

Umbilical Hernia Repair using DURAMESH™

Mr. Jeremy Clark FRCS, MBBS, MSc, BSc
 Nuffield Health Brighton Hospital



INTRODUCTION

DURAMESH™ is the world's first mesh suture, engineered to support both tissue approximation and incorporation. Its macroporous, hollow design promotes rapid tissue ingrowth and distributes force evenly, reducing the risk of suture pull-through — a common cause of wound dehiscence and hernia formation.

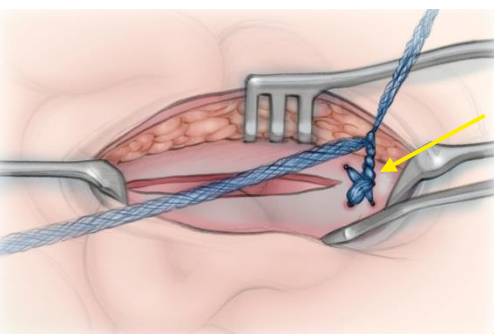
In the UK, around 100,000 hernia repairs are performed annually, with umbilical hernias accounting for 6–14% of adult abdominal wall reconstructions¹. The European Hernia Society classifies these as small (<1 cm), medium (1–4 cm), or large (>4 cm). Traditional repair methods using flat mesh for defects >2 cm have been linked with complications such as recurrence, seromas, infections and mesh-related pain².

With DURAMESH™, surgeons are adopting a new approach that replaces planar mesh with mesh suture, improving load distribution and tissue integration for a stronger, more durable repair.

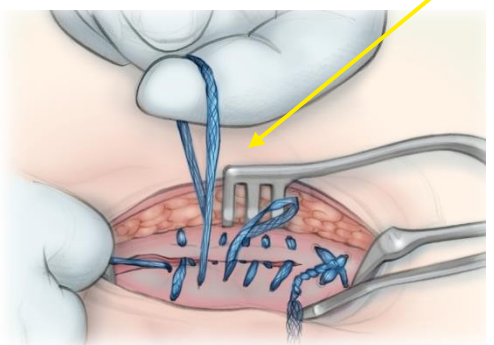
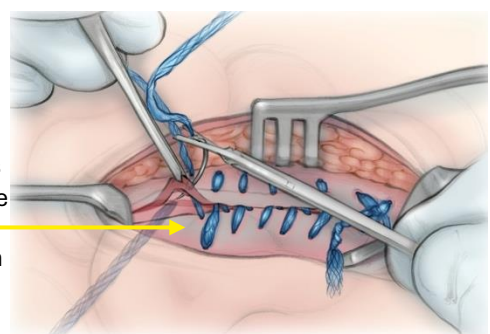
AIMS

To present DURAMESH™ and its specialised application in umbilical hernia repairs.

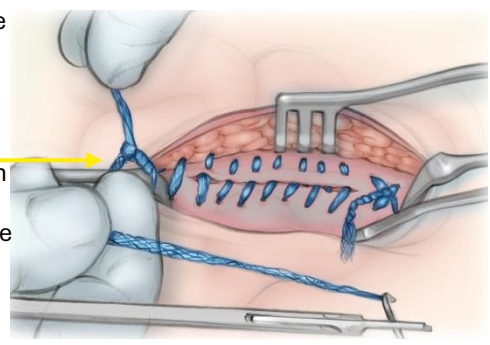
TECHNIQUE



Tie a figure of 8 anchoring stitch loosely (6-8 knots). From the anchoring bite, use a mattress stitch with 5mm bite increments, maintaining an even tension.



At the end of the defect, continue the stitch so there is no room for the hernia to bulge and lock-in in the stitch. Use an anchoring bite (such as an Aberdeen) to close the defect (use 2 if the defect is larger than 4cm).



RESULTS

Here, we showcase our adaptation of the Mayo-repair using DURAMESH™. This technique has been used successfully in 55 cases since 2022, with no recurrences and no major postoperative complications. One patient (1.8%) developed a minor seroma (80ml) at 2 months, which was drained in clinic and resolved without further issue.

N = 55 (45 male, 10 female)

Age range: 28–84 years (M = 56.2, SD = 13.8)

Defect size: 1.5–9 cm (M = 3.9 cm, SD = 1.8)

Follow-up time: 4-6 weeks

CONCLUSION

This is the first UK case series to report the use of DURAMESH™ for umbilical hernia repair. Using a novel technique, we achieved successful outcomes with no major postoperative complications, offering a simple and effective alternative to traditional mesh repair.

References

- ¹ Pawlak M, Tulloh B, de Beaux A. Current trends in hernia surgery in NHSEngland. Ann R Coll Surg Engl. 2020
- ² Henriksen NA, Montgomery A, Kaufmann R, Berrevoet F, East B, Fischer J, Hope W, Klassen D, Lorenz R, Renard Y, Garcia Urena MA, Simons MP; European and Americas Hernia Societies (EHS and AHS). Guidelines for treatment of umbilical and epigastric hernias from the European Hernia Society and Americas Hernia Society. Br J Surg. 2020