



## Fascial Closure – Clinical Conclusions

### Peer Reviewed Data on Fascial Closure

#### Clinical studies on fascial closure have concluded:

1. Fascial closure can reduce incidence of laparoscopic port-site herniation<sup>7</sup>
2. Laparoscopic port-site hernia rates have been reported up to 25.6%<sup>8,1</sup>
3. Bariatric surgery has an increased incidence of laparoscopic port-site hernia<sup>5</sup>
4. Visceral and bowel injuries are the second and third most fatal complication of laparoscopic surgery<sup>9</sup>

### Weck® EFX Shield® Fascial Closure System

The Weck EFX Shield Fascial Closure System from Teleflex is the first and only shielded fascial closure device, providing enhanced sharps protection and designed for safe, uniform, and consistent fascial closure.

#### The EFX Shield System offers speed and safety with an array of enhanced features, including:

- Innovative suture retrieval system for unassisted suture capture
- Suture accuracy for consistent purchase, closure
- Strength needed to accommodate high-BMI patients
- Unique shielded wing design for enhanced sharps protection

## Literature References:

	NAME OF ARTICLE	YEAR	METHODS/SAMPLES	KEY TAKEAWAYS
1	<b>Risk factors for umbilical trocar site incisional hernia in laparoscopic cholecystectomy: a prospective 3-year follow-up study.</b> Comajuncosas J, Hermoso J, Gris P, Jimeno J, Orbeal R, Vallverdú H, López Negre JL, Urgellés J, Estalella L, Parés D. <i>Am J Surg.</i> 2014; 207(1): 1-6. doi: 10.1016/j.amjsurg.2013.05.010. Epub 2013 Oct 7.	2014	241 Patients Prospective	<ul style="list-style-type: none"> <li>• 25.6% incidence rate of incisional hernia</li> <li>• Diabetes and Obesity contributed to the risk of hernia</li> <li>• Umbilical trocar site presented with higher incidence of herniation</li> <li>• Long-term follow-up studies confirm the prevalence of incisional hernia and contradict short-term, low incidence rate reports</li> </ul>
2	<b>Evaluation of a novel trocar-site closure and comparison with a standard Carter-Thomason Closure Device.</b> Junco M, et al. <i>J.ofEndo.</i> 2014; 28(7): 814-8.	2014	In-Vitro Cadaver Trial 72 Defects	<ul style="list-style-type: none"> <li>• Head-to-head comparison of Weck EFX® System vs. CT</li> <li>• Weck EFX presented superior in time needed to complete closure</li> <li>• Weck EFX presented superior in safety</li> <li>• Weck EFX presented superior in Ease of Use, requiring no additional instrumentation to complete closure</li> </ul>
3	<b>Port-site hernias occurring after the use of bladeless radially expanding trocars.</b> Chiong E, Hegarty PK, Davis JW, Kamat AM, Pisters LL, Matin SF. <i>Urology.</i> 2010; 75(3): 574-80. Epub 2009 Oct 24	2010	1055 Patients Retrospective	<ul style="list-style-type: none"> <li>• Although rare, trocar-site herniation after use of radially dilating trocars can occur</li> <li>• Majority of hernias presented were intrafascial and were not evident during physical examination increasing the risk of complication</li> </ul>
4	<b>Assessing effect of fascial non-closure in 10mm trocar sites on incidence of incisional hernia.</b> Sorosh A, Khorgami Z, Jahangiri Y, Mofid R, Nasiri S, Aminian A, Alibakhshi A. <i>J Minim Invasive Surg Sci.</i> 2012; 1(3): 99-10.	2012	220 Patients	<ul style="list-style-type: none"> <li>• 10 mm trocar sites studied</li> <li>• Study confirms recommended standard practice for fascial closure all trocar-sites 10mm and above</li> </ul>
5	<b>High incidence of trocar site hernia after laparoscopic or robotic Roux-en-Y gastric bypass.</b> Scozzari G, Zanini M, Cravero F, Passera R, Rebecchi F, Morino M. <i>Surg Endosc.</i> 2014; 28(10): 2890-8. doi: 10.1007/s00464-014-3543-5. Epub 2014 May 2.	2014	150 Patients	<ul style="list-style-type: none"> <li>• Trocar site herniation presents with a higher incidence in a bariatric surgery population</li> <li>• Study presents higher incidence in patients who underwent robotic-assisted bariatric surgery</li> <li>• 39.3% occurrence with laparoscopic group and 47.9% occurrence with robotic group</li> </ul>
6	<b>Incarcerated Hernia in 11-mm Nonbladed Trocar Site Following Laparoscopic Appendectomy.</b> Zemet R, BMedSc; Mazeh H, MD; Grinbaum R, MD; Abu-Wasel B, MD; Beglaibter N, MD. <i>JLS.</i> 2012; 16(1): 178–181.	2012	Case Study	<ul style="list-style-type: none"> <li>• Confirms the significance of performing meticulous closure of all trocar sites that are 10 mm and above</li> <li>• Confirms atraumatic trocar technology can still cause incisional herniation</li> </ul>
7	<b>Laparoscopic port closure.</b> E. Mikhail, S. Hart. <i>Surg Technol Int.</i> 2014; 24:27-33.	2014	Literature Review	<ul style="list-style-type: none"> <li>• Presents difficulties diagnosing incisional hernia, in certain situations requiring imaging to confirm – Richter’s hernia as a severe example</li> <li>• Weck EFX presented for its unique feature of unassisted suture capture</li> <li>• Supports recommended standard practice for fascial closure all trocar-sites 10 mm and above</li> <li>• Closure devices can provide significant advantage to the laparoscopic surgeon and can reduce the incidence of incisional herniation</li> </ul>
8	<b>Trocar site hernia after laparoscopic sleeve gastrectomy using a specific open laparoscopy technique.</b> Rebibo L, MD; Dhahri A, MD; Chivot C, MD; Cyril C, PhD; Yzet T, MD, PhD; Regimbeau J, MD, PhD <i>Surg Obes Relat Dis.</i> 2015; 11(4): 791-6.	2014	1108 Patients Retrospective	<ul style="list-style-type: none"> <li>• Trocar-site herniation rate after bariatric surgery is underestimated</li> <li>• 18.8% incidence rate of hernia with sleeve gastrectomy</li> <li>• 88% of patients with trocar-site hernia presented with no symptoms during physical exam; hernia confirmed with CT</li> <li>• Hernia reoccurrence is 2-3 times higher in bariatric population</li> </ul>
9	<b>Large bowel injuries during gynecological laparoscopy.</b> Ulker K, Anuk T, Bozkurt M, Karasu Y <i>World J Clin Cases.</i> 2014; 2(12): 846-51. doi: 10.12998/wjcc.v2.i12.846	2014	Literature Review	<ul style="list-style-type: none"> <li>• 50% of bowel injuries and 66% of visceral injuries are undiagnosed at the time of primary surgery – missed or delayed diagnosis increases the risk of sepsis or death</li> <li>• Bowel injury is the third most mortal complication of laparoscopy</li> <li>• Visceral injury is the second most mortal complication of laparoscopy</li> <li>• Sharp instrument dissection was the cause of injury in 46.5% of complications</li> </ul>
10	<b>Bowel injuries during gynaecological laparoscopy: a multinational survey</b> Brosens I, Gordon A <i>Gynaecological Endoscopy.</i> 2001; 10(3): 141-145. doi: 10.1046/j.1365-2508.2001.00432.x	2001	1 year retrospective and 1 year prospective case study	<ul style="list-style-type: none"> <li>• 15% of bowel injuries were undiagnosed during primary surgery – of which, 28% fatality</li> <li>• Risk of complications was directly related to the complexity of the laparoscopic procedure performed</li> </ul>

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