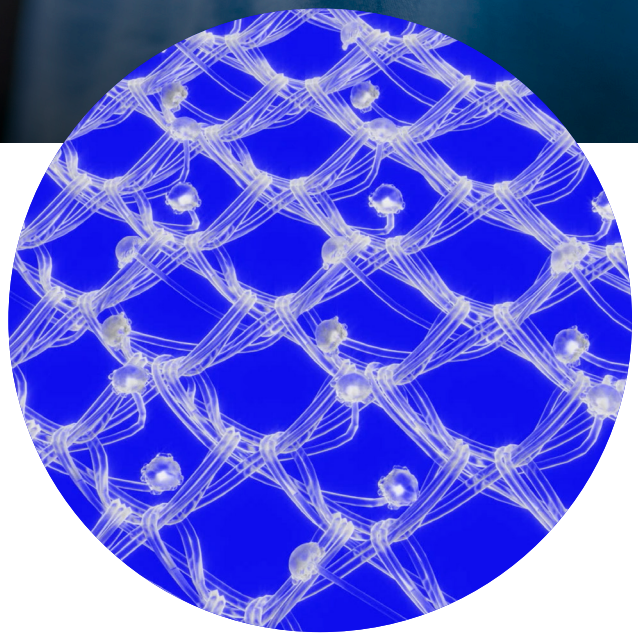
Medtronic

Technique guide

Transorb™ self-gripping resorbable mesh

This guide covers techniques and considerations for using the Transorb™ self-gripping resorbable mesh in an open extraperitoneal ventral hernia repair surgery. Surgeons will determine proper techniques for starting and completing the procedure – including closing the hernia defect.†



Transorb™ mesh is made of poly-L-lactide, poly-trimethylene carbonate (PLLA/TMC) copolymers, including ProGrip™ technology on one side.[1]

†This guide is not intended to constitute medical advice or in any way replace the independent medical judgment of a trained and licensed physician with respect to any patient needs or circumstances. The physician is solely responsible for all decisions and medical judgments relating to the treatment of their patients.

Resorbable mesh — reimagined.

Superior strength.†,1,2

- **Stronger mesh:** A significantly higher tensile strength than Phasix™* mesh‡,2
- **Stronger attachment:** Attachment force to the tissue is 1.6x stronger§,◊,1 with ProGrip™ technology
- **Stronger repair:** Macroporosity allows for excellent tissue ingrowth, providing mechanical strength to the defect repair◊,1,3-5

Repairs. Reinforces. Resorbs.◊,1,3-6

- **Tissue integration:** Resorbable microgrips support excellent tissue integration◊,1,7
- **Critical healing period:** Provides the same support as a permanent synthetic mesh during the critical healing period, while gradually resorbing into the body over time◊,¶,1,6
- **Fully resorbable:** At 18 to 24 months, mesh degradation is nearly complete, with remaining fibers essentially resorbed in 36 to 60 months post-implantation◊,#,1,6

Pore size matters.

Transorb™ self-gripping resorbable mesh is macroporous. Large pores are associated with a reduced risk of infection and shrinkage,[1,3,8] as well as reduced seroma formation◊,1,9

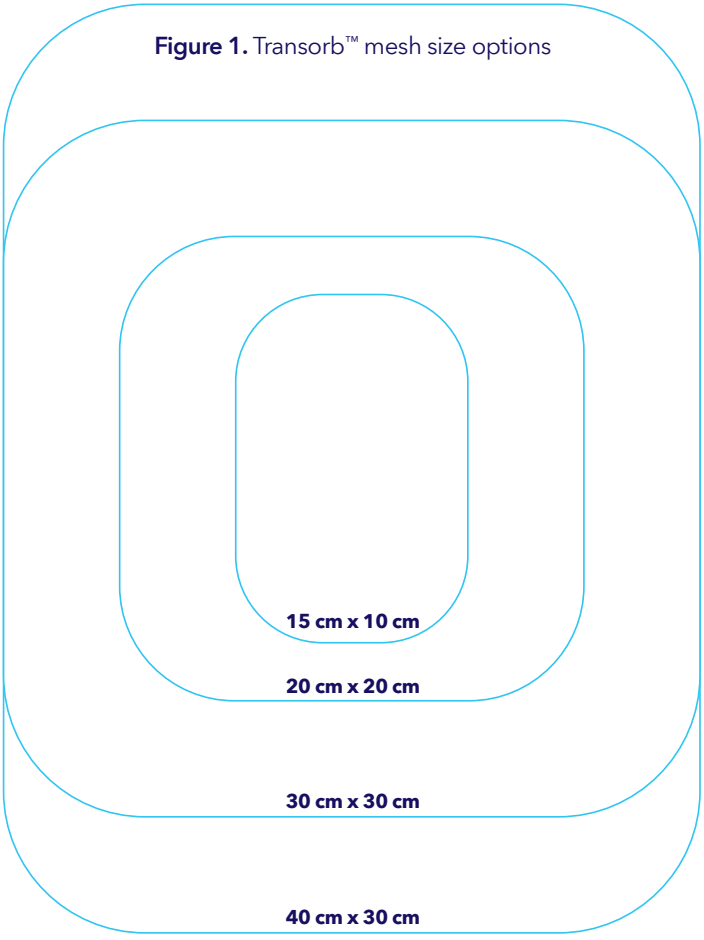
Select mesh size

After closing the hernia defect, select the appropriate mesh size for the repair of the ventral hernia. Choosing the proper size will provide ample coverage of the soft tissue to be reinforced (Figure 1).

Caution: The mesh must be positioned so its edges extend beyond the margins of the repaired hernia. When possible, it is recommended a minimum of 5 cm overlap over the edges of the initial defect.

Mesh may be trimmed to the desired shape or size. Trimming the mesh will not impact its mechanical characteristics.[10]

Figure 1. Transorb™ mesh size options



Mesh complications may include but are not limited to hematoma, seroma, infection, acute and chronic pain, extrusion/erosion, inflammation, and recurrence.

†Compared to ProGrip™ self-gripping polyester mesh and Phasix™* mesh. Compared to a flat sheet mesh with the same level of suture fixation. Based on preclinical testing and benchtop studies, not necessarily indicative of human clinical outcomes. ‡Based on benchtop studies, not necessarily indicative of human clinical outcomes. §Compared to a flat sheet mesh with the same level of suture fixation. ◊Based on preclinical testing, not necessarily indicative of human clinical outcomes. ¶Compared to ProGrip™ self-gripping polyester mesh in simulated in vitro conditions at 20 weeks. #The total resorption period depends on numerous factors, including unique patient physiology.

Position the mesh

Determine which side of the mesh has ProGrip™ technology and decide whether to place that side facing up or down. The self-gripping side of the mesh can be differentiated from the smooth non-gripping side visually or through tactile feel.

Caution: The mesh should not be placed with grips towards the peritoneum, nor in direct contact with the abdominal viscera.

Note: If mesh is folded with grips facing each other, it will be easy to release the area and unfold the mesh.

Mesh transparency aids in the visualization of underlying anatomic structures, including the defect, for easier placement and repositioning (Figure 2).[†,11,12]

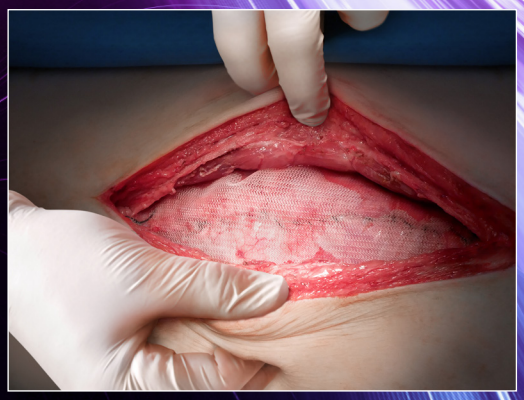


Figure 2.
Mesh deployed so edges are beyond the repaired hernia and centered over the defect.

Deploy the mesh

Once correctly positioned, apply gentle pressure to deploy the mesh (Figure 3). The presence of grips on one side makes the mesh conformable to the anatomy and prevents the mesh from shifting during placement.[‡,13,14]

After deployment, if the mesh doesn't fit in the anatomical space, dissect further or trim the mesh.

Transorb™ self-gripping resorbable mesh can be repositioned easily, if needed.[15]

Figure 3.
Deployment of the mesh, starting from the center and then moving to the edge.

If the mesh is placed with grips facing up, toward the body wall, it will attach to the body wall tissue once the incision is repaired (Figure 4). Keep the mesh flat while closing the incision.

Note: One technique to keep the mesh flat is to lift the abdominal walls up off the mesh, pull the abdominal walls towards the center, and to replace the abdominal wall back down perpendicular to the mesh surface before closing the anterior fascia.

Transorb™ mesh shall be fixated. Fixation should be performed depending on surgical procedure, size of defect, and patient conditions. The textile self-gripping feature facilitates positioning and contributes to fixation for at least 4 weeks.[§,16]

It is recommended to fixate Transorb™ mesh with sutures at a distance approximately 1 cm from the edge of the mesh.

Other fixation methods than sutures have not been evaluated for use with Transorb™ mesh.

Important: Always refer to the instructions for use (IFU) supplied with the product for complete instructions, indications, contraindications, warnings, and precautions.

Figure 4.
Illustration of the grips facing up. Grips will attach to the tissue once the incision is repaired.

Mesh complications may include but are not limited to hematoma, seroma, infection, acute and chronic pain, extrusion/erosion, inflammation, and recurrence.

†Based on feedback from 6 surgeons, conducted in lab setting with pigs.
‡Based on benchtop studies, not necessarily indicative of human clinical outcomes.
§Based on preclinical testing, not necessarily indicative of human clinical outcomes.

Scan QR code

to learn more about Transorb™ self-gripping resorbable mesh

Medtronic.com/transorb

1. Vestberg R, Lecuivre J, Radlovic A, Payet E, Bayon Y, Bouré L. A novel self-gripping long-term resorbable mesh providing temporary support for open primary ventral and incisional hernia. *J Mater Sci Mater Med*. 2023;34(11):59.
2. Based on internal report #1203CR764a, Phasix™* mesh vs. Transorb™ self-gripping resorbable mesh – ball burst statistical comparison. October 2021.
3. Brown CN, Finch JG. Which mesh for hernia repair? *Ann R Coll Surg Engl*. 2010;92(4):272–278.
4. Lake SP, Ray S, Zihni AM, Thompson DM Jr, Gluckstein J, Deeken CR. Pore size and pore shape--but not mesh density--alter the mechanical strength of tissue ingrowth and host tissue response to synthetic mesh materials in a porcine model of ventral hernia repair. *J Mech Behav Biomed Mater*. 2015;42:186–197.
5. Weyhe D, Cobb W, Lecuivre J, et al. Large pore size and controlled mesh elongation are relevant predictors for mesh integration quality and low shrinkage--Systematic analysis of key parameters of meshes in a novel minipig hernia model. *Int J Surg*. 2015;22:46–53.
6. Based on internal report #1203CR462a, Evaluation of Transorb™ self-gripping resorbable mesh and Deternia™ self-gripping resorbable mesh degradation and associated local tissue effects. November 2023.
7. Based on internal report #BIO111-a, Biological evaluation report: Transorb™ self-gripping resorbable mesh and Deternia™ self-gripping resorbable mesh. October 1, 2021.
8. Weyhe D, Belyaev O, Müller C, et al. Improving outcomes in hernia repair by the use of light meshes--a comparison of different implant constructions based on a critical appraisal of the literature. *World J Surg*. 2007;31(1):234–244.
9. Jin J, Schomisch S, Rosen MJ. In vitro evaluation of the permeability of prosthetic meshes as the possible cause of postoperative seroma formation. *Surg Innov*. 2009;16(2):129–133.
10. Based on internal test report #1203CR737a, Design verification activities for mesh physical and mechanical properties. October 2021.
11. Based on internal report #1203CR738, Transorb™ self-gripping resorbable mesh design validation lab – marketing questionnaire. October 2021.
12. Based on internal report #1203CR774, Transorb™ self-gripping resorbable mesh congress VOC. November 2021.
13. Based on internal report #1203CR621a, Design verification activities associated with DI-261 (ex vivo gripping test without fixation). November 2020.
14. Based on internal report #1203CR750, Transorb™ self-gripping resorbable mesh – marketing evaluation form. October 2021.
15. Based on internal test report #1203CR719, Design validation and summative usability evaluation of Transorb™ self-gripping resorbable mesh. July 2022.
16. Based on internal report #1203CR867, Evaluation and comparison of meshes fixation strengths in a porcine model at four weeks after implantation: pivotal study. November 2023.

Medtronic