

CapSure™ Permanent Fixation System



Traditional challenges in permanent fixation for hernia repair

Permanent fixation devices facilitate a strong long-term repair but may be associated with some challenges.

Clinical complications from exposed metal points including adhesions to fasteners¹ Difficulties securing large pore mesh may impact hernia repair outcomes¹ Deployment challenges and device reliability issues can disrupt procedures¹

 Evaluation of a novel permanent capped helical coil fastener in a porcine model of laparoscopic ventral hernia repair Arnab Majumder, Mojtaba Fayezizadeh, William W. Hope, Yuri W. Novitsky. Surgical Endoscopy. April, 2016



Confidence redefined

Covered

 Smooth polyetheretherketone (PEEK) cap eliminates exposed metal tip and helps minimize adhesions to the fastener¹

Strong

• Fixates into Cooper's ligament and underlying structures

Reliable

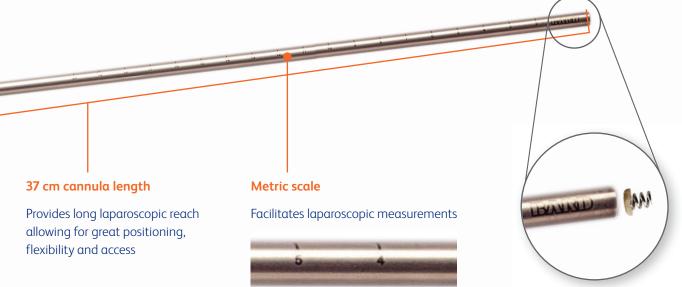
- Comfortable handle and easy to deploy trigger
- Consistent fastener deployment and depth of tissue purchase
- Reliable, secure fixation regardless of mesh pore size²
- Improved fixation with large pore meshes due to larger cap surface area of fastener versus Fixation Device with Titanium tacks²

1. Evaluation of a Novel Permanent Capped Helical Coil Fastener in a Porcine Model of Laparoscopic Ventral Hernia Repair. Arnab Majumder, Mojtaba Fayezizadeh, William W. Hope, Yuri W. Novitsky. Surgical Endoscopy. April, 2016

Preclinical data. Results may not correlate to performance in humans.

2. Bench data on file. RPT 3806984, RPT 3806873.





Redefined fastener design

316L stainless steel

316L stainless steel is a surgical stainless steel commonly used in biomedical implants that are put under pressure including bone screws and prostheses.

Smooth PEEK cap

- Cap is made from polyetheretherketone (PEEK). PEEK is an inert organic thermoplastic polymer¹, considered an advanced biomaterial.
- PEEK is used in many medical implants' including dental implants, heart valves and stents, and joint prostheses.



^{1.} Evaluation of a novel permanent capped helical coil fastener in a porcine model of laparoscopic ventral hernia repair. Arnab Majumder, Mojtaba Fayezizadeh, William W. Hope, Yuri W. Novitsky. Surgical Endoscopy. April, 2016

Designed for optimized clinical benefits

A 90 day preclinical adhesion study demonstrated stronger results with the CapSure* Permanent Fixation System vs. Fixation Device with Titanium tacks

Evaluation of a Novel Permanent Capped Helical Coil Fastener in a Porcine Model of Laparoscopic Ventral Hernia Repair

Arnab Majumder, Mojtaba Fayezizadeh, William W. Hope, Yuri W. Novitsky. Surgical Endoscopy. April, 2016

- Significantly less adhesion coverage
- Greater percentage of properly engaged fasteners
- Greater mesh/tissue integration
- Shielding exposed fastener points on the visceral mesh surface with polymer caps is suggested by the data to reduce adhesion formation and aid in mesh fixation and integration.

Preclinical data. Results may not correlate to performance in humans.

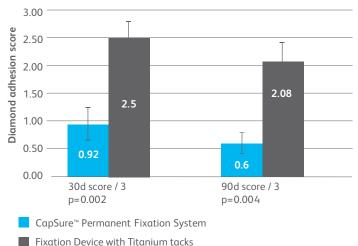
30 day Laparoscopic fastener assessment

CapSure[™] Permanent Fixation System Fixation Device with Titanium tacks





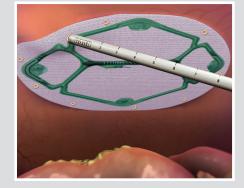
Average 30 vs. 90 day diamond adhesion score

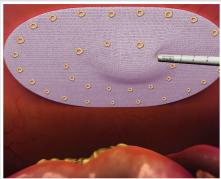


Technique-driven outcomes

With Ventralight" ST Mesh with Echo PS" Positioning System in Iaparoscopic ventral procedures

- Provides secure fixation in laparoscopic ventral procedures
- Penetrates and holds larger pore mesh as well as dual layer and/or smaller pore mesh¹
- Compatible in lap ventral with all BD mesh configurations including Ventralight "ST Mesh and Ventrio" ST Hernia Patch





Strong repair

CapSure^{**} Permanent Fixation System fastener easily penetrates Cooper's ligament and underlying structures, equivalent to a Fixation Device with Titanium tacks

Equivalent strength to a Fixation Device with Titanium tacks at t_0 but greater strength over time



Preclinical data. Results may not correlate to performance in humans.

Mean burst strength at t₀ and 6 weeks 240 230 220 215.6 206.8 190 170 T₀* CapSure™ Permanent Fixation System Fixation Device with Titanium tacks

Burst strength testing demonstrated that in a porcine model CapSure" Permanent Fixation System fixated Ventralight" ST Mesh had a greater (4.3%) burst strength at t_0 and significantly higher (18.4%) peak burst strength at 6 weeks post-implantation than did a Fixation Device with Titanium tacks fixated Ventralight" ST Mesh at the same time point (p = .0088).

* Porcine abdominal wall tissue. Animal data may not correlate to performance in humans

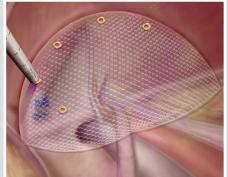
Surgical Endoscopy. April, 2016

** Porcine 6 week implant study. Animal data may not correlate to performance in humans Evaluation of a Novel Permanent Capped Helical Coil Fastener in a Porcine Model of Laparoscopic Ventral Hernia Repair. Arnab Majumder, Mojtaba Fayezizadeh, William W. Hope, Yuri W. Novitsky.

With 3DMax[°] Light Mesh in laparoscopic inguinal procedures

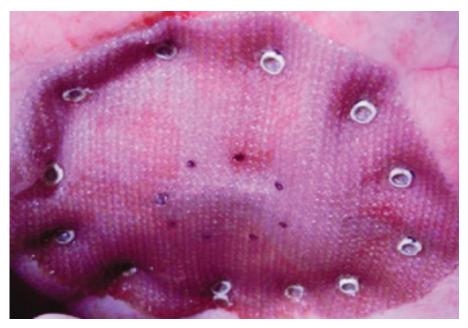
- Able to fixate into Cooper's ligament and underlying structures
- Facilitates ease in reapproximation of the peritoneum for a TAPP repair





Reliable

- Rotary drive system with a comfortable handle and easy to deploy trigger, with an average delivery force that is 30% less than a Fixation Device with Titanium tacks¹
- Consistent fastener deployment and depth of tissue purchase – preclinical studies demonstrated more favorable fastener seating results versus a Fixation Device with Titanium tacks¹
- Available in 15 and 30 fastener count devices providing significant savings per device over Fixation Device with Titanium tacks, for repairs where 15 or less fasteners are required



Preclinical data. Results may not correlate to performance in humans. RPT3806605

CapSure^{*} Permanent Fixation System in Bard[®] Soft Mesh



Fixation Device with Titanium tacks in Bard® Soft Mesh



CapSure[™] Permanent Fixation System fasteners have 2X the mesh surface area coverage to hold mesh in place ensuring secure fixation and more visible fasteners. Bench testing with 3DMax[™] Light demonstrates that CapSure[™] Permanent Fixation System is 15X more likely to retain large pore mesh versus Fixation Device with Titanium tacks.¹

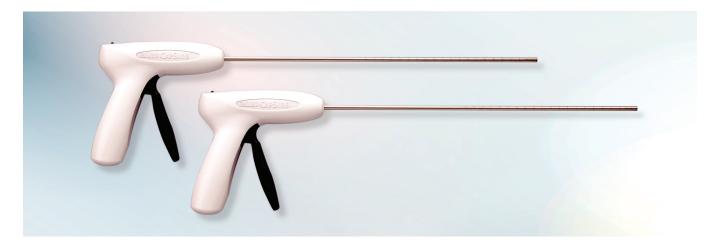
 $^{1\} Bench\ top\ data\ on\ file.\ Report\ RPT\ \#\ 3806984.\ Results\ may\ not\ correlate\ to\ performance\ in\ humans.$

Comparison Summary

Features	CapSure® Permanent Fixation System¹	Fixation Device with Titanium tacks ²
Fastener configuration	Helical coil with integrated polymer head 3 revolutions	Helical coil 2 ½ revolutions
Fastener head	Polymer (PEEK) head No exposed metal tip	None Exposed metal tip
Wire diameter and depth of purchase	0.018" 3.2 mm	0.025" 3.2 mm
Preclinical data demonstrating design minimizes adhesions to the fastener	Yes	No
Fixates into Cooper's ligament and underlying structures	Yes	Yes
Provides optimal fixation with large pore mesh	Yes	Not optimized for use with large pore mesh
Fastener level indicator	Yes	None
15 and 30 count option	Yes	30 count only

^{1.} RPT3806984, RPT 3806873

^{2.} Competitive product reference (as of June 2022): https://www.medtronic.com/covidien/en-us/products/hernia-repair/fixation-products.html (as of June 2022): https://www.medtronic.com/covidien/en-us/products/hernia-repair/fixation-products/hernia-repair/



Ordering information

Prodoct code	Qty.	Configuration
0113230G	5/case	30 Permanent Fasteners
0113215G	5/case	15 Permanent Fasteners

CapSure^{*}

Indications. The CapSure Permanent Fixation System is indicated for the approximation of soft issues and fixation of surgical mesh to issues during lapproscopic surgical procedures in ventral and inquiral hemia repair. Contrainfidations. 3. Contraindidations associated with lapproscopic surgical procedures relative to mesh fixed by the interest of the contrainting that the fixed of the vicinity of the issue being fastened to avoid inadvertent penetration of underlying structures such as bone, nerves, vessels, and viscous pages of the procedures are possible to the structures in the close vicinity of such underlying structures is contraindicated. For reference, the length of the fastene below the fastener head is 32 mm, the fastener head is an one of the period o

Ventralight[™] ST with Echo PS[™] Positioning System

Indications: Ventralight" ST Mesh is intended to be used to facilitate the delivery of the Ventralight "ST Mesh indicated for use in the reconstruction of soft tissue deficiencies, in the repair of ventral indicated for use in the reconstruction of soft tissue deficiencies, in the repair of ventral indicated and integration of components of the components of the three of the soft of the part of the ventral indicated or infection. For the soft mesh that no contaminated or infected wound could led to infection, and/or extrasion of constitution of cardiovascular defects. 4. Literature reports there is a possibility for adhesion formation when the polypropylene is placed in direct contact with the bowel or viscera. Warnings. 1. The use of any unresolved infection and greated wound could led to infection, in festivated wound could led to infection, in festivate or infection agrees sevely. Consideration should be given regarding the mesh. 3. If unused mesh has been in contact with instruments or supplies used on a patient or contaminated with body fluids, discard with care to prevent risk of transmission of viral infections. As in the patient of the defect schedule in a proper promotion or applicable to the patient. Careful calternitor to mesh floating the prevent excessive tension or applicable to the patient. Careful calternitor by favore the patient of patients are applicable to the patient. Careful calternitor floating in the prevent excessive tension or applicable to the patient. Careful calternitor floating in the patient of a patient of the defect schedule and applicable to the patient or several time injury to the patient or report soft in the patient of the patient or read undarranged prior to use 6. This device has been designed for single use only. Reuse, restriction, established the patient of the patient or and undersome the several patients of the patient or and user. The mesh should be discarded as a patient of the patient or and user. The mesh should be discarded as a patient of the patient or and use

3DMax[™] Light Mesh

Indications: The 3DMax" Light Mesh is indicated for use in the reinforcement of soft tissue where weakness exists, in the repair of inquinal hemics. Contraindications: 1, Literature reports that there may be a possibility for adhesion formation when polypropylene mesh is placed in direct contact with the bowel or viscera 2. Do not use polypropylene mesh in infants and children, whereby future growth will be compromised by use of such material. Warnings: 1. This device is supplied sterile. Inspect the podaging to be sure it is instact and undermaged prior to use. 2. This device is only poly end only. Do not resterilized or not reportaging to be sure it is instance that and undermaged prior to use. 2. This device is only given to end, by only one of the 3DMax" Light Mesh. 3. This device has been designed for single use only. Reuse, exprocessing, resterilization or reportaging may compromise the structural integrity and/or essential material and design characteristics that are critical to the overall performance of the device and may lead to device failure which may result in injury to the patient. Reuse, reprocessing resterilization or reportaging may obsor create a risk of contamination of the device and/or cause patient infection or cross infection, including, but not limited to, the transmission of infectious discesses from one patient to another. Contamination of the device may lead to injury, lilness or death of the patient or end user. 4. The use of any permanent mesh or patch in a contaminated or infected wound could lead to fistula formation and/or extrusion of the proteins. 4. The use of any permanent mesh or patch in a contaminated or infected wound could lead to fistula formation and/or extrusion of the proteins of the device and/or extrusion of the proteins of the p

Ventralight™ ST

Indications: Ventralight** ST Mesh is indicated for use in the reconstruction of soft tissue deficiencies in the regain of ventral, incisional, and umbilical hernias. Contraindications. 1. Do not use this mesh in infants, children, or pregnant women, where future growth may be compromised by the use of such mesh hateriols 2. The use of this mesh hater lost 2. The use of this mesh hateriols 2. The use of use in the regain of ventral, incisional, and umbilical hernias for a possibility for adhesion formation when the polypropylene is placed in contact with the bowel or viscar. Warnings 1. The use of any permanent mesh or patch in a contaminated or infection developes, treat the infection agrees/sevely. Consideration should be given the mesh. A If unseed to remove the mesh and unseed to remove the mesh and the removal of the mesh a. If unseed weight for contact with instruments or supplies used on a patient or contaminated with body fluids, discard with care to prevent risk of transmission of viral infections. 4. To prevent recurrences when repairing hemios, the mesh about the propriate discards with care to remove the mesh and invalidation of the defect, toking into consideration any additional dinical director applicable to the patient. Careful attention to mesh fixation placement and spacing will help prevent excessive tension or agree for formation and occurrences when repairing hemios, the mesh should be suce it is intact and undamaged prior to use. 6. This mesh has been designed for single use only, Reuse, resterilization, reprocessing and/or reportaging may compromise the structural integrity and/or essential material and design characteristics that are critical to the overall performance of the mesh and may lead to mesh failure which may result in injury to the patient. Reuse, reprocessing, resterilization, or repackaging may also acreat a risk or exhauster of the patient of the mesh and/or cause patient infection or cross infection, including, but not limited to, the transmission of infectious diseases fr

Ventrio™ ST Hernia Patch

Indications: The Ventrio" ST. Hemin Patch is indicated for use in the reinforcement of soft tissue, where weakness exists, in procedures involving soft tissue repair of ventral, incisional, and umbilical hernios. Controllations. 10 not use this mesh in infants, children, or pregnant women, a breefy future growth may be compromised by the use of such mesh has not been studied in breastfeeding or pregnant women. 3 not not use this mesh in carried in the control of cardiovascular defects. 4. Literature reports that there may be a possibility for adhesion formation and/or extrusion of the mesh. 2. If an infection developes, treat the infection aggressively. Consideration should be given regarding the need to remove the mesh. A unready of the mesh. 3. If the unused mesh has been in contact with instruments or supplies used on a patient or contaminated with bodily fluids, discard with care to prevent risk of transmission of viral infections. 4. To prevent recurrence when repairing hernios, the mesh should be sixed with appropriate overlap for the size and location of the defect, taking into consideration any activation. Careful attention to mesh fixation placement and spacing will help prevent excessive tension or gap formation between the mesh and fascial tissue. 5. This mesh is supplied sterile. Inspect the packaging to be sure it is intact and undamaged prior to use. 6. This mesh has been of single use only. Reuse, resterilization, or repackaging may compromise the structural integrity and/or sessential material and design characteristics that are critical to the overall performance of the mesh and may lead to mesh failure which may result in injury to the patient. Reuse reprocessing, resterilization, or repackaging may also create a risk of contamination of the mesh and/or cause patient infection or cross infection, including, but not limited to, the transmission of infectious diseases from one patient to another. Contamination of the mesh and/or cause patient to another. Contamination of the mesh should be disca

Contact a BD sales representative to schedule an appointment or visit bd.com for more information.

Please consult product labels and inserts for any indications, contraindiciations, hazards, warnings, precautions and instructions for use.

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