



The use of barbed suture in Thoracic Surgery.

Below are some **potential applications of a continuous barbed suture and its advantages** in different surgical procedures in this field, that can have **benefits for the patient and the surgeon**.

	<p>General challenges of surgical procedures:</p> <ul style="list-style-type: none"> ✗ Increased blood loss can increase surgical time¹ ✗ Knot tying increases surgical and operative time²⁻⁵ ✗ Increased operative cost²⁻⁴ ✗ Tension variation^{4,6} ✗ Suture slippage^{2,7} 	<p>General advantages of barbed suture in surgical procedures*:</p> <ul style="list-style-type: none"> ✓ Suturing without the need of a third hand⁶ ✓ Elimination of knot tying reduces surgical and operative time^{2-5,8} ✓ Cost benefits²⁻⁴ ✓ Facilitation of robotic procedures² ✓ Equal tension distribution^{4,6} ✓ Good aesthetics results⁹
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<p>Bronchoplasty/ Bronchial Anastomosis</p>	<ul style="list-style-type: none"> ✗ Safe anastomosis of the bronchus¹⁰ ✗ Potential stenosis of the lumen¹¹ ✗ Tension is not maintained in RATS^{10†} 	<ul style="list-style-type: none"> ✓ Airtight wound closure reassurance¹² ✓ Compensation for the lack of haptic feedback in robotic surgery¹⁰
<p>Diaphragmatic surgery</p>	<ul style="list-style-type: none"> ✗ Overtight suturing can cause ischemia of the diaphragm⁷ ✗ Loose sutures can compromise the plication of the diaphragm⁷ 	<ul style="list-style-type: none"> ✓ Even stretch of diaphragm to all directions⁷ ✓ Uniform distribution of tension allows coherent diaphragm movement⁷ ✓ Plicated diaphragm during a running suture technique¹³
<p>Oesophageal surgery</p>	<ul style="list-style-type: none"> ✗ Technical challenges with anastomosis in oesophagectomy¹⁴ 	<ul style="list-style-type: none"> ✓ Greater distribution of tensile strength along the wound¹⁴ ✓ Increased surface area of adhesion between tissues¹⁴ ✓ Simplifies the intrathoracic gastroesophageal anastomosis in MILE^{14‡} ✓ Special suturing techniques⁵ can lead to shorter operative time, faster post-op recovery and shorter hospital stay¹⁵
<p>Hiatal Hernia</p>	<ul style="list-style-type: none"> ✗ Intraoperative injury to oesophagus/ stomach/vagus nerve branches¹⁶ 	<ul style="list-style-type: none"> ✓ Continuous tension distribution in diaphragm¹⁶
<p>Thoracotomy wound closure</p>	<ul style="list-style-type: none"> ✗ Significantly greater costs compared to VATS^{17†} 	<ul style="list-style-type: none"> ✓ Better tissue apposition¹⁸ ✓ Cost reductions, with bidirectional barbed suture configuration³

*Compared to a conventional suture. †RATS: Robotic Assisted Thoracic Surgery. ‡MILE: Minimally Invasive Ivor Lewis oesophagectomy. §Modified mattress inversion suturing technique. ¶VATS: Video Assisted Thoracic Surgery

Case applications

Use of Quill® barbed suture for pulmonary lesion closure.

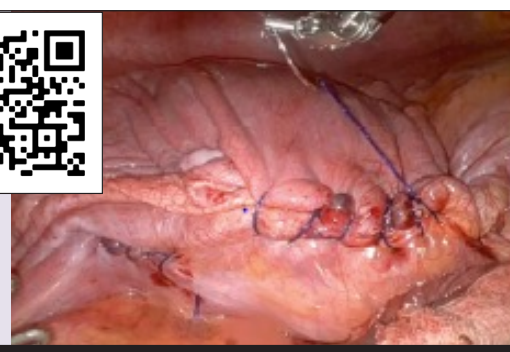
Detachment of pleuropulmonary adhesions can result in pulmonary lesions or tears. Quill® barbed suture helped achieve air-tight approximation. Its structure including barbs is very slim and prevents from parenchymatic tissue trauma without coming loose. Lung reinflation proves zero air leakage.



Reference¹²: According to information and estimates from Dr. Miguel Congregado, Department of Thoracic Surgery Quirónsalud Infanta Luisa Seville Hospital, Spain

Use of Quill® barbed suture for robotic diaphragmatic plication.

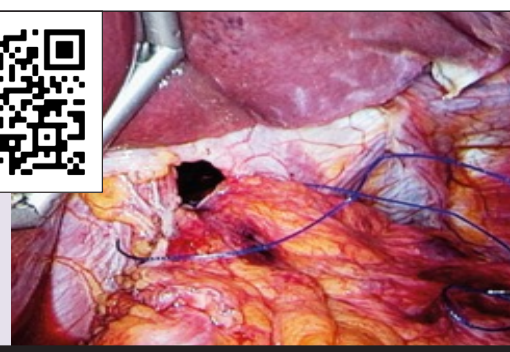
Using Quill® resulted in a reduction of operation time by approximately 30 to 45 minutes, compared to traditional suture. The barbs helped keep the diaphragm plicated while utilizing a running suture technique.



Reference¹³: According to information and estimates from Dr. Andrés Obeso and Dr. Eduardo Rivo, Department of Thoracic Surgery Santiago de Compostela University Clinical Hospital, Spain.

Use of Quill® barbed suture in laparoscopic ventral and dorsal hiatoplasty.

Quill® was used to close a hiatal hernia by suturing the diaphragmatic crura. The use of the barbed suture reduced the operating time by approximately 25 minutes, compared to a traditional suture.



Reference¹⁶: According to information and estimates from Dr. M. Philipp, MD, Head of Minimally Invasive, Hernia, Endocrine and Bariatric Surgery, Surgical University Hospital Rostock

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Quill® is available through distribution or direct. For procedural videos, visit [youtube.com/CorzaMedical](https://www.youtube.com/CorzaMedical)

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Quill® Barbed sutures are indicated for soft tissue approximation. Absorbable barbed sutures shall be used where the use of absorbable suture is appropriate and nonabsorbable barbed sutures are excluded from closure of the epidermis. Barbed sutures are not intended to be used by tying surgical knots. To avoid small bowel obstruction, care should be taken to not leave barbed suture ends adjacent to the peritoneum in extra-peritoneal tissue closure. As with all surgical sutures, adverse effects may include wound dehiscence, failure to provide adequate wound support, infection, minimal acute inflammatory tissue reaction at the wound site amongst others. For complete indications, contraindications, warnings, precautions, and adverse reactions, refer to the instructions for use (IFU).



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COR 409 R0 01/23

