

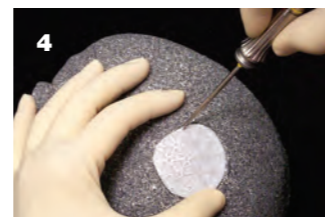
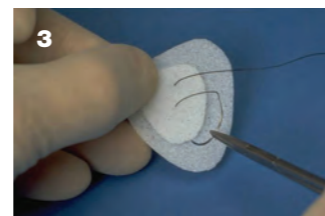
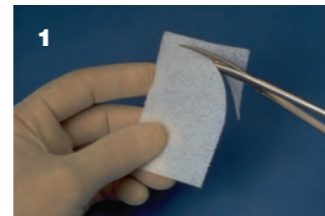
MEDPOR

Cranial/Neurosurgical Implants

MEDPOR Biomaterial

MEDPOR Porous Polyethylene Implants provide surgeons with an expanding range of options for reconstruction and augmentation. MEDPOR is a biocompatible, porous polyethylene material. The interconnecting, omni-directional pore structure may allow for fibrovascular in-growth and integration of the patient's tissue.¹ More than 250,000 procedures have been performed with MEDPOR Biomaterial, with more than 350 published clinical reports in cranial, reconstructive, oculoplastic and cosmetic applications.

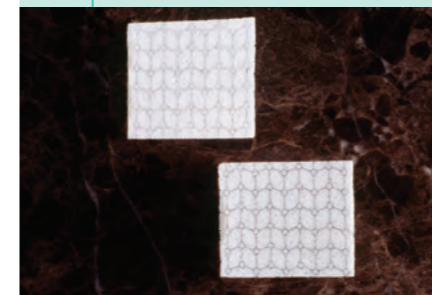
- MEDPOR is easy to work with. The material can be trimmed with a blade in the sterile field, carved and feathered intra-operatively for an excellent final fit.
- No pre-placing of fixation plates. MEDPOR can be easily drilled and fixated and is designed to accept screws and plates without cracking, giving the surgeon more flexibility in fixation options and placement.
- MEDPOR Surgical Implants can be cut with a variety of surgical instruments. The physical properties of the MEDPOR Biomaterial allow for cutting and trimming the implant while maintaining the interconnectivity and the structure of the pores. Implants may require fitting to the defect area at the time of surgery. The implant edges should be delicately shaped and feathered for a smooth transition from the implant to the patient's own bony contour.
- MEDPOR Surgical Implants are provided sterile and should not be resterilized.
- Do not place or carve the implant on surgical drapes, surgical clothing or any other surface that may contaminate the implant with lint and other particulate matter.



1. Sheets and blocks trim easily with surgical scissors or a small scalpel blade.
2. Thicker implants may be shaped with large scalpels, bone cutters, or a cutting burr.
3. Multiple pieces of implant material may be stacked and sutured together.
4. Proper rigid fixation techniques allow for stabilization of the implant.
5. Submerge the implant in a hot, sterile saline bath (over 180°F) for several minutes until the implant's memory relaxes.
6. Gently bend the implant to the desired shape. Return the implant to the hot saline if there is too much resistance.
7. Hold the implant in the final shape and allow to cool. The use of a cold sterile bath can accelerate this process.*

*Thicker or larger MEDPOR Implants may be difficult to shape using this method.

MEDPOR TITAN Implants



Strength Meets Flexibility

MEDPOR TITAN Sheets are intended for non-weight bearing applications of craniofacial reconstructive/cosmetic surgery, and repair of craniofacial trauma.

Titanium mesh and MEDPOR Polyethylene Implants have a long history of successful use in trauma repair. When cut, traditional titanium mesh may exhibit many sharp points and edges that can make insertion difficult. Titanium mesh embedded within a thin sheet of high-density polyethylene may minimize sharp edges even when the implant is cut. The titanium mesh is radiopaque, making the implant visible on radiographs or CT scans.² The titanium mesh used in MEDPOR Biomaterial allows the surgeon to bend and contour a thin implant material to the desired shape while providing the strength usually associated with a much thicker traditional MEDPOR Implant.¹

U.S. Patent #7,655,047

Surgeons may choose from three types of MEDPOR TITAN Sheets:

- The MEDPOR TITAN MEDPOR (MTM) Implant is porous, high-density polyethylene with titanium mesh embedded in it, potentially providing the advantages of fibrovascular integration of the patient's host tissue through the sheet.
- The MEDPOR TITAN BARRIER (MTB) Implant is a sheet of titanium mesh embedded within a porous polyethylene matrix with a solid, BARRIER surface on one side, potentially allowing for fibrovascular ingrowth only on the porous side of the implant.
- The MEDPOR TITAN Double BARRIER (BTB) Implant is titanium mesh embedded within solid, high-density polyethylene that acts as a BARRIER to tissue attachment and may help facilitate implant placement.

CAT#	DESCRIPTION	A	B	C
81020	MTM	76mm	50mm	0.85mm
81021	MTM	38mm	50mm	0.85mm
81022	MTM	38mm	50mm	1.5mm
81023	MTM	76mm	50mm	1.5mm
81024	BTB	38mm	50mm	0.6mm
81025	BTB	76mm	50mm	0.6mm
81026	MTB	38mm	50mm	1.0mm
81027	MTB	76mm	50mm	1.0mm
81028	MTB	38mm	50mm	1.6mm
81029	MTB	76mm	50mm	1.6mm

MEDPOR TITAN Cranial Curve



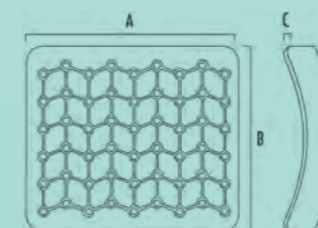
The MEDPOR TITAN Cranial Curve and MEDPOR TITAN Cranial Curve - BARRIER Implants offer the cranial surgeon an attractive option for cranial/skull base reconstruction. Both configurations are pre-shaped to the general curvature of the cranium and are intended for non-loading bearing applications.

The titanium mesh used with the MEDPOR Biomaterial allows the surgeon to further bend and contour the implant material to the desired shape.²

Titanium is radiopaque, making the implant visible on radiographs or CT scans.

U.S. Patent #7,655,047

CAT#	DESCRIPTION	A	B	C
82019	TITAN Cranial Curve	38mm	48mm	0.85mm
82020	TITAN Cranial Curve - BARRIER	38mm	48mm	1.00mm



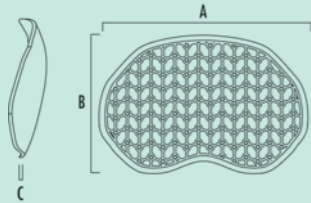
MEDPOR TITAN Posterior Implant

The MEDPOR TITAN Posterior Implant is intended for reconstruction of the cranium.

- Provides an option to other repair materials for reconstructing the cranium.
- May be trimmed and cut with surgical scissors. Polyethylene coating may minimize sharp edges of titanium when cut.²
- Titanium mesh embedded in the MEDPOR Biomaterial is designed to help the implant retain its shape when bent and contoured to meet a specific patient defect.²

U.S. Patent #7,655,047

CAT #	DESCRIPTION	A	B	C
82030	Posterior Implant	96mm	61mm	1.5mm



MEDPOR TITAN MAX Sheet

The new MEDPOR TITAN MAX Sheet is intended for non-weight-bearing applications of craniofacial reconstruction and repair of craniofacial trauma where a larger length and width implant is desired.

The MEDPOR TITAN MAX Sheet is an excellent option to bare titanium mesh for general cranial repair of small- to medium-sized defects. The titanium mesh used in the MEDPOR Biomaterial is designed to help the implant retain its shape, which allows the surgeon to bend and contour the implant material to fit a patient-specific defect.

Provides MAX Options for Craniofacial Reconstruction

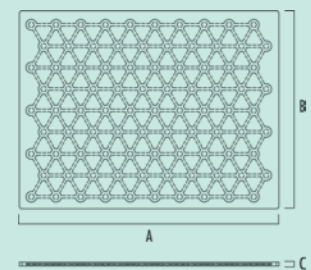
- Wider titanium mesh in a thin sheet – 1.5mm sheet thickness
- Larger length and width – 76mm x 100mm
- Excellent option to bare titanium mesh for general cranial repair of small to medium size defects

Provides MAX Benefits

- Biocompatible MEDPOR – 20 years of proven use in CMF applications – low risk for complications¹
- Easily shaped and cut – convenient, may promote greater OR efficiency, fit to individual patient contours
- Easily fixated with plates/screws - designed to stay in place
- May allow for for tissue ingrowth – enhances stabilization and possible reduced risk of long-term complications
- Polyethylene coating may minimize sharp titanium edges when cut
- Titanium mesh is radiopaque – visible on postoperative radiographs and CT scans

U.S. Patent #7,655,047

CAT #	DESCRIPTION	A	B	C
81040	MTM	100mm	76mm	1.5mm



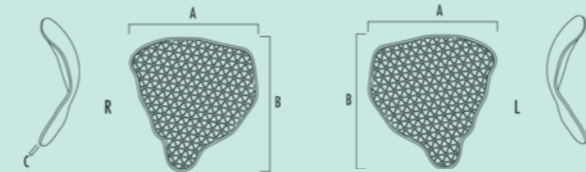
NEW

MEDPOR TITAN Cranial-Temporal



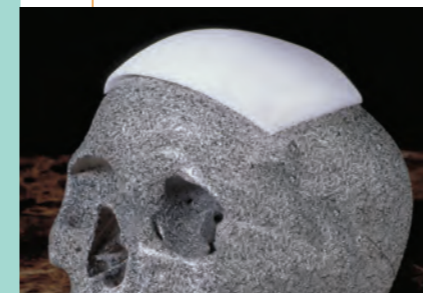
The MEDPOR TITAN Cranial – Temporal Implant is designed to be an off-the shelf solution for non-weight-bearing applications of craniofacial reconstruction and repair of craniofacial trauma. The titanium mesh embedded in the MEDPOR Biomaterial is designed to provide strength usually associated with a much thicker traditional MEDPOR Implant. The thinner profile can be bent to the shape of the defect. The radio-opaque titanium mesh makes the implant visible on postoperative radiographs or CT scans and helps the implant retain the shape when bent. The implant is available in left and right configurations.

Sterile template included.
U.S. Patent #7,655,047



CAT#	DESCRIPTION	A	B	C
81037	TITAN Cranial - Temporal, Left	130mm	130mm	3mm
81038	TITAN Cranial - Temporal, Right	130mm	130mm	3mm

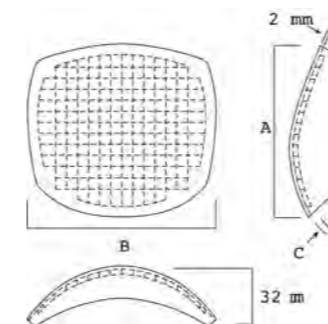
MEDPOR FLEXBLOCK Cranial Grid



The FLEXBLOCK Cranial Grid is designed to fill full thickness cranial defects as an option to calvarial bone grafts. The Cranial Grid has a grid design on the interior surface that is designed to provide strength and flexibility and allows the implant to be cut to the desired shape. The shape approximates the contour of the cranium and may be customized to the desired shape by relaxing the memory and bending the implant after submersion in hot, sterile saline. The implant is 6mm thick and 97mm x 106mm in dimension.

U.S. Patent #5,545,226

CAT#	DESCRIPTION	A	B	C
9524	Cranial Grid	97mm	106mm	6mm



MEDPOR FLEXBLOCK Implant

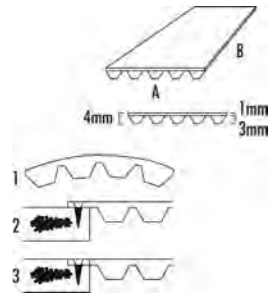


The FLEXBLOCK Implant is available for small to medium sized cranial defects and contour deformities. It can be used as an onlay for small calvarial defects and contour defects.

The FLEXBLOCK Implant has a smooth exterior surface and a series of pedicles on the interior surface that are designed to provide volume and flexibility. The outer perimeter and corresponding pedicles of the implant should be trimmed to provide a flange just larger than the defect for support and fixation.

U.S. Patent #5,545,226

1. The pedicles on the inferior surface of the implant are designed to provide flexibility to fit the implant to the desired contour.
2. The implant should be trimmed just larger than the defect. After cutting the implant to shape, the pedicles along the perimeter should be trimmed to provide a flange for fixation to the underlying bone.
3. A "shelf" in the surrounding bone may be created at the edge of the defect to provide for a more smooth transition.



CAT#	DESCRIPTION	A	B	C
6314	FLEXBLOCK	56mm	91mm	4mm
82022	FLEXBLOCK - BARRIER	56mm	91mm	4mm

MEDPOR FLEXBLOCK TF2 & TF

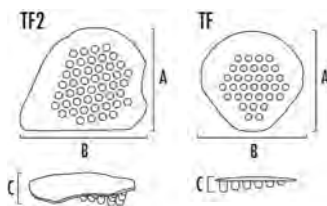


The FLEXBLOCK TF2 and FLEXBLOCK TF Implant shapes are designed to augment deficient soft tissue in the temporal region.

The FLEXBLOCK TF2 comes in left and right versions and has a thinner, contoured temporal surface designed for an improved anatomical fit and a more natural post-op result.

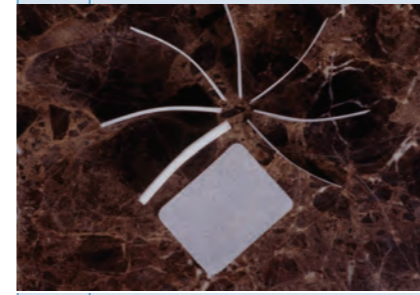
U.S. Patent #5,545,226

CAT#	DESCRIPTION	A	B	C
9857	TF2, Small - Left	61mm	78mm	18mm
9858	TF2, Small - Right	61mm	78mm	18mm
9859	TF2, Med. - Left	74mm	93mm	20mm
9860	TF2, Med. - Right	74mm	93mm	20mm
9861	TF2, Large - Left	82mm	105mm	20mm
9862	TF2, Large - Right	82mm	105mm	20mm
9521	TF Small	70mm	70mm	10mm
9522	TF Med.	88mm	86mm	15mm
9523	TF Large	98mm	95mm	18mm



Illustrations are not actual size. Please consult dimensional descriptions.

MEDPOR Sheets



MEDPOR Biomaterial Sheets provide the surgeon with excellent options for craniofacial reconstruction and augmentation. The individually packaged, sterile implants provide "off-the-shelf" availability, and may save the time and the expense of harvesting graft material. MEDPOR Sheets are available in a variety of sizes and in thicknesses ranging from 0.25mm to 3.0mm. Feathering the edge of the sheets allows for a smooth transition from the implant to the adjoining skeletal structure

MEDPOR Micro Thin Sheets

CAT #	A	B	C
83020	38mm	50mm	0.25mm
83021	76mm	50mm	0.25mm
83022	38mm	50mm	0.35mm
83023	76mm	50mm	0.35mm
8438	30mm	50mm	0.40mm
83029	38mm	50mm	0.45mm
83030	76mm	50mm	0.45mm

MEDPOR Ultra Thin Sheets

CAT #	A	B	C
7210	38mm	50mm	0.85mm
7212	50mm	76mm	0.85mm
7214	76mm	127mm	0.85mm
7216	127mm	178mm	0.85mm

MEDPOR Sheets

CAT #	A	B	C
6330	38mm	50mm	1.5mm
6331	50mm	76mm	1.5mm
8662	76mm	127mm	1.5mm
6351	127mm	178mm	1.5mm
9562	38mm	50mm	3.0mm

MEDPOR Blocks



The surgeon can carve thicker implants in the sterile O.R. field to obtain implant contours individualized for the surgical situation. Allowing the implant to soak several minutes in a hot, sterile saline bath will relax the memory of the implant, enabling modification of the shape.

CAT #	A	B	C
6332	13mm	38mm	3mm
6333	13mm	38mm	6mm
6334	13mm	38mm	9.5mm
6335	25mm	50mm	3mm
6336	25mm	50mm	6mm
6337	25mm	50mm	9.5mm
6338	38mm	63mm	3mm
6339	38mm	63mm	6mm
6340	38mm	63mm	9.5mm



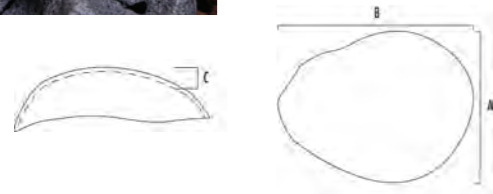
Illustrations are not actual size. Please consult dimensional descriptions.

MEDPOR Cranial Hemisphere



The MEDPOR Cranial Hemisphere for large cranial defects provides surgeons with an off-the-shelf alternative to customized implants, complex grafts, and other implant materials.

The implant shape approximates the contour of the half cranium. The Cranial Hemisphere is available in two thicknesses and left and right versions. The implant can be trimmed with a blade to fit the defect. The edges should be delicately shaped and feathered with surgical scissors or a scalpel blade for a smooth transition from the implant to the patient's bony contour. Fixation of the implant may be accomplished with suture, surgical wire, or craniofacial rigid fixation plates and screws.

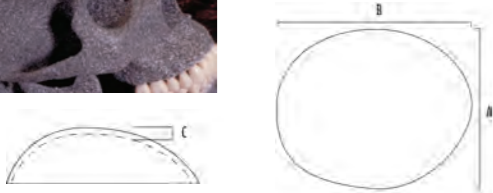


CAT#	DESCRIPTION	A	B	C
82000	Cranial Hemisphere - Right	124mm	170mm	4.5mm
82001	Cranial Hemisphere - Left	124mm	170mm	4.5mm
82002	Cranial Hemisphere - Right	124mm	170mm	6mm
82003	Cranial Hemisphere - Left	124mm	170mm	6mm

MEDPOR Cranial Dome



The MEDPOR Cranial Dome is designed to provide surgeons with a reconstructive option for large cranial defects that encompass the dome area of the skull. The Cranial Dome approximates the contour of the superior one-third of the cranium and is available in two thicknesses.



CAT#	DESCRIPTION	A	B	C
82004	Cranial Dome	150mm	180mm	4mm
82006	Cranial Dome	150mm	180mm	6mm

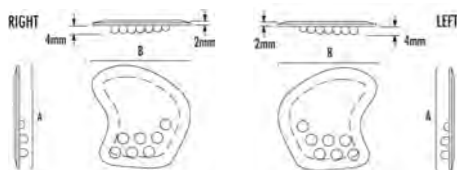
MEDPOR Pterional Implant



The Pterional Implant is designed to correct temporal hollowing in patients who have had surgery involving the pterional approach to the brain. While the pterional craniotomy is one of the most versatile approaches in neurosurgery, it can lead to temporal hollowing.¹ The implant is placed deep to the temporalis during closure and is designed to correct this defect.

The Pterional Implant is available in left and right versions, and although similar to the FLEXBLOCK TF, is much smaller in design to provide appropriate augmentation.

U.S. Patent #5,545,226



CAT#	DESCRIPTION	A	B	C
9864	Right	44mm	43mm	6mm
9865	Left	44mm	43mm	6mm

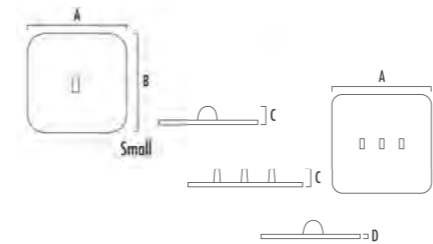
MEDPOR TSI



The MEDPOR TSI is designed to repair the sellar floor.

The TSI Implant is available in two sizes and configurations. The larger TSI is designed with three small tabs oriented to facilitate handling and placement while the original TSI design has a single tab.

A nonporous sheet of polyethylene heat-bonded to the posterior surface of the larger TSI forms a BARRIER to aid in preventing tissue ingrowth.



CAT#	DESCRIPTION	A	B	C	D
82007	TSI	20mm	20mm	2.5mm	0.45mm
82008	TSI BARRIER - Large	40mm	40mm	2.5mm	0.73mm

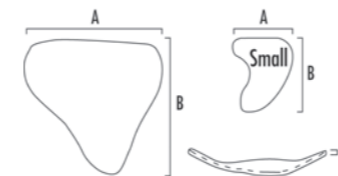
MEDPOR Mastoid Implant



For patients undergoing cranial procedures that require removal of bone in the mastoid area, the MEDPOR Mastoid Implant provides surgeons with a convenient method to repair defect areas.

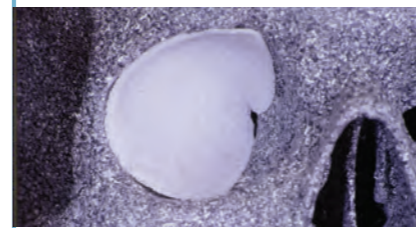
The implants are available in small and regular sizes and should be trimmed at the time of surgery to fit the needs of the individual patient, allowing edges to overlap the defect area by approximately 0.5cm.

The regular Mastoid Implant is available in left and right configuration, while the small Mastoid Implant provides a universal fit to either the left or right side.

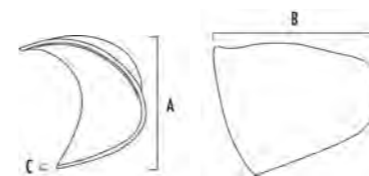


CAT#	DESCRIPTION	A	B	C
82014	Mastoid Small	36mm	45mm	1.0mm
82015	Mastoid Implant - Left	58mm	56mm	1.5mm
82016	Mastoid Implant - Right	58mm	56mm	1.5mm

MEDPOR Orbito-Zygomatic (OZ)



The MEDPOR Orbito-Zygomatic (OZ) Implant is designed for reconstruction of the superior and lateral surfaces of the orbital roof. The MEDPOR OZ Implant provides surgeons with a convenient "off-the-shelf" anatomically shaped implant to cover the bony orbital roof and lateral wall removed during cranial procedures. The OZ Implant, available in left and right versions, should be trimmed at the time of surgery to fit the needs of the individual patient.



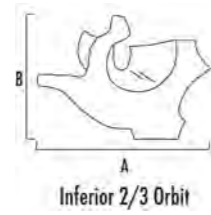
CAT #	DESCRIPTION	A	B	C
81013	Left	33mm	38mm	0.8mm
81014	Right	33mm	38mm	0.8mm

MEDPOR Complete & 2/3 Orbit Shapes



Complete and Inferior 2/3 Orbit Implants are designed to replace non-load bearing, bony structures of the orbital area. Complete and 2/3 Orbits are typically carved with a blade, scissors or burr to fit the patient's defect and fixed with sutures, wires or craniofacial screws and plates.

CAT #	DESCRIPTION	A	B
9567	Inferior 2/3 Orbit - Left	108mm	75mm
9568	Inferior 2/3 Orbit - Right	108mm	75mm
9569	Complete Orbit - Left	93mm	75mm
9570	Complete Orbit - Right	93mm	75mm

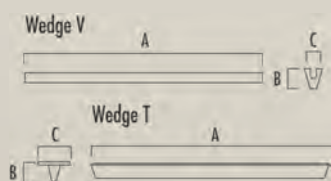


MEDPOR Craniotomy Gap Wedge V&T



The MEDPOR Craniotomy Gap Wedge V & T are designed to fill a gap often left after a craniotomy. The Craniotomy Gap Wedge V & T implants are triangle shaped implants designed to fit snugly into the gap along a bone flap. The revised Craniotomy Gap Wedge V Implant is a wedge-shaped strip that has a "U" shaped cross section. The Craniotomy Gap Wedge T Implant is designed with a thin flat section on the top surface extending 3mm on each side, for a total roof width of 10mm. Both designs measure 102mm in length. The implants are sold one of each style for a total of two implants per sterile package.

CAT#	DESCRIPTION	A	B	C
82011	Craniotomy Gap Wedge V (1 per package)	102mm	4mm	3.6mm
	Craniotomy Gap Wedge T (1 per package)	102mm	6mm	10mm

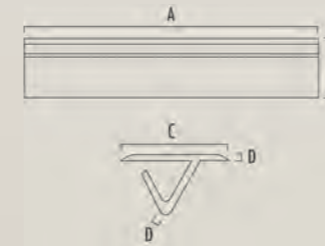


MEDPOR Craniotomy Gap Filler



The MEDPOR Craniotomy Gap Filler is designed to fill a gap often left after a craniotomy. The Craniotomy Gap Filler has a flat top surface to cover over the width of the gap with a thin "V" shaped extension designed to be pushed into the gap and expand.

CAT#	DESCRIPTION	A	B	C	D
82013	Craniotomy Gap Filler (4 per package)	30mm	6mm	10mm	0.6mm

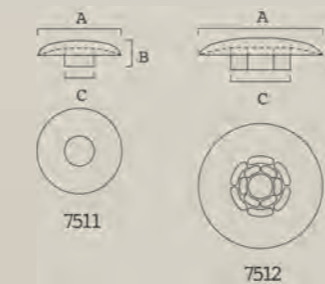


MEDPOR Burr Hole Covers



Burr Hole Covers are designed to fit into and over holes made by a cranial perforator. The large cover has a 14mm diameter lotus type stem allowing easy size modification. The smaller cover is designed for 5mm diameter holes. The superior flange is designed to cover any gaps between the cranial hole and the bone flap.

CAT#	DESCRIPTION	A	B	C
7511	Burr Hole Cover	15mm	3mm	5mm
7512	Burr Hole Cover	29mm	7mm	14mm



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Craniomaxillofacial

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Literature Number: **9410-400-186 Rev. None**
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1: Liu JK, Gotfried ON, Cole CD, Dougherty, WR, Couldwell WT, "MEDPOR Porous Polyethylene Implant for Cranioplasty and Skull Base Reconstruction" Neurosurgery [April 2004]

2: Holck, D., Foster J., and Dahl T., "Custom Shaped Porous Polyethylene-Titanium Mesh Orbital Implants for Internal Orbital Floor/Medial Wall Fracture Repair" ASOPRS 37th Annual Fall Scientific Syllabus, pp190, November 15-16, 2006

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