

# NeoDura™

Dural Repair Patch



- Easy Surgical Handling
- Excellent Conformity
- Rapid Regeneration
- Suture & Onlay



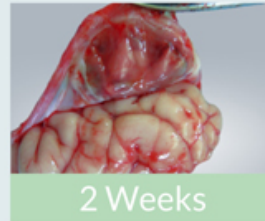
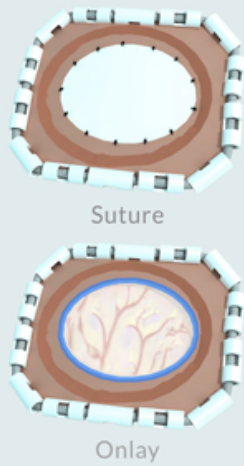
# NeoDura™

## Dural Repair Patch

NeoDura™ is an absorbable dural repair patch made of degradable material poly-L-lactic acid and gelatin, an entirely NEW type of material beyond current categories.

### Onlay & Suture

NeoDura™ can be either sutured or applied as an onlay.



### Anti-Adhesion

Physical barrier between brain tissue and the skull. No adhesion occurred between brain tissue and NeoDura™ after implantation.

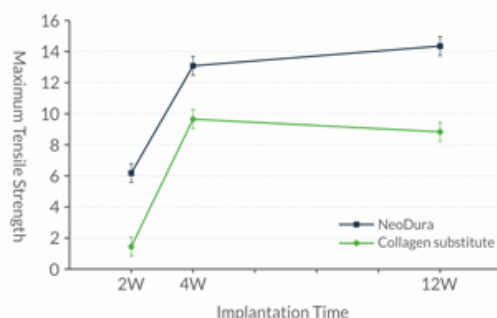


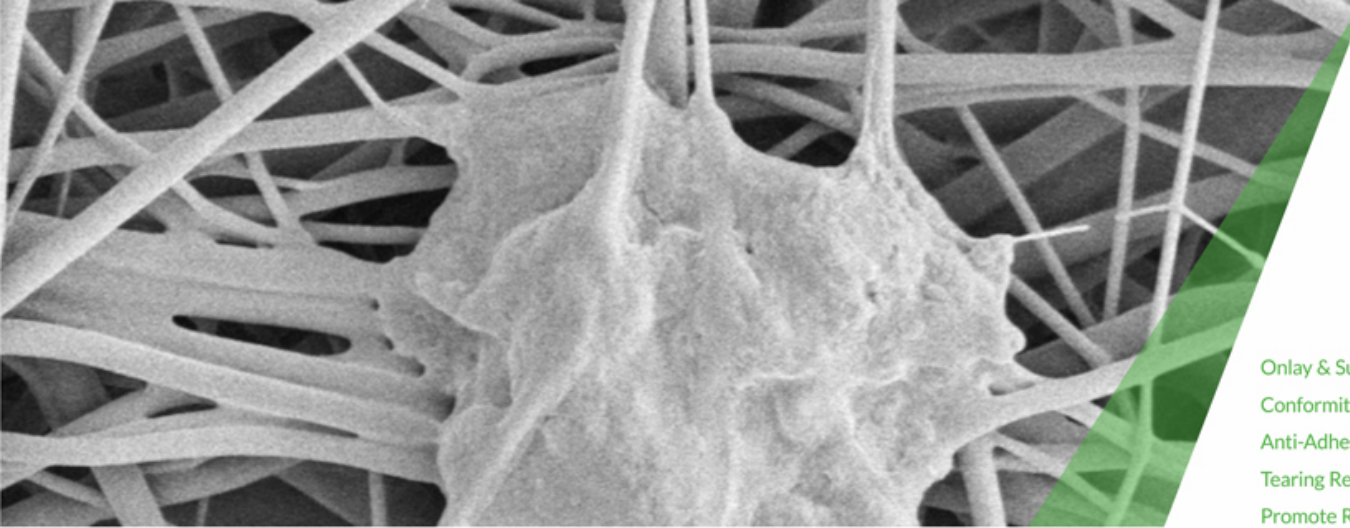
### Conformity

NeoDura™ becomes transparent after implantation. Blood vessels are shown clearly. NeoDura™ is soft and conformable.

### Tearing Resistance

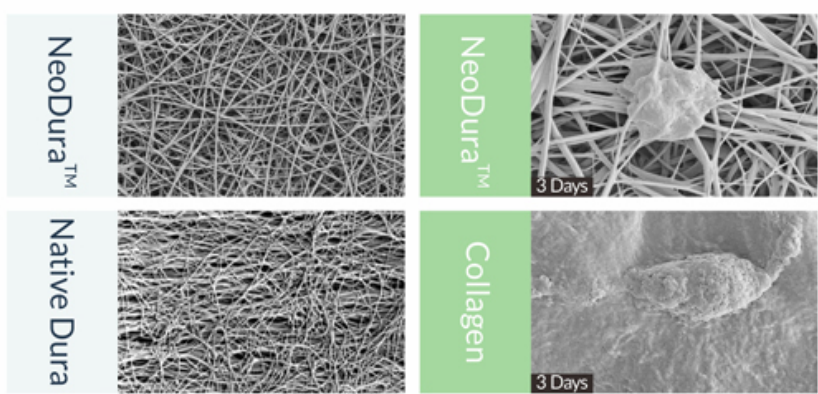
Mechanical property of dura tissue repaired by different materials, at 2, 4, and 12 weeks post-implantation. Results demonstrate high mechanical strength of NeoDura™.





- Onlay & Suture
- Conformity
- Anti-Adhesion
- Tearing Resistance
- Promote Rapid Dura Regeneration

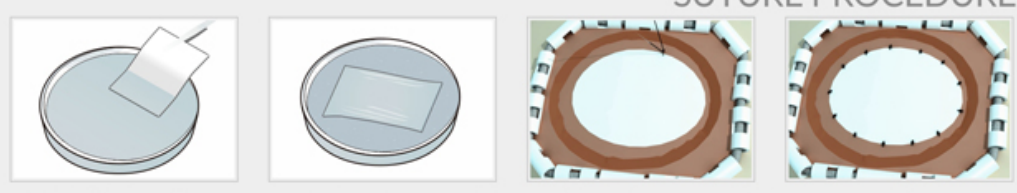
## Promote Rapid Dura Regeneration



The microstructure of NeoDura™ resembles that of human dural mater, the tridimensional structure provides a temporary scaffold for the growth of dural cells, and promotes rapid repair and regeneration.

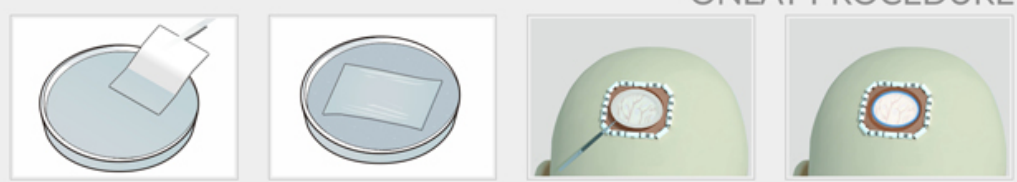
## Clinical Guide

### SUTURE PROCEDURE



- 1 Soak NeoDura™ in normal or cold saline for at least 10 minutes. If the softness and conformity are not satisfactory, please keep NeoDura™ hydrated until surgeon is satisfied with these properties.
- 2 Suture NeoDura™ with 4-0 sutures, or the sutures of the surgeon's choice.
- 3 During suturing, relaxation suture technique is required, and suture holes should stay 2-3mm away from NeoDura™'s edge to ensure a watertight closure.

### ONLY PROCEDURE



- 1 Soak NeoDura™ in normal or cold saline for at least 10 minutes. If the softness and conformity are not satisfactory, please keep NeoDura™ hydrated until surgeon is satisfied with these properties.
- 2 Apply NeoDura™ to cover the dural defect, ensuring the overlap area of 20-30mm.
- 3 Valsalva maneuver can be performed to ensure a watertight closure. Sealant or sutures can be applied if CSF leakage is detected.

### Product Code and Specification

Model	Metric Dimensions	Equivalent English Dimensions	Units/Case	Thickness (mm)
RDP-1	2.5 cm × 2.5 cm	(1 inch × 1 inch)	1	0.1~0.5
RDP-2	2.5 cm × 7.5 cm	(1 inch × 3 inch)	1	
RDP-3	3 cm × 4 cm	-	1	
RDP-4	4 cm × 6 cm	-	1	
RDP-5	5 cm × 5 cm	(2 inch × 2 inch)	1	
RDP-6	6 cm × 6 cm	-	1	
RDP-7	6 cm × 8 cm	-	1	
RDP-8	7.5 cm × 7.5 cm	(3 inch × 3 inch)	1	
RDP-9	6 cm × 14 cm	-	1	
RDP-10	8 cm × 12 cm	-	1	
RDP-11	10 cm × 12.5 cm	(4 inch × 5 inch)	1	
RDP-12	15 cm × 15 cm	(6 inch × 6 inch)	1	

### References

- Kunxue Deng, Yaya Yang, et al. A Novel Biomimetic Composite Substitute of PLLA/Gelatin Nanofiber Membrane For Dura Repairing. *Neurological Research*, 2017 July 12.
- Zhidong Shi, Tao Xu, Yuyu Yuan, Kunxue Deng, et al. New Absorbable Synthetic Substitute With Biomimetic Design for Dural Tissue Repair. *Artif Organs*. 2015 Nov 2. doi: 10.1111/aor.12568.
- Novel Regenerative Nanofibrous Bio-device for Dural Defect Repair. Congress of Neurological Surgeons Annual Meeting, Washington DC, USA, 2011.
- In-vitro and clinical study on a novel synthetic absorbable biomimetic dural substitute. European Society for Pediatric Neurosurgery(ESPN) Congress, Rome, Italy, 2014.
- Electrospun Fibrous Mats with High Porosity as Potential Scaffolds for Skin Tissue Engineering. *Biomacromolecules*, 2008,9(7):1795-1801.
- Development of Novel Nanofibrous Dural Substitute for Dural Repair. The 14th World Federation of Neurological Societies Interim Meeting, Pernambuco, Brazil, 2011.
- Francesco Zenga, et al. Nanofibrous Synthetic Dural Patch for Skull Base Defects: Preliminary Experience for Reconstruction after Extended Endonasal Approaches. *Journal of Neurological Surgery Reports* 2016;77:e50–e55.
- Kunxue Deng, Xun Ye, Yaya Yang, Man Liu, et al. Evaluation of efficacy and biocompatibility of a new absorbable synthetic substitute as a dural onlay graft in a large animal model. *Neurological Research* 2016.

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