate with the host tissue, promoting cell attachment
-  Osteoconductivity, suitable environment for bone-forming cells
-  Biodegradable and resorbable
-  High porosity, allowing for the infiltration of blood vessels
-  Provide diffusion of nutrients and oxygen to the cells within the scaffold
-  Has successful background at dental and orthopedics

TRICALSIUMFOSFATE



-  Phosphorus
-  Oxygen
-  Calcium



CONTENT OF BLOOCELL

Integral triple-3



Biocompatible, no immune response or adverse reactions



Component of the extracellular matrix



Biodegradable



Hydrophilic, essential for cell survival and tissue regeneration



Promotes cell attachment and migration



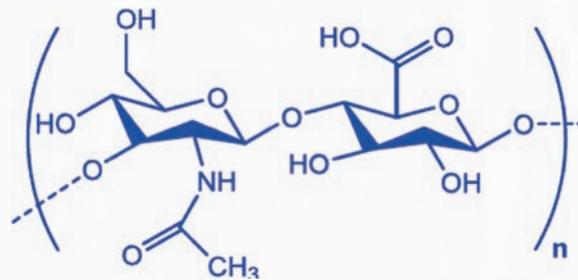
Tissue hydration and lubrication



Regulate the inflammatory responses

HYALURONIC

ACID

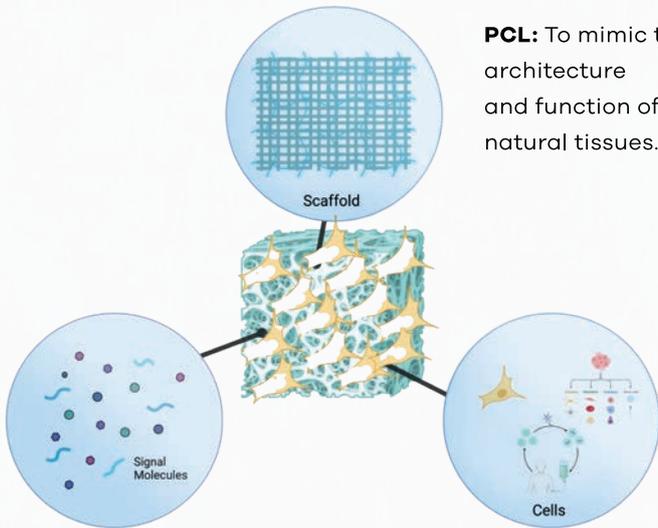


HA molecules interact directly with cell surface receptors, most notably CD44.

Inflammatory response by binding to specific receptors on immune cells, such as Toll-like receptors (TLRs).

Influence various cellular processes, including cell proliferation, migration, differentiation, and gene expression.

HOW BLOOCELL WORKS



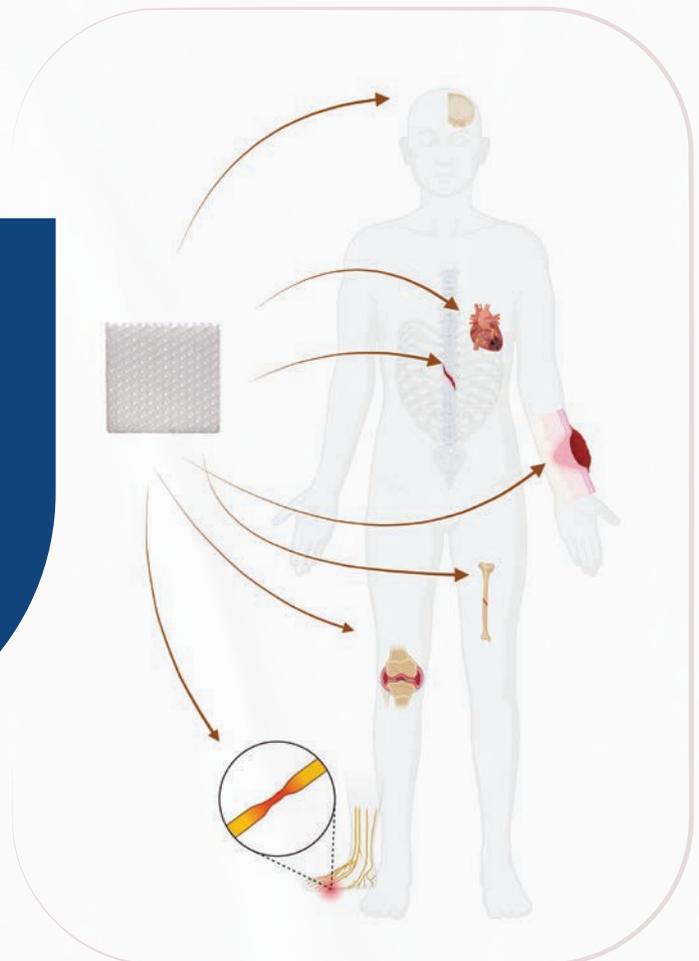
PCL: To mimic the architecture and function of natural tissues.



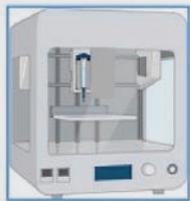
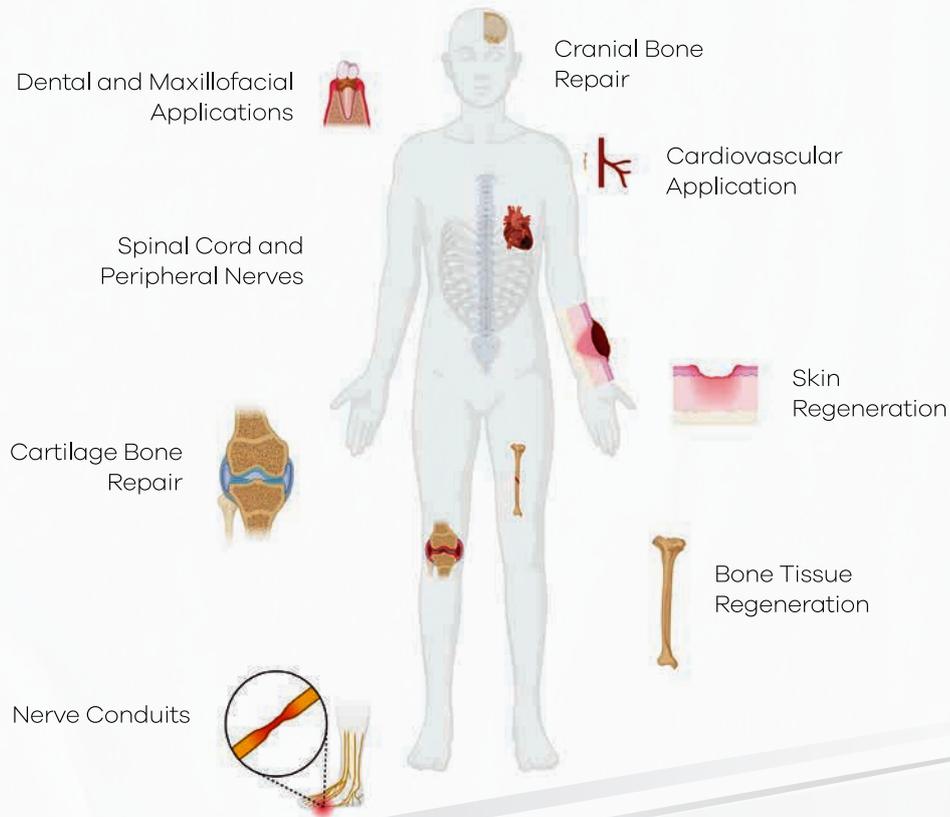
HA: Ability to support cell adhesion, migration, and proliferation.

TCP: Promotes the adhesion of osteoblasts, the bone-forming cells, and encourages their activity, ultimately leading to new bone formation.

- Biocompatibility
- Customizable
- Reducing the risk of adverse reactions.
- Porosity Structure
- Biodegradable
- Tailored mechanical properties
- Reduced Tissue Rejection
- Controlled Release

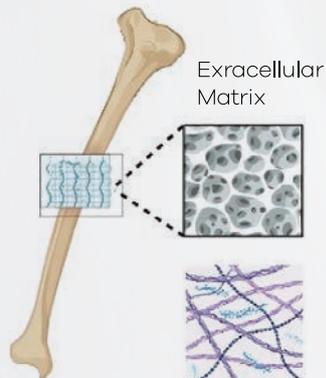
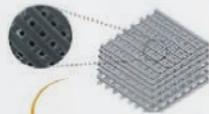


CURRENT USE OF BLOOCELL[®]



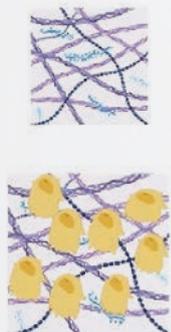
Treatment Approach
Biodegradable Scaffold

Polycaprolactone
Tricalcium phosphate
Hyaluronic acid



Defect
Side

Osteoblast



- Load bearing capability
- No immune response
- Biodegradable
- Cell attachment, new tissue formulation
- Mineralization

CLINICAL BACKGROUND

Use of 3D printed polycaprolactone + hyaluronic acid-based scaffold in orthopedics practice: A report of two cases

Use of 3D printed polycaprolactone + hyaluronic acid-based scaffold in orthopedics practice:
A report of two cases Erdi Ozdemir, Filippo Familiari, Ahmet Firat, Gazi Huri. Journal of 3D
Printing in Medicine,
DOI: 10.2217/3dp-2022-0020

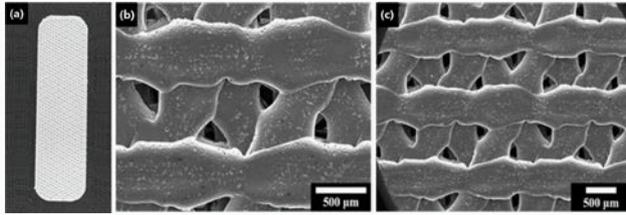


Case 1: 42-year-old patient showing Hamada 4B left glenohumeral osteoarthritis.



Case 2: 19-year-old patient with neglected Galeazzi fracture–dislocation and radius non-union.

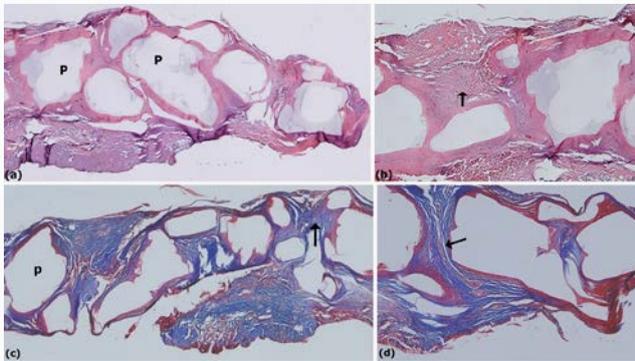
CLINICAL BACKGROUND



Gross appearance and microscopic morphology of the polycaprolactone (PCL) mesh confirmed by field emission scanning electron microscope (S-4700; HITACHI Co., Tokyo, Japan). a Sheet-type PCL scaffold mesh with a uniform line. b and c Fully interconnected triangular pores in PCL mesh

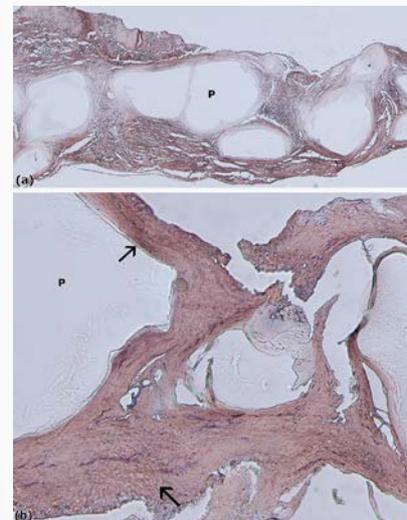
Park et al. Clinical Application of Three-Dimensionally Printed Biomaterial Polycaprolactone (PCL) in Augmentation Rhinoplasty, Aesthetic Plastic Surgery

Morphology analysis

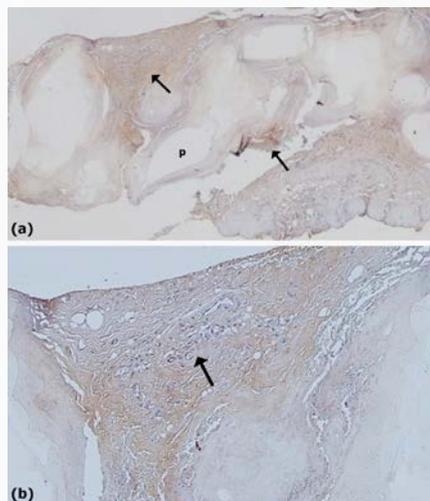


H&E and MT staining images are shown. No inflammation or any immune response was observed. a, b Histological image of H&E staining; c, d histological image of MT staining. P: cavity of grafted PCL mesh, black arrow: fibrovascular tissue (original magnification: 40 × (surrounding host tissue in a critical-sized rabbit), 100 × (b, d))

Assessment of cell viability and vascularization"



Immunohistochemistry staining of collagen type II is shown in brown. Each collagen is indicated with black arrow lines. P: cavity of grafted PCL mesh (original magnification: 40 × (a), 100 × (b))



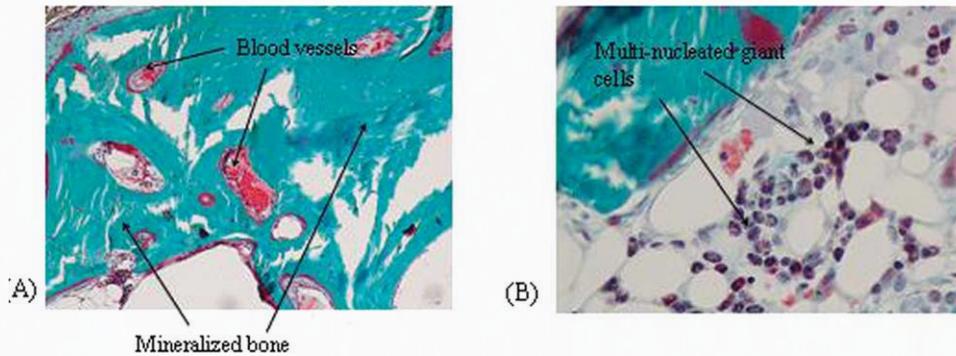
Immunohistochemistry staining of collagen type I is shown in brown. Each collagen is indicated with black arrow lines. P: cavity of grafted PCL mesh (original magnification: 40 × (a), 100 × (b))

Clinical Application of Three-Dimensionally Printed Biomaterial Polycaprolactone (PCL) in Augmentation Rhinoplasty

The collagen-stimulating effect of PCL

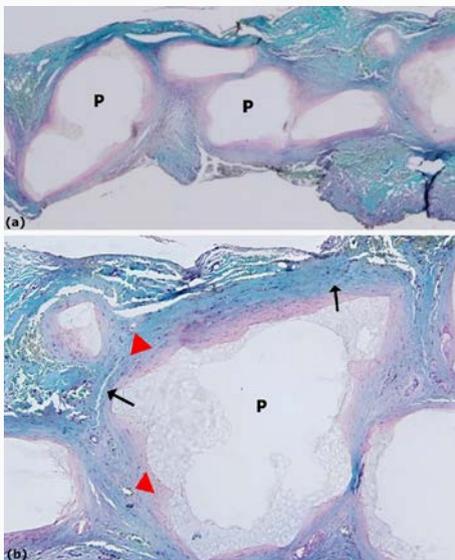
CLINICAL BACKGROUND

Mineralization of PCL/TCP



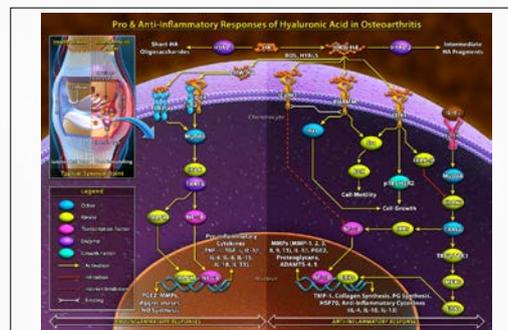
Goldner's trichrome staining (mineralized tissue = green; osteoid = red) reveals newly formed woven bone trabeculae after 4 weeks along with the presence of numerous blood vessels distributed across the defect site (A) (10× magnification). Multi-nucleated giant cells are detected on the surfaces of the scaffold rods and are closely associated with adipose cells as early as 4 weeks after implantation (B) (40× magnification).

Yeo et al. Surface Modification Of PCL-TCP Scaffolds In Rabbit Calvaria Defects: Evaluation Of Scaffold Degradation Profile, Biomechanical Properties And Bone Healing Patterns, Journal Of Biomedical Materials Research



In Safranin O staining of chondrogenesis, positive staining of proteoglycan (red) is markedly noted around outer margins of the grafted PCL mesh; space of grafted PCL implant (P) was well maintained. In a high-magnification field, the chondrocyte and lacunae (black arrow) characterized by specific structure for the chondrocyte were noted. P: cavity of grafted PCL mesh (original magnification: 40 × (a), 400 × (b))

Anti-inflammatory effect of HA



Summary of the pro-inflammatory and anti-inflammatory responses of hyaluronic acid.
 CD44 = cluster determinant 44; ECM = extracellular matrix; ERKs = extracellular signal-regulated kinases; FAK = focal adhesion kinase; HA = hyaluronic acid; HER2 = human epidermal growth factor receptor 2; HYAL = hyaluronidase; ICAM-1 = intercellular adhesion molecule-1; ICM = intracellular matrix; IL = interleukin; IRAK = interleukin-1 receptor-associated kinase; MAPK = mitogen-activated protein (MAP) kinase; MMP = matrix metalloproteinase; MyD88 = myeloid differentiation primary response 88; NF- κ B = nuclear factor kappa-light-chain-enhancer of activated B cells; NO = nitric oxide; PG = proteoglycan; PGE = prostaglandin E₂; TAK1 = transforming growth factor- β (TGF- β)-activated kinase; TALI = T-cell acute lymphocytic leukemia protein 1; TIMP = tissue inhibitor of metalloproteinases; TLR = toll like receptor; TNF = tumor necrosis factor; TRAF6 = TNF receptor associated factors.

Altman et al. Anti-Inflammatory Effects of Intra-Articular Hyaluronic Acid: A Systematic Review, Sage Journal

Park et al. Clinical Application of Three-Dimensionally Printed Biomaterial Polycaprolactone (PCL) in Augmentation Rhinoplasty, Aesthetic Plastic Surgery

CLINICAL BACKGROUND

THE SUCCESS OF BLOOCELL® TECHNOLOGY CONTINUES TO BE PUBLISHED IN LEADING SCIENTIFIC CONGRESSES

EAODGI2023-543/PO-SU-026 | 3-dimensional evaluation of E-polycaprolactone containing membrane's efficacy in guided bone regeneration: A retrospective study

Cem Ungor^{1*}, Cavad Bextiyarli², Seyit Yılmaz³
¹Oral and Maxillofacial Surgery, ²Karadeniz Technical University, Trabzon, ³Beykoz University, Istanbul, Turkey



Guided bone regeneration (GBR) is one of the most commonly used treatment options for the repair of vertical and horizontal bone defects.



Bioscaffold membranes used in ridge augmentation in maxillofacial surgery on the amount of newly formed bone after application in three-dimensional (3D).



Patients (7 females and five males)



Vertical bone gain were 1.63 ± 0.69 mm



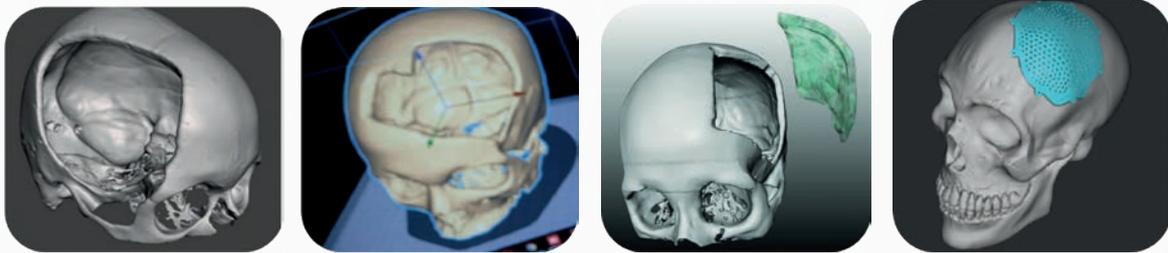
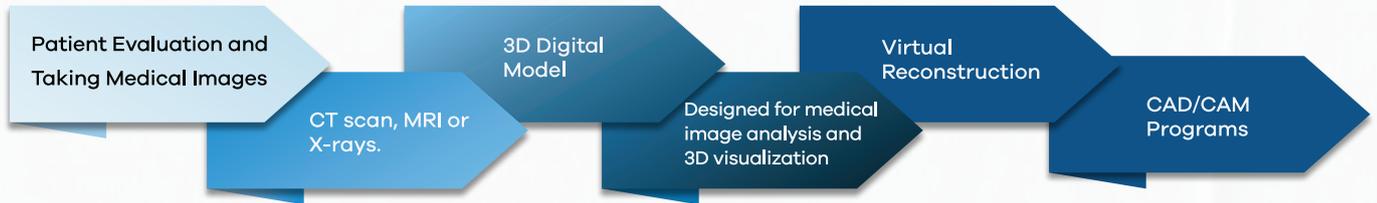
Horizontal bone gain were 4.03 ± 1.45 mm



The implant survival rates were 100% in all patients.

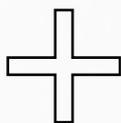


BLOOCELL CUSTOM MADE

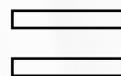


Bone tissue formation was observed after 10 months with custom made Bloocell Hybrit®

Allows customization of precise shape and geometry.



Provide adequate load-bearing support during bone regeneration



Mimic the mechanical structure of the tissue and to renew the tissue.

BLOOCELL ALL

ARTIFICIAL TISSUE TECHNOLOGIES

Bloocell[®] HYBRID

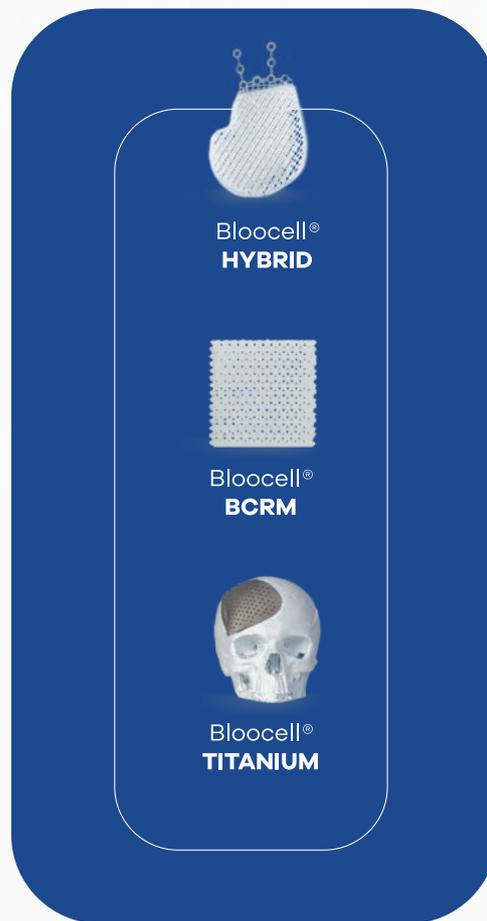
It is made of titanium and polymer materials and is used in brain surgery and craniofacial surgery commonly .

Bloocell[®] BCRM

It is a biodegradable implant made of an enzymatic polymer, tricalcium phosphate and hyaluronic acid.

Bloocell[®] TITANIUM

It is made of titanium material and is used in commonly neurosurgery surgery.



BLOOCELL[®]
ORTHO



BLOOCELL[®]
DENTAL



BLOOCELL[®]
NEURO



BLOOCELL[®]
CMF



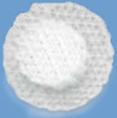
BLOOCELL[®]
ENT



BLOOCELL[®]
**PLASTIC
RECONSTRUCTIVE**



ARTIFICIAL TISSUE TECHNOLOGIES

| BLOOCELL BIOSCAFFOLD FRAME SHEET | | | | | |
|---|------------|---|----------------------------------|-----------|--------------|
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICKNESS mm |
| | | 52000 | Bloocell Bioscaffold Frame Sheet | 20 | 20 |
| BLOOCELL BIOSCAFFOLD CYLINDER | | | | | |
|  | CAT NUMBER | DESCRIPTION | DIAMETER mm | LENGTH mm | |
| | 52001 | Bloocell Bone Matrix Implant Synthetic | 6 | 10 | |
| | 52002 | Bloocell Bone Matrix Implant Synthetic | 8 | 10 | |
| | 52003 | Bloocell Bone Matrix Implant Synthetic | 10 | 10 | |
| | 52004 | Bloocell Bone Matrix Implant Synthetic | 6 | 20 | |
| | 52005 | Bloocell Bone Matrix Implant Synthetic | 8 | 20 | |
| | 52006 | Bloocell Bone Matrix Implant Synthetic | 10 | 20 | |
| BLOOCELL BIOSCAFFOLD RECTANGLE SHEET | | | | | |
|  | CAT NUMBER | DESCRIPTION | DIAMETER mm | LENGTH mm | |
| | 52007 | Bloocell Bone Matrix Implant Synthetic Plug | 12 | 5 | |
| | 52008 | Bloocell Bone Matrix Implant Synthetic Plug | 15 | 5 | |
| | 52009 | Bloocell Bone Matrix Implant Synthetic Plug | 18 | 5 | |
| BLOOCELL BIOSCAFFOLD RECTANGLE SHEET | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52336 | Bloocell Bioscaffold Rectangle Sheet | 40 | 9 | 1,1 |
| | 52339 | Bloocell Bioscaffold Rectangle Sheet | 13 | 3,5 | 0,9 |
| BLOOCELL FLEX BARRIER | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52411 | BFB Small | 70 | 70 | 10 |
| | 52412 | BFB Medium | 86 | 88 | 15 |
| | 52413 | BFB Large | 95 | 98 | 18 |



ARTIFICIAL TISSUE TECHNOLOGIES

BLOOCELL CUSTOM MADE GLENOID

|  | DESCRIPTION | Out Diameter mm | Height mm | Angle Degree |
|---|------------------|-----------------|-----------|--------------|
| | Glenoid Scaffold | 27 | 10 | std |
| | Glenoid Scaffold | 27 | 10 | 7,5 |
| | Glenoid Scaffold | 27 | 10 | 15 |
| | Glenoid Scaffold | 27 | 15 | std |
| | Glenoid Scaffold | 27 | 15 | 7,5 |
| | Glenoid Scaffold | 27 | 15 | 15 |

BLOOCELL CUSTOM MADE HTO WEDGE

|  | DESCRIPTION | Height mm | LENGHT mm | |
|--|-------------|-----------|-----------|--|
| | HTO Wedge | 6 | 3 | |
| | HTO Wedge | 8 | 3 | |
| | HTO Wedge | 6 | 6 | |
| | HTO Wedge | 8 | 6 | |
| | HTO Wedge | 10 | 5,5 | |
| | HTO Wedge | 12 | 5,5 | |
| | HTO Wedge | 14 | 5,5 | |
| | HTO Wedge | 16 | 5,5 | |
| | HTO Wedge | 18 | 5,5 | |



ARTIFICIAL TISSUE TECHNOLOGIES

BLOOCELL CUSTOM MADE ACETABULAR CAGE

| | DESCRIPTION | Diameter mm | Height mm | |
|---|---------------------------|-------------|-----------|--|
|  | Acetabular Scaffold Cages | 49 | 9 | |
| | Acetabular Scaffold Cages | 49 | 11 | |
| | Acetabular Scaffold Cages | 49 | 13 | |
| | Acetabular Scaffold Cages | 51 | 9 | |
| | Acetabular Scaffold Cages | 51 | 11 | |
| | Acetabular Scaffold Cages | 51 | 13 | |
| | Acetabular Scaffold Cages | 57 | 9 | |
| | Acetabular Scaffold Cages | 57 | 11 | |
| | Acetabular Scaffold Cages | 57 | 13 | |
| | Acetabular Scaffold Cages | 61 | 9 | |
| | Acetabular Scaffold Cages | 61 | 11 | |
| | Acetabular Scaffold Cages | 61 | 13 | |



ARTIFICIAL TISSUE TECHNOLOGIES

BLOOCELL MEMBRAN

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
|---|------------|-----------------------|------|------|-------------|
| | 52000 | BlooCell Bone Membran | 20 | 20 | 0,3 |
| | | BlooCell Bone Membran | 25 | 25 | 0,3 |
| | | BlooCell Bone Membran | 20 | 30 | 0,3 |
| | | BlooCell Bone Membran | 30 | 40 | 0,3 |

BLOOCELL BIOSCAFFOLD SHEET

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
|---|------------|---|------|------|-------------|
| | 52000 | BlooCell Bone Matriks Implant Synthetic | 20 | 20 | 1 |
| | | BlooCell Bone Matriks Implant Synthetic | 25 | 25 | 1 |
| | | BlooCell Bone Matriks Implant Synthetic | 20 | 30 | 1 |
| | | BlooCell Bone Matriks Implant Synthetic | 30 | 40 | 1 |

BLOOCELL BIOSCAFFOLD CYLINDER

|  | CAT NUMBER | DESCRIPTION | DIAMETER mm | LENGHT mm | |
|--|------------|---|-------------|-----------|--|
| | 52004 | BlooCell Bone Matriks Implant Synthetic | 6 | 20 | |
| | 52005 | BlooCell Bone Matriks Implant Synthetic | 8 | 20 | |



BLOOCELL BIOSCAFFOLD SHEET

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
|---|------------|---|------|------|-------------|
| | 52000 | Bloocell Bone Matriks Implant Synthetic | 20 | 20 | 1 |
| | | Bloocell Bone Matriks Implant Synthetic | 25 | 25 | 1 |
| | | Bloocell Bone Matriks Implant Synthetic | 20 | 30 | 1 |
| | | Bloocell Bone Matriks Implant Synthetic | 30 | 40 | 1 |

BLOOCELL EXTENDED ORBITAL IMPLANT

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
|--|------------|---------------------------------|------|------|-------------|
| | 52292 | B-Extended orbital rim implants | 47 | 40 | 6,37mm |
| | 52293 | B-Extended orbital rim implants | 47 | 40 | 6,37mm |

BLOOCELL ORBITAL IMPLANT

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
|---|------------|-------------------------|------|------|-------------|
| | 52294 | B-Orbital Implant Left | 40 | 40 | 8,45mm |
| | 52295 | B-Orbital Implant Right | 40 | 40 | 8,45mm |



BLOOCELL MIDFACE FORM IMPLANT

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|------------------------------|------|------|------|
| | 52296 | B-Midface Form Implant Left | 60 | 40 | 4 |
| | 52297 | B-Midface Form Implant Right | 60 | 40 | 4 |
| | 52298 | B-Midface Form Implant Left | 65 | 41 | 4 |
| | 52299 | B-Midface Form Implant Right | 65 | 41 | 4 |

BLOOCELL EXTENDED MALAR SHAPES

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|--|------------|------------------------------------|------|------|------|
| | 52302 | Bloocell Extended , small - left | 45 | 24 | 3 |
| | 52303 | Bloocell Extended , small - right | 45 | 24 | 3 |
| | 52304 | Bloocell Extended , medium - left | 50 | 26 | 4 |
| | 52305 | Bloocell Extended , medium - right | 50 | 26 | 4 |
| | 52306 | Bloocell Extended , large - left | 55 | 27 | 5 |
| | 52307 | Bloocell Extended , large - right | 55 | 27 | 5 |

BLOOCELL RZ MALAR IMPLANT

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|--|------------|-------------------------|------|------|------|
| | 52308 | Bloocell rz malar left | 50 | 19 | 3 |
| | 52309 | Bloocell rz malar right | 50 | 19 | 3 |
| | 52310 | Bloocell rz malar left | 50 | 19 | 5 |
| | 52311 | Bloocell rz malar right | 50 | 19 | 5 |



BLOOCELL M MALAR IMPLANT

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm | D mm |
|--|------------|------------------------|------|------|------|------|
| | 52312 | Bloocell m malar left | 64 | 19 | 3 | 15 |
| | 52313 | Bloocell m malar right | 64 | 19 | 3 | 15 |
| | 52314 | Bloocell m malar left | 64 | 19 | 4,5 | 17 |
| | 52315 | Bloocell m malar right | 64 | 19 | 4,5 | 17 |

BLOOCELL NASAL AND

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|--------------------|------|------|------|
| | 52335 | Bloocell Nasal AND | | 22 | 37 |

BLOOCELL NASAL SHEET

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|----------------------|------|------|------|
| | 52336 | Bloocell Nasal Sheet | | 40 | 9 |

BLOOCELL NASAL VALVE

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|-------------------------------|------|------|------|
| | 52337 | Bloocell External Nasal Valve | 25 | 11 | 0,85 |
| | 52338 | Bloocell External Nasal Valve | 25 | 11 | 0,6 |

BLOOCELL LATERAL NASAL VALVE

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|------------------------------|------|------|------|
| | 52339 | Bloocell Lateral Nasal Valve | | 13 | 3,5 |

BLOOCELL PARANASAL

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|--------------------------|------|------|------|
| | 52340 | Bloocell Paranasal left | 28 | 26 | 4,5 |
| | 52341 | Bloocell Paranasal right | 28 | 26 | 4,5 |
| | 52342 | Bloocell Paranasal left | 30 | 28 | 7 |
| | 52343 | Bloocell Paranasal right | 30 | 28 | 7 |



| BLOOCELL CHIN | | | | | |
|--|------------|-------------------------------|------|------|------|
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52367 | Bloocell Chin Small | 40 | 25 | 5 |
| | 52368 | Bloocell Chin Medium | 47,5 | 37,5 | 7 |
| | 52369 | Bloocell Chin Large | 48,5 | 38 | 9 |
| BLOOCELL MODULER CHIN | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52370 | Mos Small | 56 | 33 | 5 |
| | 52371 | Mod Medium | 56 | 36 | 7 |
| | 52372 | Mod Large | 57 | 38 | 9 |
| BLOOCELL EXTENDED CHIN | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52373 | Bloocell Extended chin small | 45 | 47 | 3 |
| | 52374 | Bloocell Extended chin medium | 45 | 47 | 5 |
| | 52375 | Bloocell Extended chin large | 45 | 47 | 7 |
| | 52376 | Bloocell Extended chin small | 45 | 47 | 3 |
| | 52377 | Bloocell Extended chin medium | 45 | 47 | 7 |
| | 52378 | Bloocell Extended chin large | 45 | 47 | 7 |



BLOOCELL TWO-PIECE CHIN

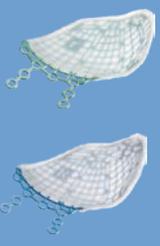
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|-------------------------|------|------|------|
| | 52379 | Bloocell Two Piece Chin | 72 | 42 | 3 |
| | 52380 | Bloocell Two Piece Chin | 74 | 42 | 5 |
| | 52381 | Bloocell Two Piece Chin | 78 | 50 | 7 |
| | 52382 | Bloocell Two Piece Chin | 80 | 55 | 9 |

BLOOCELL MANDIBULAR ANGLE

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|--|------------|---|------|------|------|
| | 52383 | Bloocell Mandibular Angel Left-small | 65 | 35 | 18 |
| | 52384 | Bloocell Mandibular Angel Right-small | 65 | 35 | 18 |
| | 52385 | Bloocell Mandibular Angel Left- medium | 65 | 35 | 20 |
| | 52386 | Bloocell Mandibular Angel Right- medium | 65 | 35 | 20 |
| | 52387 | Bloocell Mandibular Angel Left-large | 65 | 35 | 20 |
| | 52388 | Bloocell Mandibular Angel Right-large | 65 | 35 | 10 |
| | 52389 | Bloocell Mandible Angle Left | 47 | 38 | 15 |
| | 52390 | Bloocell Mandible Angle Right | 47 | 38 | 18 |



ARTIFICIAL TISSUE TECHNOLOGIES

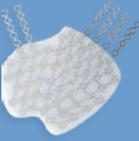
| BLOOCELL TITAN W | | | | | |
|--|------------|--|------|------|--------------|
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICKNESS mm |
| | 52270 | BTW | 40mm | 60mm | 0,85mm |
| | 52271 | BTW | 40mm | 60mm | 1,00mm |
| BLOOCELL INFERIOR MEDIAL ORBITAL IMPLANT | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICKNESS mm |
| | 52288 | B-Inferior medial orbital left | 25 | 26 | 2,50 mm |
| | 52289 | B-Inferior medial orbital right | 25 | 26 | 2,50 mm |
| BLOOCELL 3 D ORBITAL FLOOR | | | | | |
|  | CAT NUMBER | DESCRIPTION | | | |
| | 52250 | Bloocell Titan 3d Orbital Floor, Btb Left Small | | | |
| | 52251 | Bloocell Titan 3d Orbital Floor, Btb Right Small | | | |
| | 52252 | Bloocell Titan 3d Orbital Floor, Btb Left Large | | | |
| | 52253 | Bloocell Titan 3d Orbital Floor, Btb Right Large | | | |



| BLOOCELL MEMBRAN | | | | | |
|--|------------|-----------------------|------|------|-------------|
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
| | 52000 | BlooCell Bone Membran | 20 | 20 | 1 |
| | | BlooCell Bone Membran | 25 | 25 | 1 |
| | | BlooCell Bone Membran | 20 | 30 | 1 |
| | | BlooCell Bone Membran | 30 | 40 | 1 |
| BLOOCELL FLEX BARRIER | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52405 | BFB small Left | 61 | 78 | 18 |
| | 52406 | BFB small Right | 61 | 78 | 18 |
| | 52407 | BFB medium Left | 74 | 93 | 20 |
| | 52408 | BFB medium Right | 74 | 93 | 20 |
| | 52409 | BFB large Left | 82 | 105 | 20 |
| | 52410 | BFB large Right | 82 | 105 | 20 |
| | 52411 | BFB Small | 70 | 70 | 10 |
| | 52412 | BFB Medium | 86 | 88 | 15 |
| | 52413 | BFB Large | 95 | 98 | 18 |
| BLOOCELL TITAN W | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
| | 52270 | BTW | 40mm | 60mm | 0,85mm |
| | 52271 | BTW | 40mm | 60mm | 1,00mm |



BLOOCELL TITAN ORBITAL FLOOR AND WALL

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm | THICKNESS |
|--|------------|----------------|------|------|-------|-----------|
| | 52254 | MAX BTOF | 42mm | 41mm | 1,0mm | 0,85mm |
| | 52255 | MAX BTOF left | 42mm | 41mm | 1,0mm | 1,0mm |
| | 52256 | MAX BTOF right | 42mm | 41mm | 1,0mm | 1,0mm |

BLOOCELL® T BITAL FLOOR AND WALL

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm | THICKNESS |
|--|------------|-------------|------|------|-------|-----------|
| | 52257 | BTOF | 42mm | 41mm | 1,0mm | 0,85mm |
| | 52258 | BTOF left | 42mm | 41mm | 1,0mm | 1,0mm |
| | 52259 | BTOF right | 42mm | 41mm | 1,0mm | 1,0mm |
| | 52260 | BT | 42mm | 41mm | 1,0mm | 1,0mm |

BLOOCELL TITAN IMPLANTS

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|--|------------|-------------|------|------|--------|
| | 52260 | BTI | 50mm | 76mm | 0,85mm |
| | 52261 | BTI | 38mm | | |
| | 52262 | BTI | 50mm | | |
| | 52263 | BTI | 38mm | | |
| | 52264 | BTI | 50mm | | |
| | 52265 | BTI | 38mm | | |
| | 52266 | BTI | 50mm | | |
| | 52267 | BTI | 38mm | | |
| | 52268 | BTI | 50mm | | |
| | 52269 | BTI | 38mm | | |



ARTIFICIAL TISSUE TECHNOLOGIES

BLOOCELL BIOSCAFFOLD FRAME SHEET

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICKNESS mm |
|---|------------|----------------------------------|------|------|--------------|
| | 52000 | BlooCell Bioscaffold Frame Sheet | 20 | 20 | 1 |

BLOOCELL BIOSCAFFOLD CYLINDER

|  | CAT NUMBER | DESCRIPTION | DIAMETER mm | LENGTH mm | |
|--|------------|--|-------------|-----------|--|
| | 52001 | BlooCell Bone Matrix Implant Synthetic | 6 | 10 | |
| | 52002 | BlooCell Bone Matrix Implant Synthetic | 8 | 10 | |
| | 52003 | BlooCell Bone Matrix Implant Synthetic | 10 | 10 | |
| | 52004 | BlooCell Bone Matrix Implant Synthetic | 6 | 20 | |
| | 52005 | BlooCell Bone Matrix Implant Synthetic | 8 | 20 | |
| | 52006 | BlooCell Bone Matrix Implant Synthetic | 10 | 20 | |

BLOOCELL NASAL DORSAL

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|-----------------------|------|------|------|
| | 52316 | BlooCell Nasal Dorsal | 43 | 22 | 16 |

BLOOCELL NASAL DORSUM

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|-----------------------|------|------|------|
| | 52326 | BlooCell Nasal Dorsum | 4 | 4 | 45 |
| | 52327 | BlooCell Nasal Dorsum | 4 | 4 | 55 |
| | 52328 | BlooCell Nasal Dorsum | 5 | 5 | 45 |
| | 52329 | BlooCell Nasal Dorsum | 5 | 5 | 55 |
| | 52330 | BlooCell Nasal Dorsum | 9 | 9 | 55 |

BLOOCELL NASAL DORSUM MIMIC

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|--|------------|-------------|------|------|------|
| | 52331 | Nasal | 41 | 3,1 | 9 |
| | 52332 | Nasal Small | 53 | 5 | |
| | 52333 | Nasal Large | 68 | 9 | |
| | 52334 | Nasal S | 67 | 6,4 | |

BLOOCELL NASAL SHEET

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|----------------------|------|------|------|
| | 52336 | Bloocell Nasal Sheet | 40 | 9 | 1,1 |

BLOOCELL NASAL VALVE

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|-------------------------------|------|------|------|
| | 52337 | Bloocell External Nasal Valve | 25 | 11 | 0,85 |
| | 52338 | Bloocell External Nasal Valve | 25 | 11 | 0,6 |

BLOOCELL LATERAL NASAL VALVE

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|------------------------------|------|------|------|
| | 52339 | Bloocell Lateral Nasal Valve | 13 | 3,5 | 0,9 |

BLOOCELL PARANASAL

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|--------------------------|------|------|------|
| | 52340 | Bloocell Paranasal left | 28 | 26 | 4,5 |
| | 52341 | Bloocell Paranasal right | 28 | 26 | 4,5 |
| | 52342 | Bloocell Paranasal left | 30 | 28 | 7 |
| | 52343 | Bloocell Paranasal right | 30 | 28 | 7 |



ARTIFICIAL TISSUE TECHNOLOGIES

| BLOOCELL BIOSCAFFOLD SHEET | | | | | |
|---|------------|---|-------------|-----------|-------------|
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
| | 52000 | Bloocell Bone Matriks Implant Synthetic | 20 | 20 | 2 |
| BLOOCELL BIOSCAFFOLD CYLINDER | | | | | |
|  | CAT NUMBER | DESCRIPTION | DIAMETER mm | LENGHT mm | |
| | 52001 | Bloocell Bone Matriks Implant Synthetic | 6 | 10 | |
| | 52002 | Bloocell Bone Matriks Implant Synthetic | 8 | 10 | |
| | 52003 | Bloocell Bone Matriks Implant Synthetic | 10 | 10 | |
| | 52004 | Bloocell Bone Matriks Implant Synthetic | 6 | 20 | |
| | 52005 | Bloocell Bone Matriks Implant Synthetic | 8 | 20 | |
| | 52006 | Bloocell Bone Matriks Implant Synthetic | 10 | 20 | |
| BLOOCELL EXTENDED ORBITAL IMPLANT | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
| | 52292 | B-Extended orbital rim implants | 47 | 40 | 6,37mm |
| | 52293 | B-Extended orbital rim implants | 47 | 40 | 6,37mm |
| BLOOCELL ORBITAL IMPLANT | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICNESS mm |
| | 52294 | B-Orbital Implant Left | 40 | 40 | 8,45mm |
| | 52295 | B-Orbital Implant Right | 40 | 40 | 8,45mm |



ARTIFICIAL TISSUE TECHNOLOGIES

| BLOOCELL MIDFACE FORM IMPLANT | | | | | |
|--------------------------------|---------------------------|------------------------------------|------|------|------|
| | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52296 | B-Midface Form Implant Left | 60 | 40 | 4 |
| | 52297 | B-Midface Form Implant Right | 60 | 40 | 4 |
| | 52298 | B-Midface Form Implant Left | 65 | 41 | 4 |
| | 52299 | B-Midface Form Implant Right | 65 | 41 | 4 |
| BLOOCELL EXTENDED MALAR SHAPES | | | | | |
| | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52302 | Bloocell Extended , small - left | 45 | 24 | 3 |
| | 52303 | Bloocell Extended , small - right | 45 | 24 | 3 |
| | 52304 | Bloocell Extended , medium - left | 50 | 26 | 4 |
| | 52305 | Bloocell Extended , medium - right | 50 | 26 | 4 |
| | 52306 | Bloocell Extended , large - left | 55 | 27 | 5 |
| | 52307 | Bloocell Extended , large - right | 55 | 27 | 5 |
| | BLOOCELL RZ MALAR IMPLANT | | | | |
| | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52308 | Bloocell rz malar left | 50 | 19 | 3 |
| | 52309 | Bloocell rz malar right | 50 | 19 | 3 |
| | 52310 | Bloocell rz malar left | 50 | 19 | 5 |
| | 52311 | Bloocell rz malar right | 50 | 19 | 5 |



ARTIFICIAL TISSUE TECHNOLOGIES

BLOOCELL M MALAR IMPLANT

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm | D mm |
|--|------------|------------------------|------|------|------|------|
| | 52312 | Bloocell m malar left | 64 | 19 | 3 | 15 |
| | 52313 | Bloocell m malar right | 64 | 19 | 3 | 15 |
| | 52314 | Bloocell m malar left | 64 | 19 | 4,5 | 17 |
| | 52315 | Bloocell m malar right | 64 | 19 | 4,5 | 17 |

BLOOCELL NASAL DORSAL

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|-----------------------|------|------|------|
| | 52316 | Bloocell Nasal Dorsal | 43 | 22 | 16 |

BLOOCELL NASAL DORSUM

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|---|------------|-----------------------|------|------|------|
| | 52326 | Bloocell Nasal Dorsum | 4 | 4 | 45 |
| | 52327 | Bloocell Nasal Dorsum | 4 | 4 | 55 |
| | 52328 | Bloocell Nasal Dorsum | 5 | 5 | 45 |
| | 52329 | Bloocell Nasal Dorsum | 5 | 5 | 55 |
| | 52330 | Bloocell Nasal Dorsum | 9 | 9 | 55 |

BLOOCELL NASAL DORSUM MIMIC

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|--|------------|-------------|------|------|------|
| | 52331 | Nasal | 41 | 3,1 | 9 |
| | 52332 | Nasal Small | 53 | 5 | |
| | 52333 | Nasal Large | 68 | 9 | |
| | 52334 | Nasal S | 67 | 6,4 | |



ARTIFICIAL TISSUE TECHNOLOGIES

| BLOOCELL NASAL AND | | | | | |
|---|------------|-------------------------------|------|------|------|
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52335 | Bloocell Nasal AND | 22 | 37 | 0,5 |
| BLOOCELL NASAL SHEET | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52336 | Bloocell Nasal Sheet | 40 | 9 | 1,1 |
| BLOOCELL NASAL VALVE | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52337 | Bloocell External Nasal Valve | 25 | 11 | 0,85 |
| | 52338 | Bloocell External Nasal Valve | 25 | 11 | 0,6 |
| BLOOCELL LATERAL NASAL VALVE | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52339 | Bloocell Lateral Nasal Valve | 13 | 3,5 | 0,9 |
| BLOOCELL PARANASAL | | | | | |
|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
| | 52340 | Bloocell Paranasal left | 28 | 26 | 4,5 |
| | 52341 | Bloocell Paranasal right | 28 | 26 | 4,5 |
| | 52342 | Bloocell Paranasal left | 30 | 28 | 7 |
| | 52343 | Bloocell Paranasal right | 30 | 28 | 7 |



BLOOCELL FLEX BARRIER

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|--|------------|------------------|------|------|------|
| | 52405 | BFB small Left | 61 | 78 | 18 |
| | 52406 | BFB small Right | 61 | 78 | 18 |
| | 52407 | BFB medium Left | 74 | 93 | 20 |
| | 52408 | BFB medium Right | 74 | 93 | 20 |
| | 52409 | BFB large Left | 82 | 105 | 20 |
| | 52410 | BFB large Right | 82 | 105 | 20 |
| | 52411 | BFB Small | 70 | 70 | 10 |
| | 52412 | BFB Medium | 86 | 88 | 15 |
| | 52413 | BFB Large | 95 | 98 | 18 |

BLOOCELL TITAN W

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICKNESS mm |
|--|------------|-------------|------|------|--------------|
| | 52270 | BTW | 40mm | 60mm | 0,85mm |
| | 52271 | BTW | 40mm | 60mm | 1,00mm |

BLOOCELL INFERIOR MEDIAL ORBITAL IMPLANT

|  | CAT NUMBER | DESCRIPTION | A mm | B mm | THICKNESS mm |
|---|------------|---------------------------------|------|------|--------------|
| | 52288 | B-Inferior medial orbital left | 25 | 26 | 2,50 mm |
| | 52289 | B-Inferior medial orbital right | 25 | 26 | 2,50 mm |



ARTIFICIAL TISSUE TECHNOLOGIES

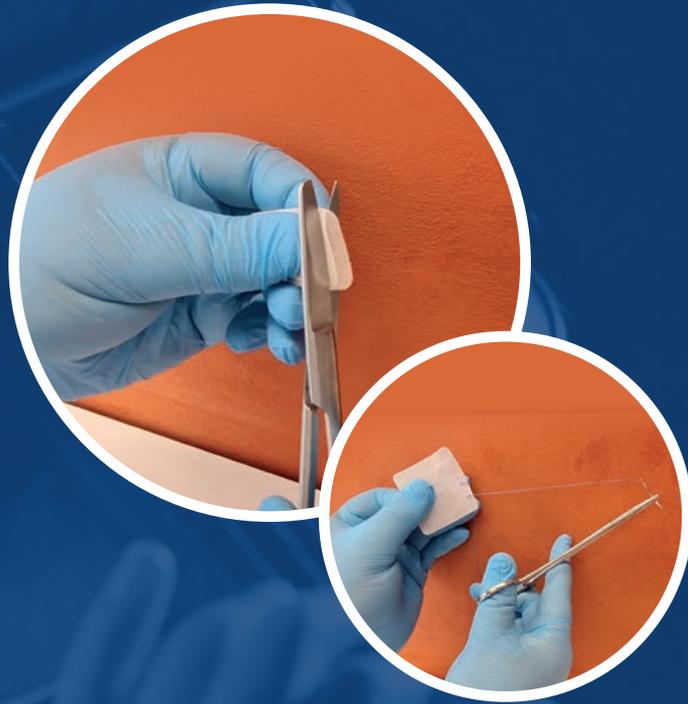
| BLOOCELL 3 D ORBITAL FLOOR | | | | | | |
|---------------------------------------|------------|--|------|------|-------|-----------|
| | CAT NUMBER | DESCRIPTION | | | | |
| | 52250 | Bloocell Titan 3d Orbital Floor, Btb Left Small | | | | |
| | 52251 | Bloocell Titan 3d Orbital Floor, Btb Right Small | | | | |
| | 52252 | Bloocell Titan 3d Orbital Floor, Btb Left Large | | | | |
| | 52253 | Bloocell Titan 3d Orbital Floor, Btb Right Large | | | | |
| BLOOCELL TITAN ORBITAL FLOOR AND WALL | | | | | | |
| | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm | THICKNESS |
| | 52254 | MAX BTOF | 42mm | 41mm | 1,0mm | 0,85mm |
| | 52255 | MAX BTOF left | 42mm | 41mm | 1,0mm | 1,0mm |
| | 52256 | MAX BTOF right | 42mm | 41mm | 1,0mm | 1,0mm |
| BLOOCELL® T BITAL FLOOR AND WALL | | | | | | |
| | CAT NUMBER | DESCRIPTION | A mm | B mm | C mm | THICKNESS |
| | 52257 | BTOF | 42mm | 41mm | 1,0mm | 0,85mm |
| | 52258 | BTOF left | 42mm | 41mm | 1,0mm | 1,0mm |
| | 52259 | BTOF right | 42mm | 41mm | 1,0mm | 1,0mm |
| | 52260 | BT | 42mm | 41mm | 1,0mm | 1,0mm |



BLOOCELL TITAN IMPLANTS



| CAT NUMBER | DESCRIPTION | A mm | B mm | C mm |
|------------|-------------|------|------|--------|
| 52260 | BTI | 50mm | 76mm | 0,85mm |
| 52261 | BTI | 38mm | | |
| 52262 | BTI | 50mm | | |
| 52263 | BTI | 38mm | | |
| 52264 | BTI | 50mm | | |
| 52265 | BTI | 38mm | | |
| 52266 | BTI | 50mm | | |
| 52267 | BTI | 38mm | | |
| 52268 | BTI | 50mm | | |
| 52269 | BTI | 38mm | | |



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☎ +90 538 058 50 78

✉ info@bloocell.com

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