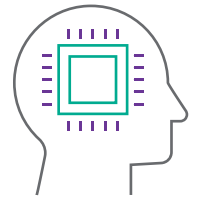




Cranial fixation



Dura substitution

THE CRANIAL CLOSURE CONCEPT

CLOSE THE GAP

AESCULAP® CRANIAL FIXATION

Neuro Plating System

The universal and reliable plates and screws solution.

CranioFix®2

Titanium clamp system for a fast and easy application.

CranioFix® absorbable

Absorbable clamp system for an unhindered skull growth.

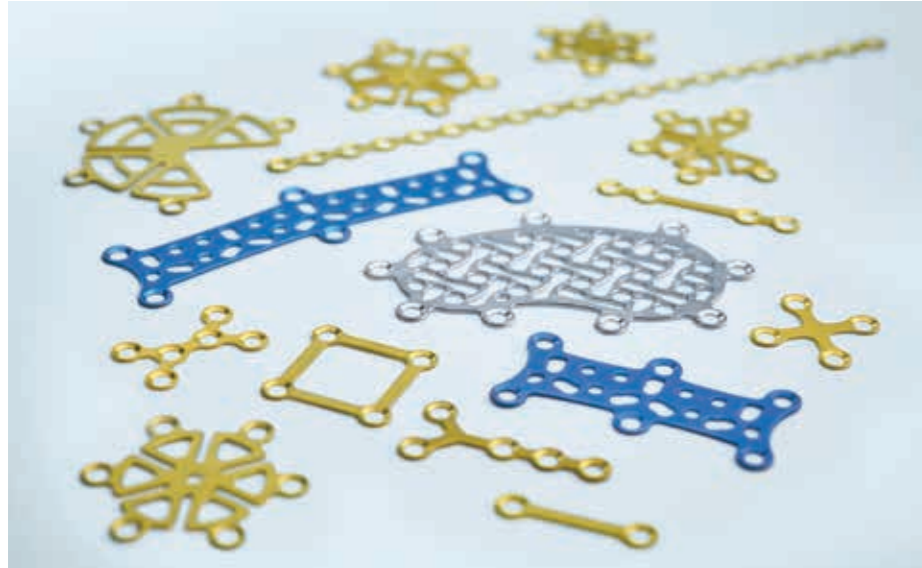


CRANIAL FIXATION

There are various fixation options for replacing skull bones after surgery or injury due to trauma. Your goal is to create a stable and reliable closure with good cosmetic results. We offer a wide range of solutions to create a stable bone flap fixation for every patient situation.

AESFULAP® Neuro Plating System

The universal and reliable plates and screws solution



UNIVERSAL

- System covers a wide range of indications in cranial fixation
- Bendable plates and meshes for complex cases



RELIABLE AND EASY

- Very good connection between screwdriver blade and screw
- Easy and smooth screw insertion
- Battery-powered screwdriver for fast screw insertion
- Prefilled screw magazines

STABLE AND GOOD COSMETIC RESULTS

- 0.4 mm plates and screws made of titanium
- Highest pull-out force when compared to market leading systems
- Small palpability due to low profile plates



INDIVIDUAL AND SPACE-SAVING




















- Modular configuration according to your personal preferences
- Compact tray for storage and reprocessing of plates and screws











MRI COMPATIBILITY

MRI examinations using magnetic fields of 1.5 and 3.0 Tesla do not present an additional risk to Neuro Plating System implant wearers.

AESCULAP® Neuro Plating System

The universal and reliable plates and screws solution




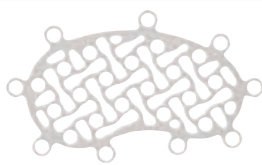
Straight Plates	Art. No.	Description	Dimensions
	NST304L02A	2 Hole	12.4 x 3.4 mm
	NST304X02A	2 Hole	15.4 x 3.4 mm
	NST304L04A	4 Hole	21.4 x 3.4 mm
	NST304X04A	4 Hole	24.4 x 3.4 mm
	NST304M05A	5 Hole	21.4 x 3.4 mm
	NST304M06A	6 Hole	25.9 x 3.4 mm
	NST304M10A	10 Hole	43.9 x 3.4 mm
	NST304M20A	20 Hole	88.9 x 3.4 mm
Double-Y-Plates / Y-Plate / X-Plate			
	NDY304M06A	Double-Y-Plate, 6 Hole	14.3 x 9.8 mm
	NDY304L06A	Double-Y-Plate, 6 Hole	18.8 x 9.8 mm
	NYP304M05A	Y-Plate, 5 Hole	20.1 x 9.8 mm
	NXP304M04A	X-Plate, 4 Hole	11.0 x 11.0 mm
Square Plates / Rectangular Plate			
	NSQ304M04A	Square Plate, 4 Hole	12.0 x 12.0 mm
	NSQ304L04A	Square Plate, 4 Hole	14.0 x 14.0 mm
	NSQ304X04A	Square Plate, 4 Hole	16.0 x 16.0 mm
	NRE304M04A	Rectangular Plate, 4 Hole	16.0 x 10.0 mm
Double-Square Plate / Matrix Plates			
	NDS304M06A	Double Square Plate, 6 Hole	24.0 x 14.0 mm
	NQD304M08A	Matrix Plate, 8 Hole	28.0 x 12.0 mm
	NQD304L08A	Matrix Plate, 8 Hole	34.0 x 14.0 mm

Burrhole Plates	Art. No.	Description	Diameter
	NBP304S06A	6 Hole	18.4 mm
	NBP304M06A	6 Hole	21.4 mm
	NBP304L06A	6 Hole	23.4 mm
	NBP304X06A	6 Hole	30.4 mm
Burrhole Calvarium Plates			
	NBC304M06A	6 Hole	25.9 mm
	NBC304L06A	6 Hole	30.9 mm
Burrhole Plates Slot	Art. No.	Description	Dimension
	NBS304S05A	5 Hole	18.4 x 14.7 mm
	NBS304M05A	5 Hole	21.4 x 16.9 mm
	NBS304L05A	5 Hole	23.4 x 18.4 mm
	NBS304X05A	5 Hole	30.4 x 24.3 mm

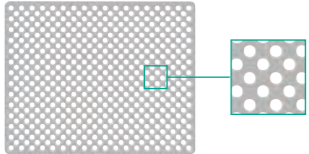
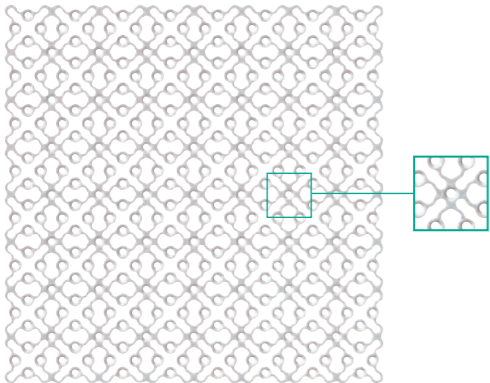
Note: Plates are 0.4 mm thick. Sales unit: ST = 1 piece.

AESFULAP® Neuro Plating System

The universal and reliable plates and screws solution





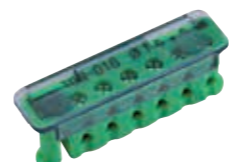
Gap Plates / Temporal Mesh Plate	Art. No.	Description	Thickness	Dimensions
	NGP204S06A	Gap Plate, short, 6 Hole	0.4 mm	28.8 x 14.5 mm
	NGP204M06A	Gap Plate, medium, 6 Hole	0.4 mm	38.8 x 15.3 mm
	NGP204L06A	Gap Plate, long, 6 Hole	0.4 mm	48.8 x 16.2 mm
	NTE204M00A	Temporal Mesh Plate, 9 Hole	0.4 mm	42.2 x 25.1 mm

Note: Plates are 0.4 mm thick. Sales unit: ST = 1 piece.

Mesh Plates	Art. No.	Description	Thickness	Dimensions
	NME103S00	Mesh Plate	0.3 mm	40.2 x 25.2 mm
	NME103M00		0.3 mm	40.2 x 50.2 mm
	N3D206S00A	3D Mesh Plate	0.6 mm	50.0 x 50.0 mm
	N3D206M00A		0.6 mm	100.0 x 100.0 mm
	N3D206L00A		0.6 mm	150.0 x 150.0 mm
	N3D206X00A		0.6 mm	200.0 x 200.0 mm












Note: Sales unit: ST = 1 piece

silver plates: malleable
 blue plates: rigid
 golden plates: extra rigid


Screws	Art. No.	Description	Diameter	Screw length
	TSN-012	Screw disk with 100 self-drilling screws	1.5 mm	4.0 mm
	TSN-013	Screw magazine with 6 self-drilling screws	1.5 mm	3.0 mm
	TSN-014	Screw magazine with 6 self-drilling screws	1.5 mm	5.0 mm
	TSN-015	Screw magazine with 6 self-tapping rescue screws	1.8 mm	4.0 mm
	TSN-016	Screw magazine with 6 self-tapping rescue screws	1.8 mm	6.0 mm

AESCULAP® Neuro Plating System

The universal and reliable plates and screws solution

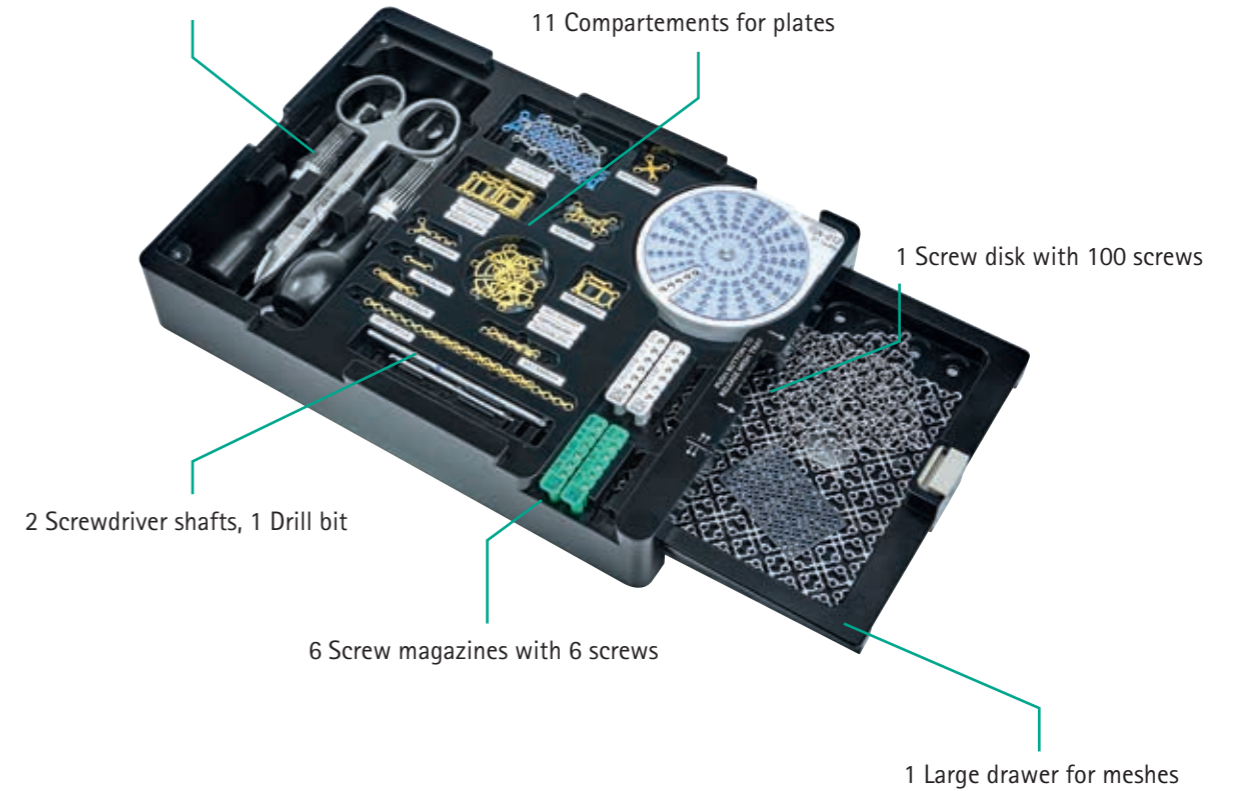
Instruments	Art. No.	Description	Length
	LDS-01	Screwdriver Shaft	75 mm
	IOC-017	Screwdriver (large)	100 mm
	IOC-018	Screwdriver (small)	100 mm
	LDS-02	Screwdriver Shaft for Power Screwdriver	57 mm
	IOC-141	Power Screwdriver Note: Single-use, sterile delivery	175 mm
	NDB-01	Drill Bit (J-Notch-coupling) Diameter: 1.1 mm, drill depth: 4 mm	52 mm
	GP345R	Twist drill for ELAN4-2-Ring handpieces Diameter: 1.1 mm, Incision depth: 4 mm	56 mm
	IOC-033	Holding Forceps angled	130 mm
	IOC-040	Plate Cutter	110 mm
	IOC-041	Mesh Cutter	190 mm
	IOC-070	Plate Bending Pliers	150 mm

Note: Sales unit: ST = 1 piece

Storage	Art. No.	Description	Dimensions
	TPN-007	Tray for storage and reprocessing of Neuro Plating System implants	217 x 157 x 37 mm

Maximal loading of the tray:

2 Screwdrivers, 1 Holding forceps, 1 Plate cutter



The mesh cutter and the plate bending pliers do not fit into the tray and need to be stored separately.

AESCULAP® Neuro Plating System Sterile Kits

The simple plates and screws solution



SPACE-SAVING

- Plates and implants are stored in one kit

COST-SAVING

- Reduces costs associated with handling, inventorying and reprocessing

TIME-SAVING

- Delivery in sterile condition

EASY HANDLING

- Various configurations for a wide range of bone flaps
- Fully traceable




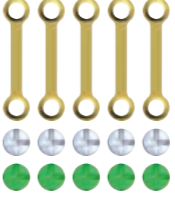

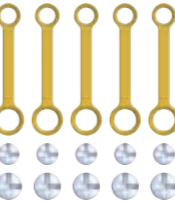
See-through package for easy identification of plates and screws.



AESCULAP® Neuro Plating System Sterile Kits

The simple plates and screws solution

Sterile Kits	Art. No.	Content	Quantity	Description
	TCN-011		3 6	Standard long Straight Plate, 2 Hole, 15.4 mm Self-drilling screw, 1.5 x 4 mm
	TCN-021		3 6	Standard short Straight Plate, 2 Hole, 12.4 mm Self-drilling screw, 1.5 x 4 mm
	TCN-031		1 2 10	Standard long Burrhole Plate Burrhole Plate, 6 Hole, 23.4 mm Straight Plate, 2 Hole, 15.4 mm Self-drilling screw, 1.5 x 4 mm
	TCN-041		1 6	Burrhole Plate Burrhole Plate, 6 Hole, 23.4 mm Self-drilling Screw, 1.5 x 4 mm
	TCN-051		1 5	Burrhole Plate Slot Burrhole Plate Slot, 5 Hole, 23.4 x 18.4 mm Self-drilling screw 1.5 x 4 mm

Sterile Kits	Art. No.	Content	Quantity	Description
	TCN-012		5 5 5	Anatomics Acrylic Straight Plate, 2 Hole, 15.4 mm Self-drilling screw 1.5 x 4 mm Self-tapping screw 1.5 x 4 mm
For the fixation of acrylic patient specific implants from Anatomics®				
	TCN-022		5 5 5	Anatomics PoreStar Straight Plate Special, 2 Hole, 15.9 mm Self-drilling screw, 1.5 x 4 mm Self-drilling screw, 1.95 x 4 mm
For the fixation of PoreStar patient specific implants from Anatomics®				

AESCULAP® CranioFix®2

Titanium clamp system for a fast and easy fixation



Introduced in 1997, CranioFix® was the pioneer for clamp-based bone flap fixation. Today CranioFix®2, the second generation, has been established worldwide. Over 3.5 million successfully implanted clamps helped patients in more than 60 countries.

FAST

- Fast application to save valuable OR time

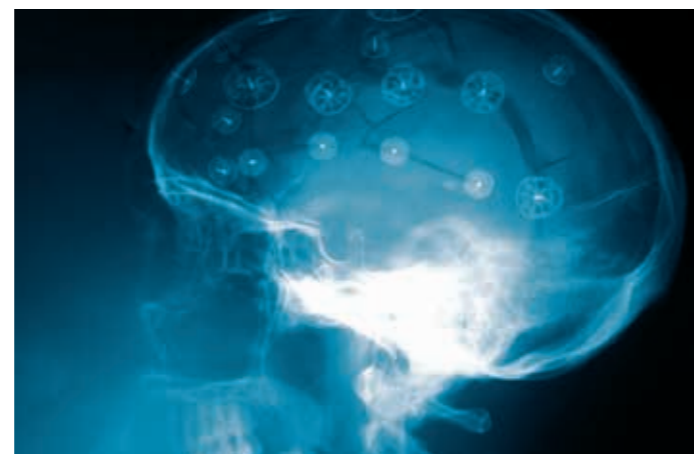
EASY

- Self-explaining application

RELIABLE


- Reproducible fixation with a defined force

APPROVED FOR THE FIXATION OF SKULL FRACTURES



MRI COMPATIBILITY

MRI examinations using magnetic fields of 1.5 and 3.0 Tesla do not present an additional risk to CranioFix®2 implant wearers.

CranioFix®2 Implants	Art. No.	Diameter	Unit
	FF490T	11 mm	PAK = 12 pieces
	FF491T	16 mm	PAK = 6 pieces
	FF492T	20 mm	PAK = 6 pieces

CranioFix® 2 Instruments	Art. No.	Description	Length
	FF494R	Applier, with automatic stop	205 mm
	FF105R	Holding forceps	115 mm
	FF103R	Pin Cutter	145 mm
	FF104R	Removal forceps	130 mm
	FF094P	Tray (without instruments)	250 x 250 x 32 mm

AESCULAP® CranioFix® absorbable

Absorbable clamp system for an unhindered skull growth

UNHINDERED SKULL GROWTH

- Particularly suitable for pediatric cases

GOOD COSMETIC RESULTS

- No palpable, visible implants, especially in frontal area

FAST AND EASY APPLICATION

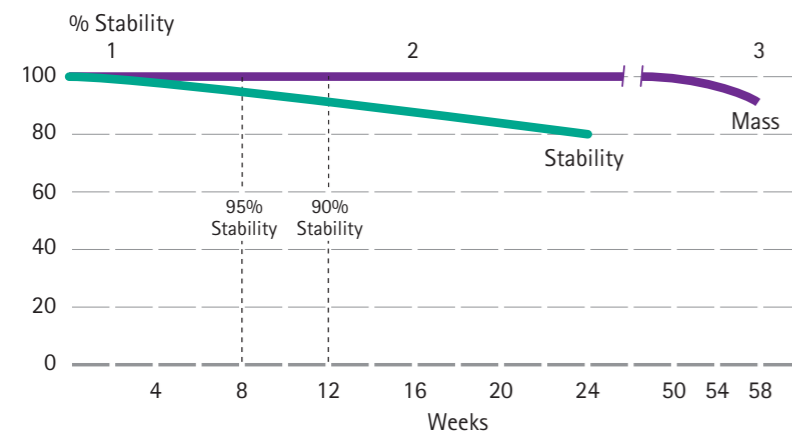
- No instruments needed

ABSORBABLE AND STABLE

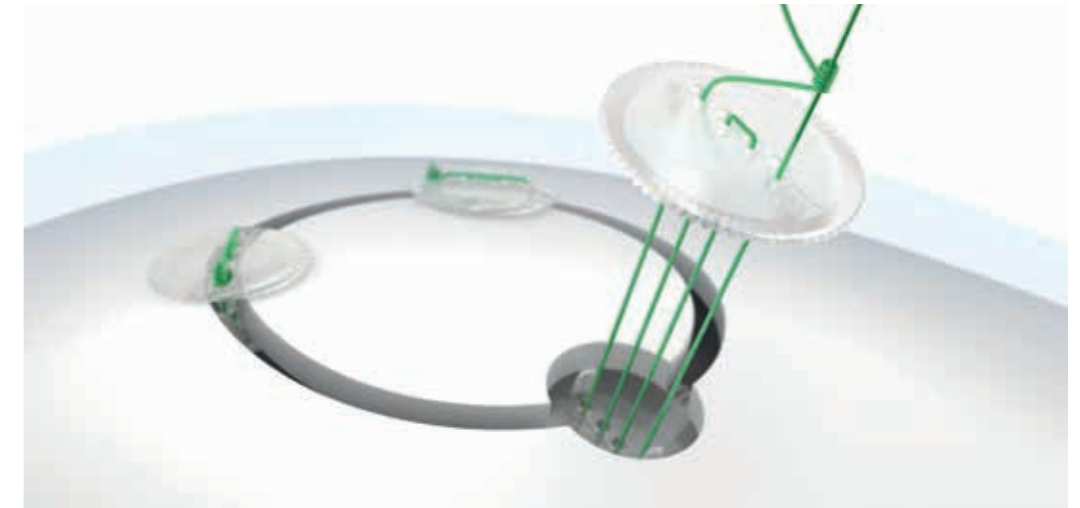
- Made from the clinically proven absorbable polyester material [Poly (L-lactide-co-D, L-Lactide) 70:30]
- An in-vitro study has shown that CranioFix® absorbable retains approximately 90% of its initial strength after 12 weeks. The absorbable material completely disappears within 2-3 years.



CRANIOFIX® ABSORBABLE IN-VITRO STUDY: STABILITY AND MASS

The in-vitro study measures the stability and mass of CranioFix® absorbable implants (only for FF016) with 2 mm depression depth of the bone flap under hydrolysis conditions [Internal study, Aesculap AG, idealized curves, 2003-2005].



- Hydration: Adsorption of water on polymer chains
- Loss of stability: Polymer chains start to break. Degradation of molecular weight
- Loss of mass: Further breakage of polymer chains. Formation of small granular particles.



	Art. No.	Diameter	Description	Unit
	FF016	11 mm	for craniotomy gaps	PAK = 6 pieces
	FF017	16 mm	for burrhole	PAK = 6 pieces



STERILE PACKED

CranioFix® absorbable is sterile packed for immediate use.

MRI COMPATIBILITY

MRI examinations do not present an additional risk to CranioFix® absorbable implant wearers.

AESCULAP® DURA SUBSTITUTES

Neuro-Patch®

Synthetic dura replacement, suturable

Lyoplant®

Biological dura replacement, suturable

PRODUCT CHARACTERISTICS

- High liquid tightness of the implant prevents CSF leakages
- Tissue tolerant
- High tensile strength of the implant prevents suture pull out
- Good suturability
- Adaptable to anatomical structures

Lyoplant® Onlay

Biological dura replacement

PRODUCT CHARACTERISTICS

- High liquid tightness of the implant supports preventing CSF leakages
- Integrates with the body's own connective tissue cells
- Time-saving Onlay application
- Thinner than comparable Onlay products
- Elastic and flexible
- Good adaptability to the defect and surrounding anatomical structures
- Approved for cranial and spinal use
- One dura substitute for various indications



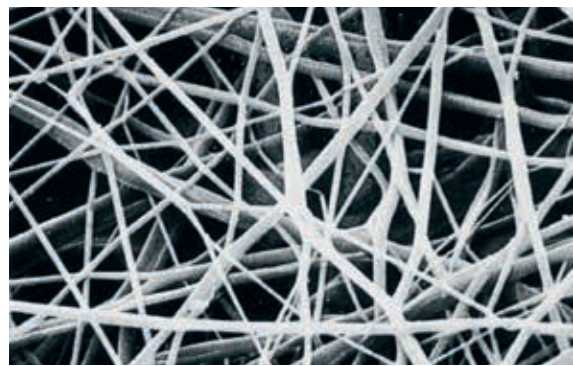
DURA SUBSTITUTES

Biological and synthetic dura substitutes are used to prevent cerebrospinal fluid (CSF) leakage and infections. AESCULAP® dura substitutes stimulate the growth of dura-like tissue to close the opening. And are available as suturable implants and onlay variant.



AESCU LAP[®] Neuro-Patch[®]

Synthetic, suturable dura substitution



C87802
Product sample card
including a product sample.

ELASTIC. WELL-TOLERATED. NON-ABSORBABLE.

Neuro-Patch[®] is a type of fine fibred microporous fleece manufactured from a highly purified polyesterurethane. An electronically controlled procedure has been developed for producing Neuro-Patch[®], in which a dissolved polyesterurethane polymer is sprayed from specialised jets. This produces fibres which are captured at defined angles, producing a fleece-like structure. The fine fibred microstructure supports the rapid infiltration of connective tissue cells.



MODE OF APPLICATION

To achieve tension-free embedding, Neuro-Patch[®] and Lyoplant[®] should be cut as closely as possible to the defect size. Neuro-Patch[®] and Lyoplant[®] should be fixed with non-absorbable suture material (polyester, polypropylene). Additionally, it may be secured with fibrin glue. Atraumatic round-bodied needles allow suturing without significant damage to the implant.

SUITABLE SUTURES



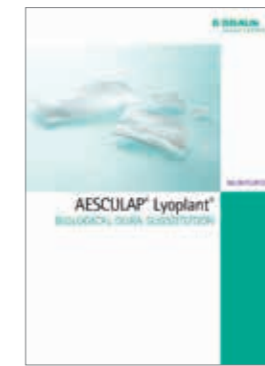
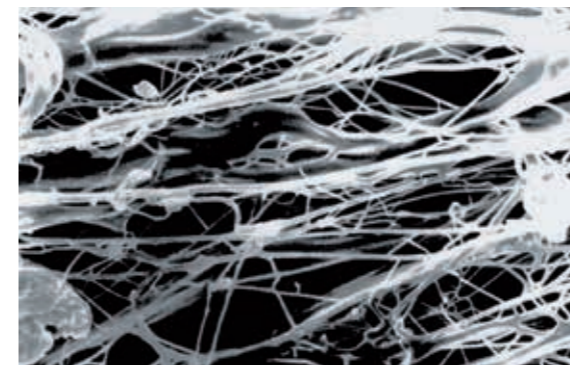
Optilene[®] polypropylene/polyethylene sutures (monofilament)



Premicron[®] polyester sutures (braided)

AESCU LAP[®] Lyoplant[®]

Biological, suturable dura substitution



C87902
Product sample card
including a product sample.

FUNCTIONAL. TEARPROOF. ABSORBABLE.

Lyoplant[®] is a pure collagen implant that is produced from bovine pericardium. This highly purified collagen is known for its low propensity to cause immunological reactions. The special and comprehensive manufacturing process eliminates all non-collagenous substances such as fats, enzymes and other non-collagenous proteins. A controlled lyophilisation (freeze drying) process supports that the loose fibre structure of Lyoplant[®] is preserved to offer appropriate conditions for integration after implantation. After implantation, Lyoplant[®] slowly degrades enzymatically and is substituted by body's own connective tissue.

Sizes	Content	Art. No.	
		Neuro-Patch [®]	Lyoplant [®] *
12 x 14 cm	1 piece	106 4002	-
6 x 14 cm	1 piece	106 4010	106 6021
8 x 9 cm	1 piece	106 4020	106 6030
6 x 8 cm	1 piece	106 4029	106 6242
5 x 6 cm	1 piece	106 4040	106 6050
4 x 10 cm	1 piece	106 4037	106 6048
4 x 5 cm	2 pieces	106 4045	106 6064
2 x 10 cm	2 pieces	106 4053	106 6080
1.5 x 3 cm	2 pieces	106 4061	106 6102

* To improve smoothness and flexibility, rehydrate Lyoplant[®] material prior to implantation.

AESCULAP® Lyoplast® Onlay

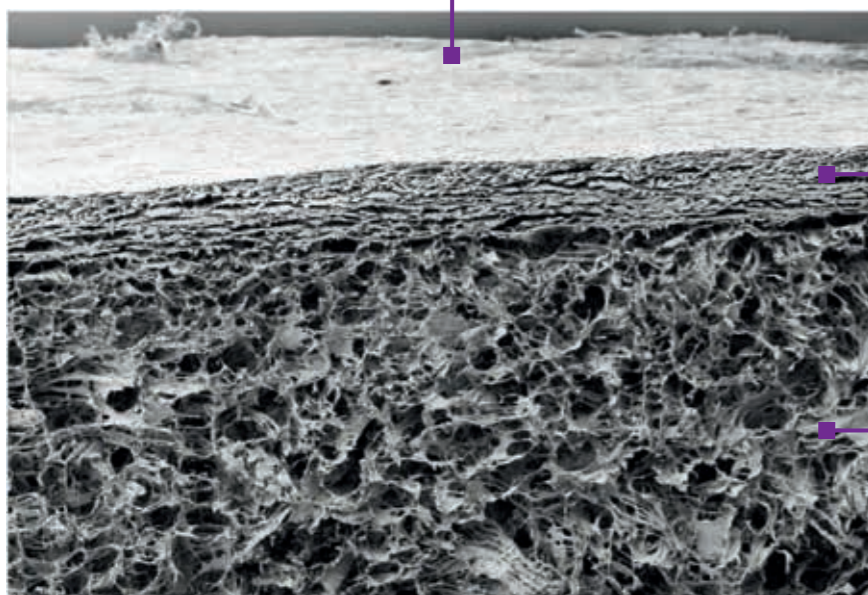
Biological dura substitution

FAST. EASY. VERSATILE. RELIABLE.

Lyoplast® Onlay is a biological, absorbable dura substitution consisting of a bilayer membrane, designed to provide high ease of use.³ The product stands out due to the **fast** application, the **easy** handling, the **versatile** usage and the **reliable** treatment for the patient. It allows for a simple Onlay application with the possibility to incorporate suture fixation if necessary.

BIOLOGICAL BILAYER MEMBRANE

The **first layer** is a highly purified collagen element that is produced from bovine pericardium. It is the same material used for our well-established suturable dura substitution Lyoplast®. Selling more than 1,000,000 units of Lyoplast® over now many years shows the proven trust in this product.



The close connection between the two layers as well as the production of the materials itself are obtained by a very gentle lyophilisation (freeze-drying) process. The two layers are not chemically crosslinked.

The second layer is also a highly purified collagen element, made from bovine split hide. The fleece-like spongy quality of this layer allows the implant to adhere to the dura around the defect. Thus, Lyoplast® Onlay can be applied as an Onlay simply by laying the implant on the dura. This possibility of a sutureless closure of the dura defect can save valuable OR time.



C88102
Product sample card including a product sample.

Sizes		Content	Art.-No.
2.5 x 2.5 cm	1" x 1"	1 piece	106 7010
5.0 x 5.0 cm	2" x 2"	1 piece	106 7020
2.5 x 7.5 cm	1" x 3"	1 piece	106 7030
7.5 x 7.5 cm	3" x 3"	1 piece	106 7040
10.0 x 12.5 cm	4" x 5"	1 piece	106 7050

AESCULAP® Lyoplast® Onlay

Mode of application

CUT IN SHAPE

Lyoplast® Onlay can be cut into the required shape and size easily.

Onlay technique:

The implant should overlap the dura defect by approx. 1 cm to ensure a high level of adhesion and a liquid-tight seal.

Suturing:

The implant should be cut as closely as possible to the defect size.

APPLY

Onlay technique:

The implant has to be laid flat against the defect edges, ensuring that it is not taut.

Suturing:

If required and if considered necessary by the user, Lyoplast® Onlay can be sutured in place. The implant should be fixed with non-absorbable suture material (polyester, polypropylene), using atraumatic round-bodied needles.

The implant can be sealed with fibrin glue.

POSITIONING & REHYDRATION

Ensure that the fleece-like, porous side (labeled "DURA SIDE") is facing the dura. Which side has to face the dura should be identified before rehydration. Prior to implantation, Lyoplast® Onlay is placed in sterile saline solution or in another isotonic solution to ensure better suppleness and flexibility of the implant.



SUITABLE SUTURES



Optilene® polypropylene/polyethylene sutures (monofilament)



Premicron® polyester sutures (braided)

AESCULAP® – a B. Braun brand

B. Braun Medical B.V. | +31 412 67 24 11 | customercare.nl@bbraun.com | www.bbraun.nl

Manufacturer acc. to MDD 93/42/EEC of the Neuro Plating System is: Osteonic Co., Ltd., Suite 1206, Ace Techno 3 Cha, 38, Digital-ro 29-gil, Guro-gu, Seoul, Korea.
The main product trademark "Aesculap" and the product trademark "CranioFix" are registered trademarks of Aesculap AG.



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