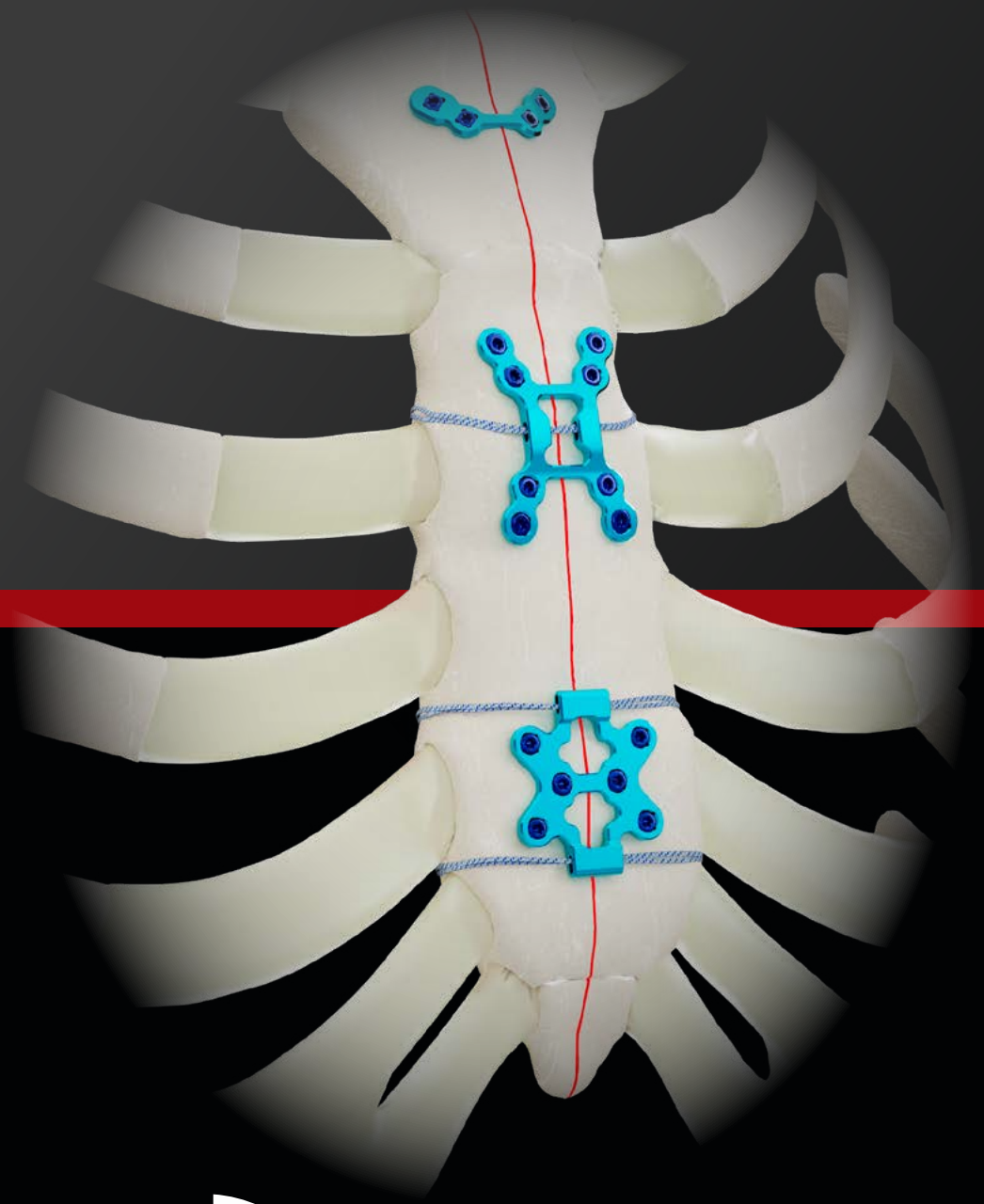
STERNUM VERSALOCK

VARIABLE ANGLE LOCKING PLATE SYSTEM FOR STERNUM CLOSURE

ENGLISH



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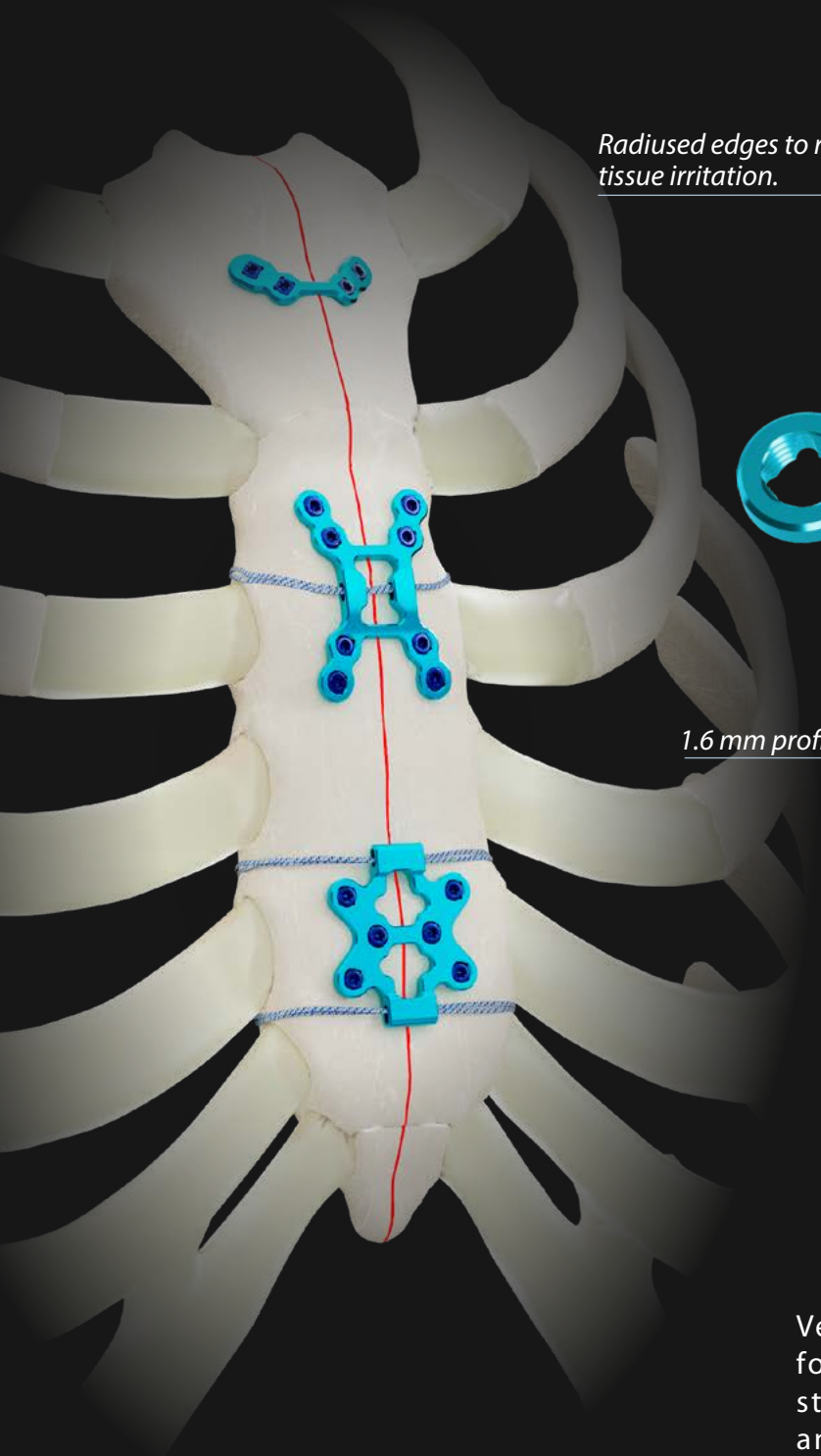
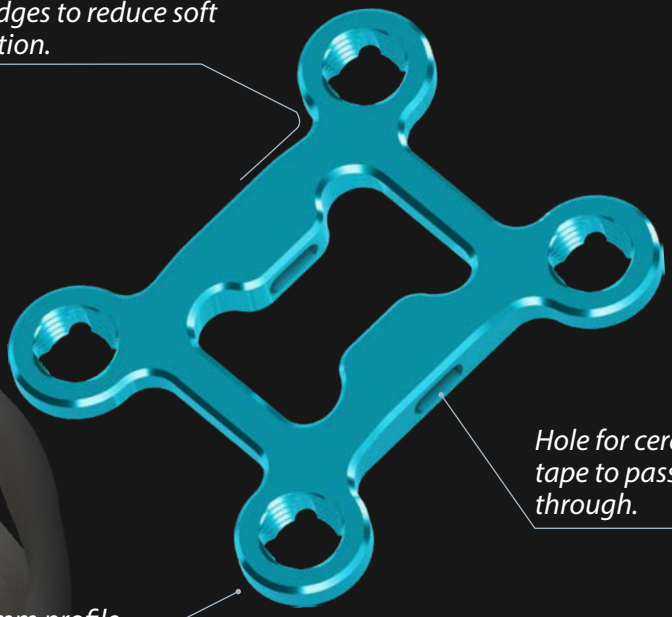
2024

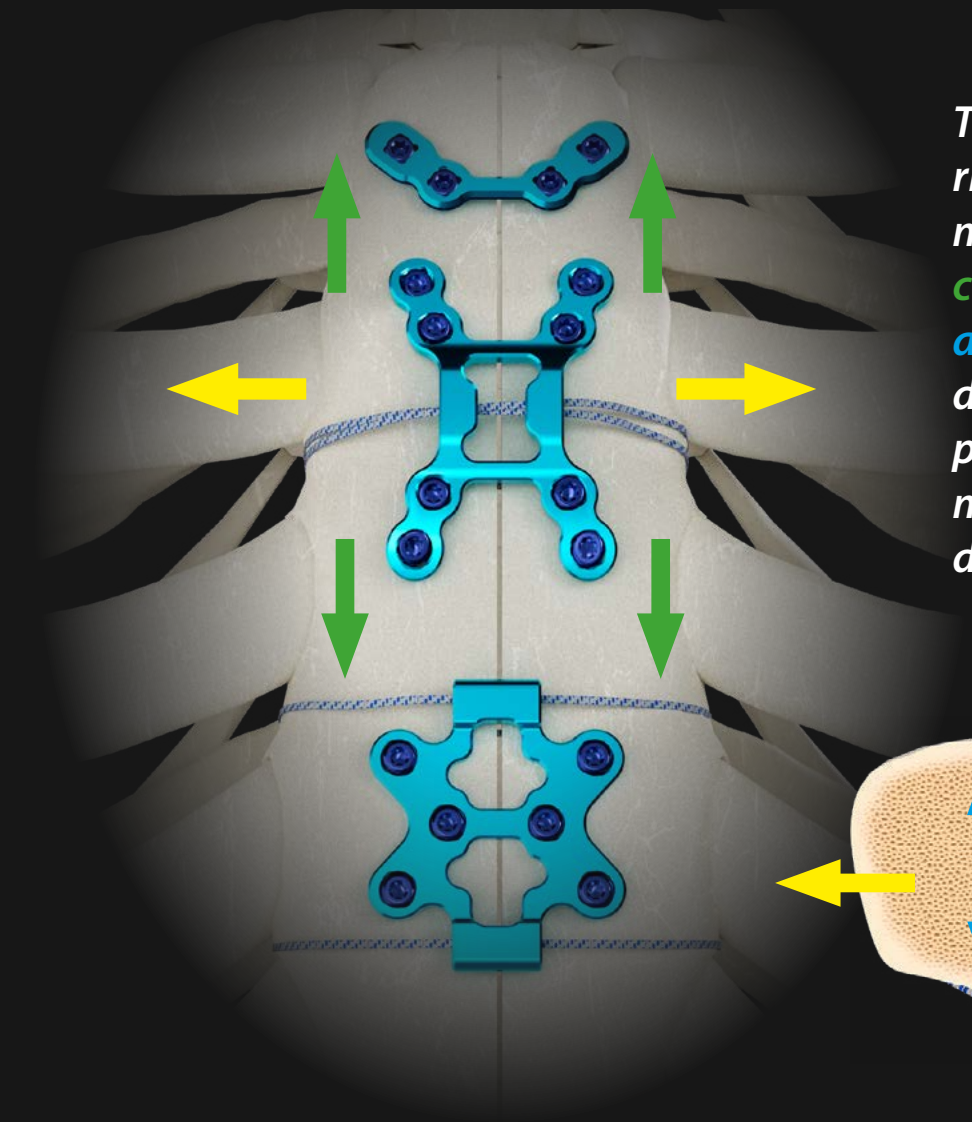
VERSALOCK STERNUM PLATE SYSTEM

The Versalock system of variable angle locking plates for closing sternotomies provides better conditions for bone healing, reduces pain[1] and post-surgical complications[2]. There are 11 plate models, three with specific holes for cerclage with high-strength Stitch GMReis tape, self-drilling and self-tapping screws Ø2.4 and 2.7 mm.

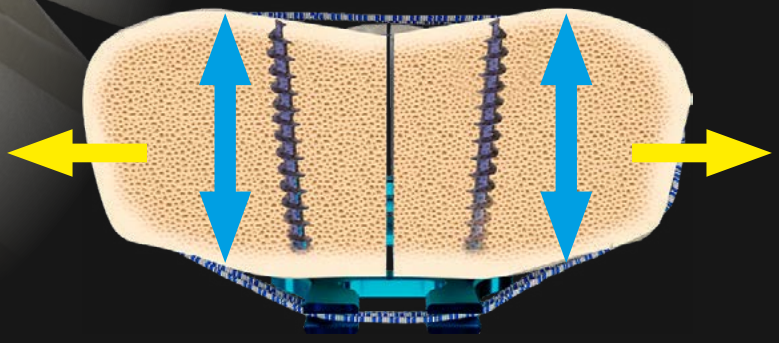




Versalock Sternal Plates are also indicated for fixing fractures of the manubrium and sternal body, and are fixed with ±15° variable angle locking screws with self-drilling tips, with Ø2.4 and 2.7 mm options and lengths from 8 to 20 mm.



The locked plate provides rigid fixation, stabilizing movement in the craniocaudal and anteroposterior, directions, and the tape provides stability of movement in the lateral direction.



SCIENTIFIC EVIDENCE:

A randomized study of 236 patients who underwent sternotomy closure, 116 with rigid plate fixation and 120 with cerclage cable, concluded:

> ***"In patients undergoing sternal closure after median sternotomy, rigid plate fixation compared with cable cerclage resulted in reduced sternal pain, improved upper limb function ..."***

[1.] *Allen, K. B., Thourani, V. H., Naka, Y., Grubb, K. J., Grehan, J., Patel, N., Guy, T. S., Landolfo, K., Gerdisch, M., Bonnell, M., & Cohen, D. J. (2018). Rigid Plate Fixation Versus Wire Cerclage: Patient-Reported and Economic Outcomes From a Randomized Trial. Annals of Thoracic Surgery, 105(5), 1344-1350. https://doi.org/10.1016/j.athoracsur.2017.12.011*

In another study, 45 patients at high risk of complications underwent sternal closure with rigid plate fixation:

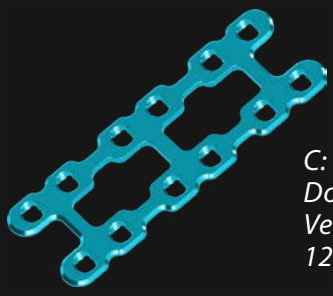
> ***"The rigid plate fixation technique for sternal closure is considered safe, efficient and effective. Experience with rigid sternal osteosynthesis has shown a dramatic reduction in complications associated with sternal instability, including post-sternotomy mediastinitis."***

[2.] *David H. Song, Robert F. Lohman, John D. Renucci, Valluvan Jeevanandam, Jai Raman, Primary sternal plating in high-risk patients prevents mediastinitis, European Journal of Cardio-Thoracic Surgery, Volume 26, Issue 2, August 2004, Pages 367–372. https://doi.org/10.1016/j.ejcts.2004.04.038*

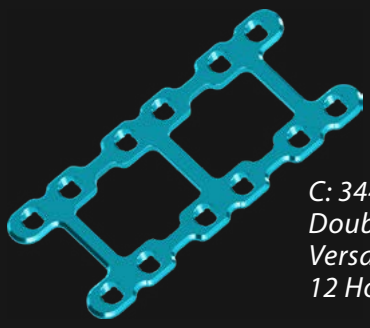
C: 344-13
Sternum Fixation Versalock
Plate 04 Holes

C: 344-14
Sternum Fixation Versalock
Plate 08 Holes

C: 344-05
Versalock Sternum Plate - 100°
04 Holes



C: 344-12
Double Quadrilateral Narrow
Versalock Sternum Plate
12 Holes



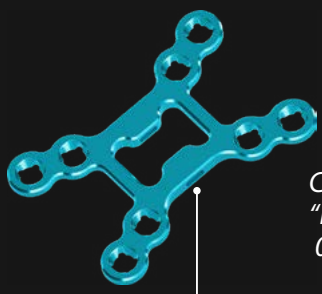
C: 344-11
Double Quadrilateral Wide
Versalock Sternum Plate
12 Holes

C: 344-07
"H" Versalock Sternum Plate
08 Holes

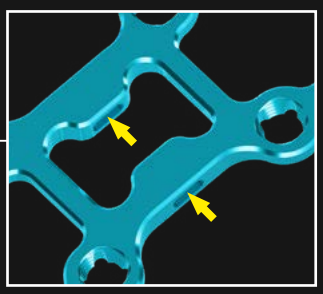
C: 344-06
Quadrilateral Versalock Sternum Plate
12 Holes

C: 344-08
"JL" Versalock Sternum Plate
08 Holes

C: 344-17
Quadrilateral Versalock Sternum
Tape Plate
04 Holes

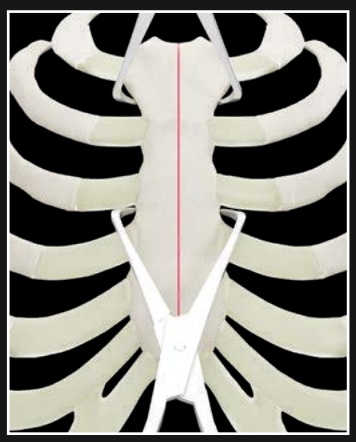


C: 344-16
"H" Versalock Sternum Tape Plate
08 Holes

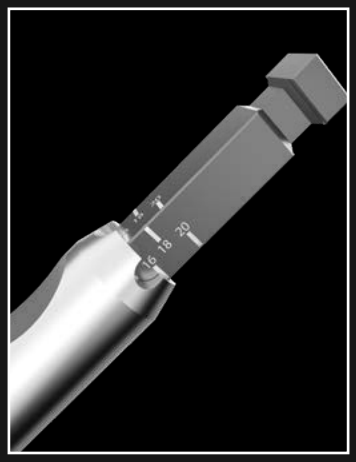


C: 344-18
"Butterfly" Versalock
Sternum Tape Plate
06 Holes

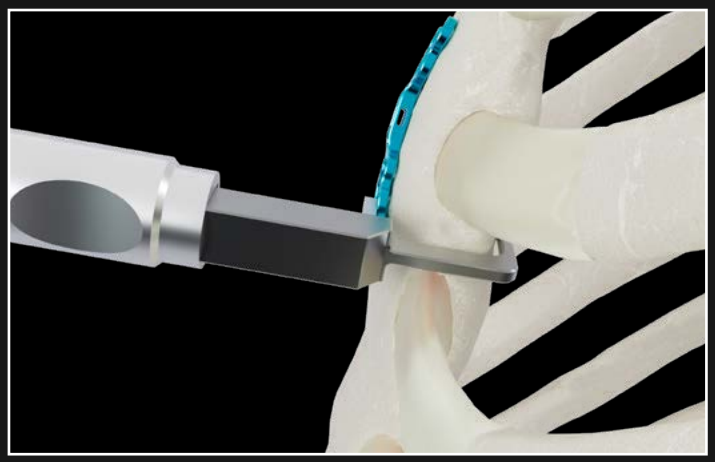
SURGICAL TECHNIQUE



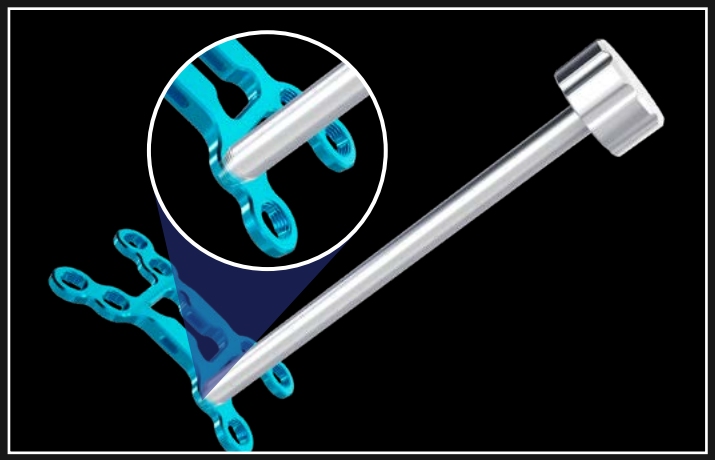
Reposition the sternal fragments and maintain the reduction using the Bone Reduction Tweezers (C: 223-301), exposing and maintaining free access for implanting the first plate.

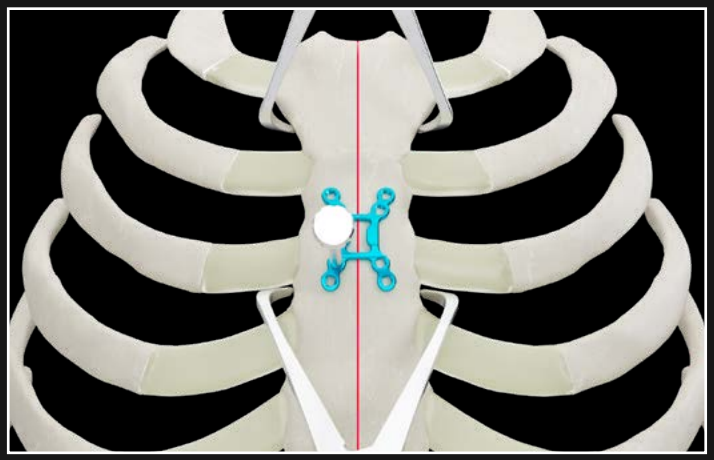


Measure the sternum with a depth gauge (C: 344-88) to define the length of the screws to be applied to the plate. The measurement can be taken before closing the sternum, through the access created by the osteotomy.

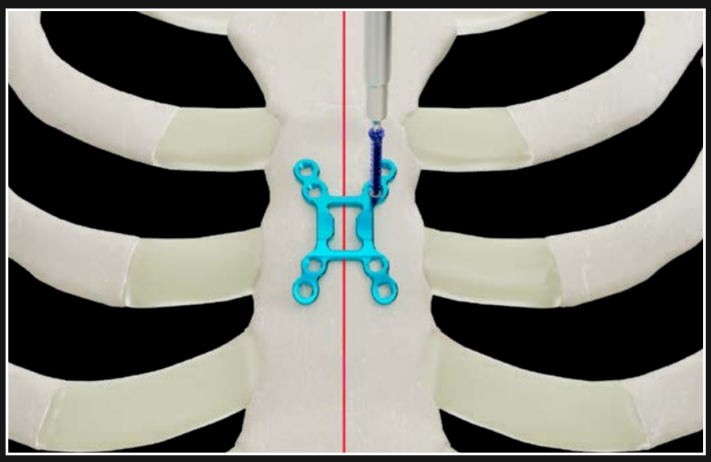


If the measurement is taken with the plate already positioned on the sternum, reduce the length measured by the instrument by 2 mm to avoid the screw tip protruding into the internal part of the sternum.



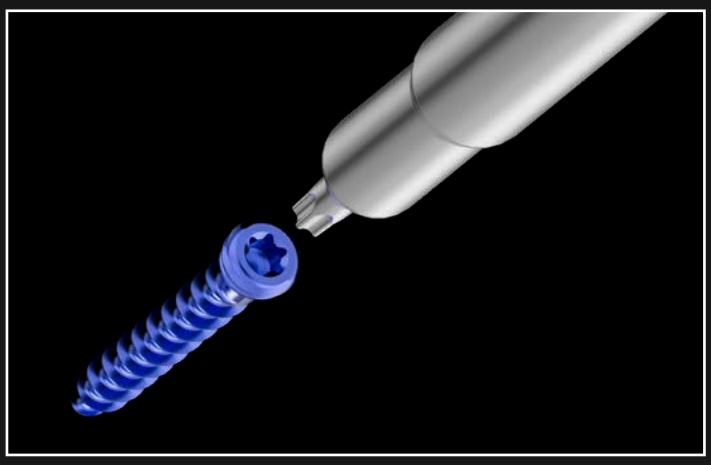


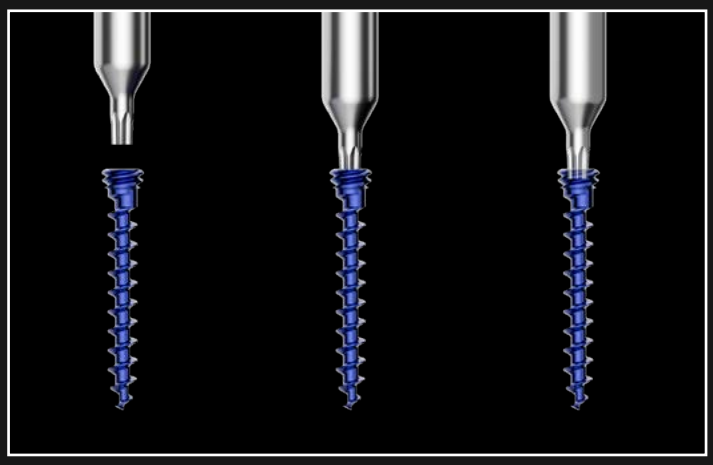
Use the Threaded Rod - Pin Bender (C: 344-60-02) to position the plate on the sternum and help stabilize it during the application of the screws.



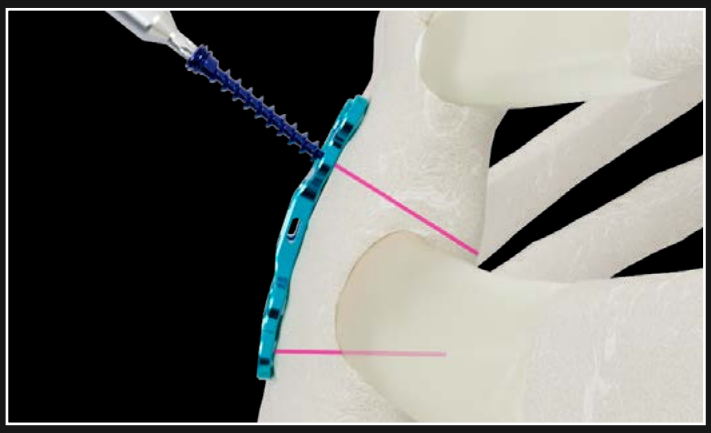
Using the T7 Hexalobular Driver Tip (C: 223-308) coupled with the 0.8Nm Torque Limiter Handle (C: 900-320), apply the Versalock T7 Self-Drilling Screw (blue).

Self-Drilling screws reduce surgical time and increase fixation stability in the bone, without reducing the bone stock of the fixed region.

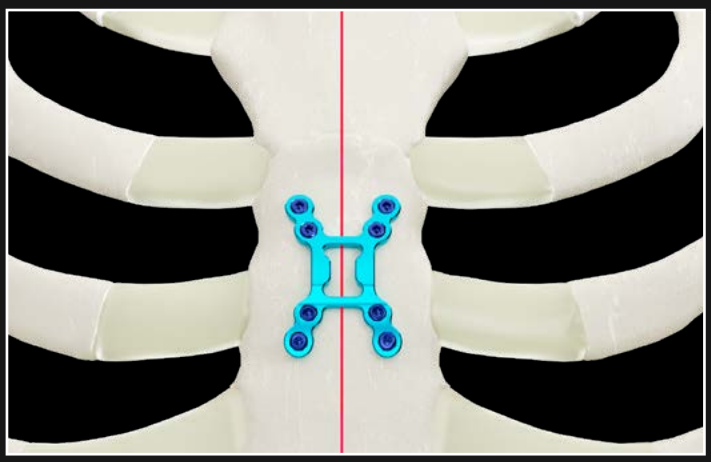




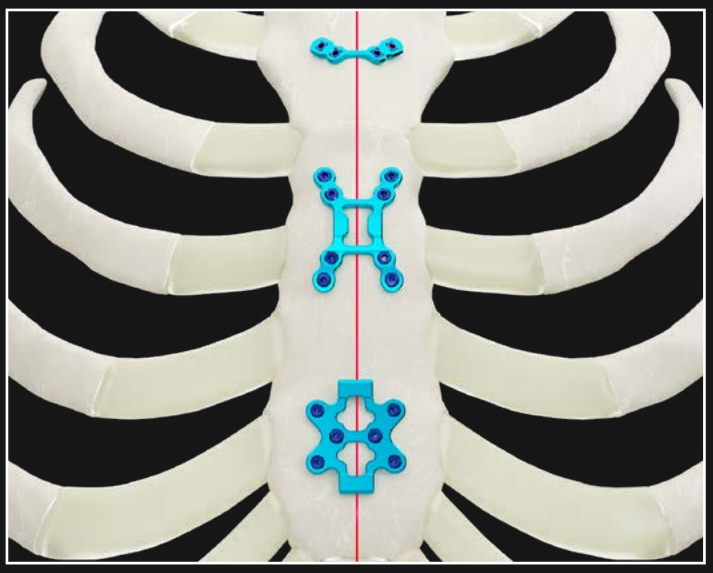
The Torxdrive fastening system of the GMReis Versalock screws provides self-retaining between the screw and the wrench, facilitating handling and reducing surgical time.



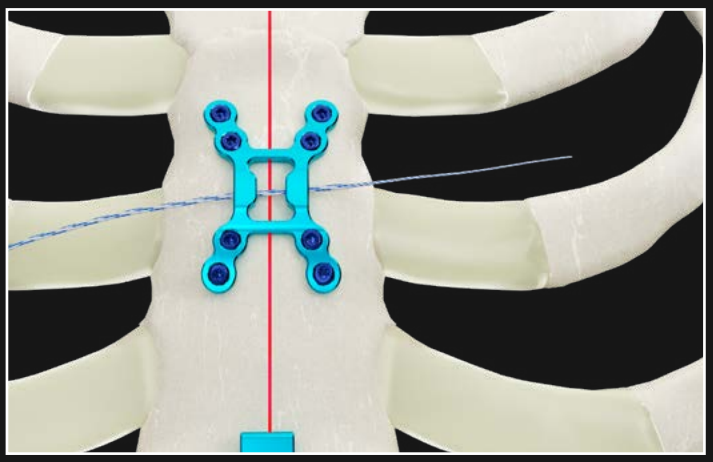
The Versalock locking system with variable angle allows converging screws to be applied in the sagittal and axial planes, increasing the stability of the fixation, especially in fragile bones.



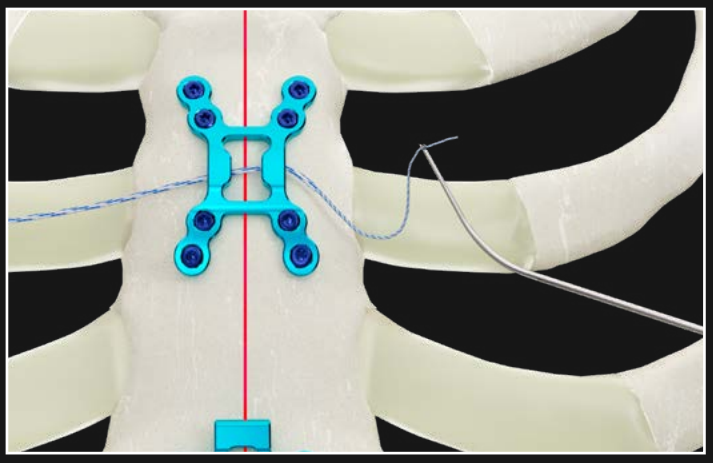
Apply the other screws to stabilize the fragments.



Apply the other plates to increase fixation stability along the entire longitudinal axis of the sternum, according to the surgical plan.

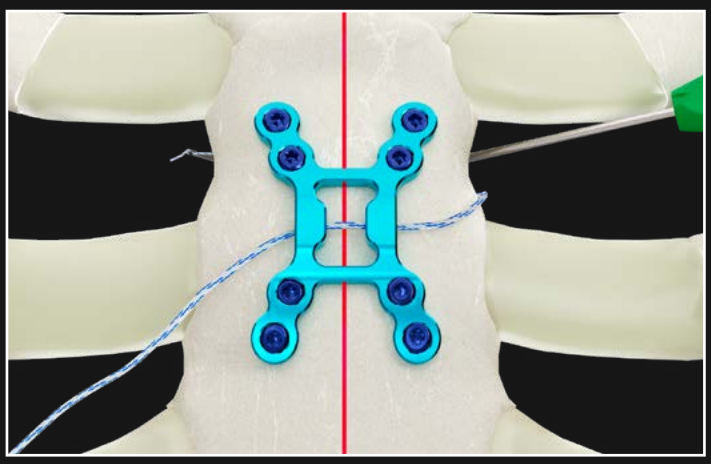


Thread the high-strength Stitch GMReis tape through the specific holes in the plate.

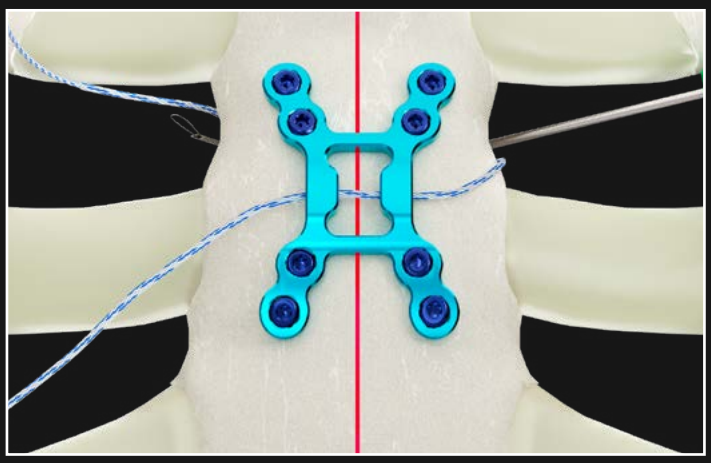


Attach one end of the tape to the GMReis Micro EasyPass suture passer.

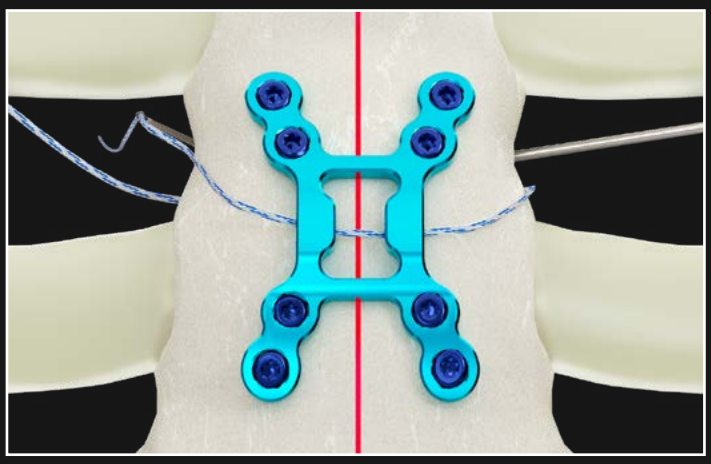
Attach the end of the tape to the EasyPass suture passer, looping and stabilizing it with the nitinol thread. Do not pass the high-strength tape through the EasyPass.



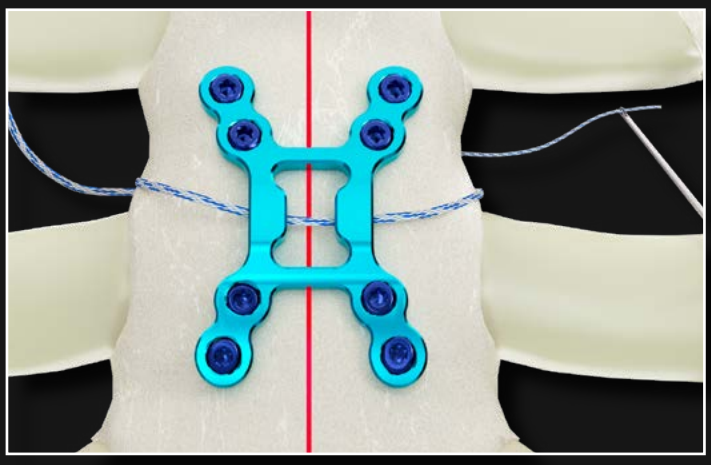
Carefully pass the EasyPass through the posterior surface of the sternum to expose its tip with the tape on the opposite side.



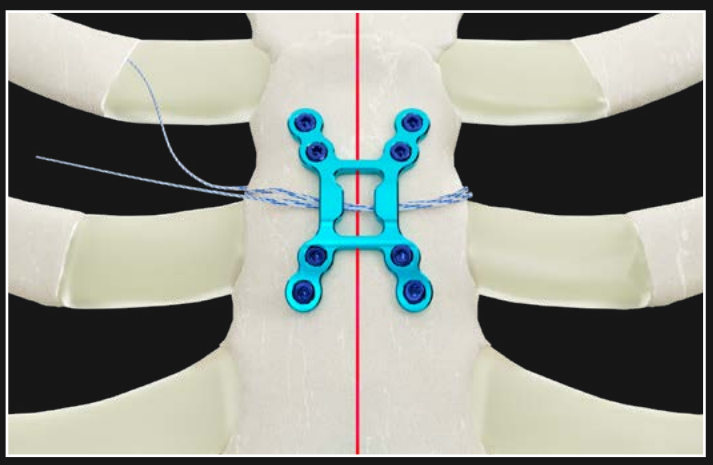
Remove and secure the end of the transported tape with surgical forceps.



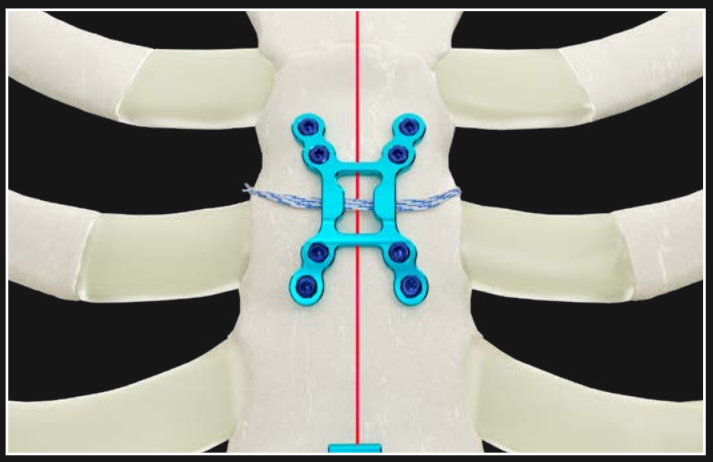
Attach the other end of the tape to the EasyPass.



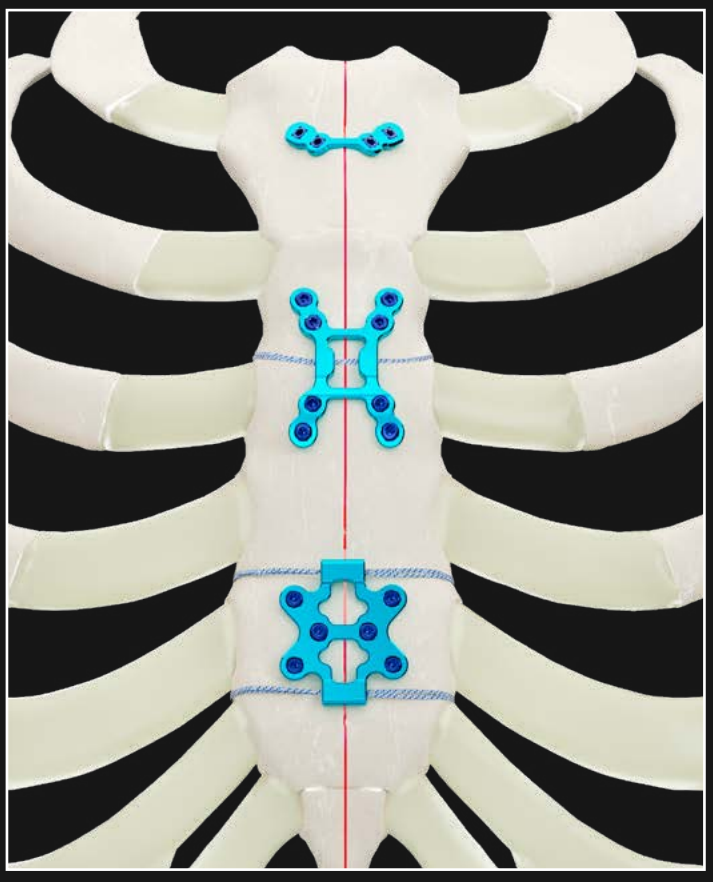
Return the EasyPass by carrying the second end of the tape.



Pass one of the ends of the tape through the specific holes in the plate, thus completing two turns of cerclage.



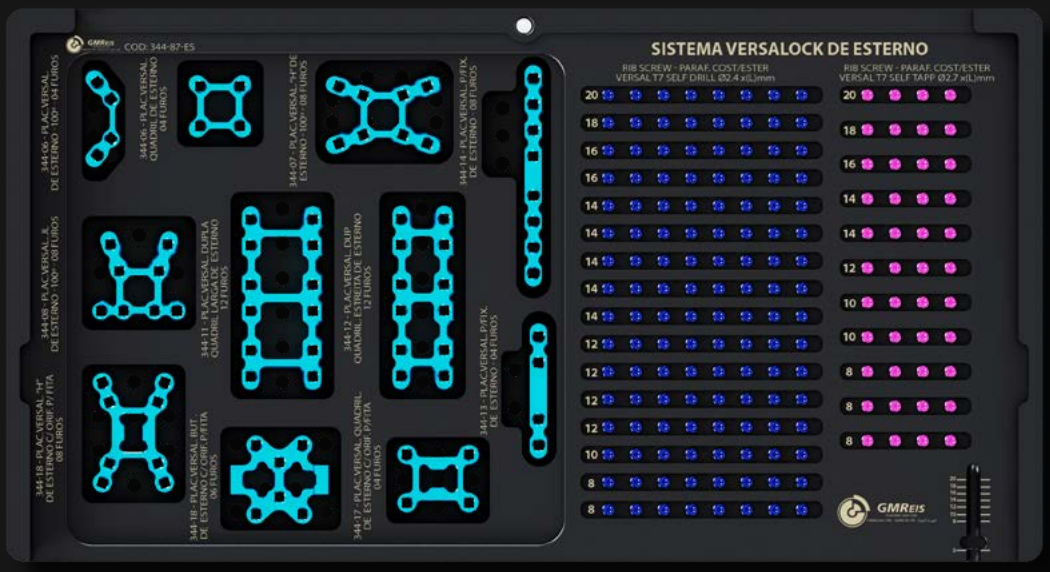
Apply the knots to the lateral region of the sternum, thus avoiding discomfort to the surrounding soft tissues.



If necessary, cerclage the other plates according to the surgical plan.

Note: The Stitch and EasyPass tape products are not part of the Versalock sternum fixing system and are sold separately.

Should emergent re-entry be required, the cuttable cross-sections of the plate closing the sternotomy can be easily cut with standard wire cutters.



VERSALOCK RIB AND STERNUM SCREW T7 SELF DRILLING

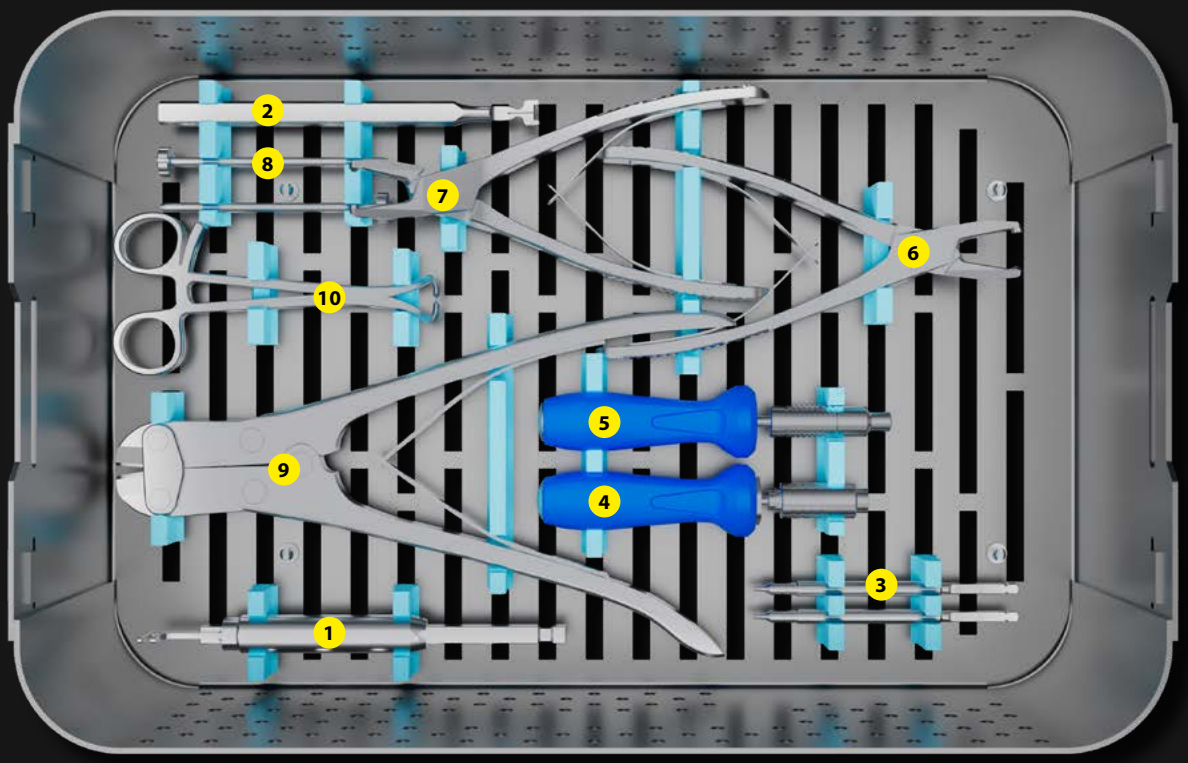
CODE	Ø	LENGTH	QUANTITY
344-24-08-BP	*2.4*	*8 mm*	*16*
344-24-10-BP	*2.4*	*10 mm*	*8*
344-24-12-BP	*2.4*	*12 mm*	*24*
344-24-14-BP	*2.4*	*14 mm*	*32*
344-24-16-BP	*2.4*	*16 mm*	*16*
344-24-18-BP	*2.4*	*18 mm*	*8*
344-24-20-BP	*2.4*	*20 mm*	*8*

VERSALOCK RIB AND STERNUM SCREW T7 SELF TAPPING

CODE	Ø	LENGTH	QUANTITY
344-27-08-BP	*2.7*	*8 mm*	*12*
344-27-10-BP	*2.7*	*10 mm*	*8*
344-27-12-BP	*2.7*	*12 mm*	*4*
344-27-14-BP	*2.7*	*14 mm*	*8*
344-27-16-BP	*2.7*	*16 mm*	*4*
344-27-18-BP	*2.7*	*18 mm*	*4*
344-27-20-BP	*2.7*	*20 mm*	*4*

Versalock technology - variable angle lock ±15°.

INSTRUMENTAL



	CODE	DESCRIPTION	QUANTITY
1	344-88	Depth Gauge	1
2	344-98	Rib and Sternum Plate Holder	1
3	223-308	T7 Hexalobular Wrench Tip	2
4	900-320	Handle With Torque Limiter 0.8 Nm	1
5	223-310	Small Handle with Quick Couple	1
6	308-591	Left Mini Micro System Bending Gripper	1
7	308-592	Right Mini Micro System Bending Gripper	1
8	344-60-02	Threaded Rod – Pin Bender	2
9	172-19A	Wire Cutter	1
10	223-301	Bone Reduction Small Forceps	2

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16 April 2024 3:30 pm