



# Alexis®

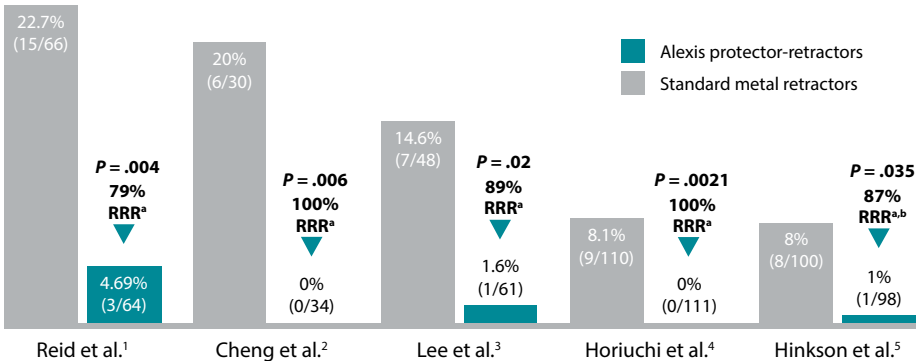
Protectors and Systems

The background features a large teal triangle on the left side, pointing towards the bottom right. The rest of the background is white.

ARE Alexis  
PRODUCTS  
PART OF YOUR  
STANDARD  
OF CARE?

# Protect Every Incision with an Alexis Wound Protector-Retractor

## Rate of Superficial Incisional Surgical Site Infections – Alexis Protector-Retractors vs Standard Metal Retractors



<sup>a</sup>RRR (relative risk reduction) was defined as the proportion of the control group (standard metal retractors) experiencing a given outcome minus the proportion of the treatment group (Alexis protectors) experiencing the outcome, divided by the proportion of the control group (standard metal retractors) experiencing the outcome.

<sup>b</sup>The data reflects both superficial and deep incisional and organ space surgical site infection.

## Alexis Wound Protector-Retractors

### 360-Degree Wound Protection

- Using a wound protector-retractor reduces surgical site infection (SSI).<sup>1-5</sup>
- The sheath shields the incision site from bacterial invasion.<sup>6,7</sup>
- Moisture levels are maintained to promote healing.<sup>8</sup>

### 360-Degree Atraumatic Retraction

- Circumferential retraction enables maximum exposure with a minimal incision size.
- Excellent exposure is achieved without the trauma and pain associated with prolonged point retraction.
- Hands-free retraction reduces the strain, discomfort and fatigue associated with using traditional hand-held retractors.<sup>9</sup>
- Evenly distributed retraction creates a tamponade effect, minimizing blood loss.<sup>5</sup>

### Adaptability and Versatility

- Alexis O protector-retractors can be used in procedures for a wide range of specialties, patient sizes and incision sizes.
- Setup is rapid and effortless.

# Procedural Applications



## Colon and Rectal

Laparoscopic colectomy (S and M laparoscopic system)  
Open colectomy (L, XL, XXL, XXXL)



## Bariatric

Laparoscopic gastric bypass (XS, S)  
Open gastric bypass (L, XL)



## General

Inguinal hernia repair (XS, S)  
Thyroidectomy (XS, S)  
Appendectomy (S, M)  
Splenectomy (L, XL)  
Pancreatotomy (L, XL)  
Whipple (L, XL, XXL, XXXL)



## Cardiothoracic

Video-assisted thoracoscopic surgery (XXS, XS, S)  
Mitral valve repair or replacement (S, M)  
Thoracotomy (S, M)



## OB/GYN

Postpartum tubal ligation (XXS, XS)  
Bilateral salpingo-oophorectomy (XS, S)  
Laparoscopic hysterectomy (S and M laparoscopic system)  
Mini-laparotomy (S, M)  
Myomectomy (S, M)  
Total abdominal hysterectomy (S, M, L)  
Cesarean section (L, XL)



## Breast

Lumpectomy (XS, S)  
Mastectomy (S, M)  
Sentinel lymph node biopsy (XXS, XS, S)



## Orthopaedic

Total shoulder arthroplasty (XS/M, S/S, S/M)  
Total hip arthroplasty (S/M, M/L)

# Clinical Evidence

## Supporting the Use of Alexis Wound Protectors

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*"Our meta-analysis found that dual-ring wound protectors reduce the odds of SSI in patients undergoing lower gastrointestinal surgery. . . ."*

*"... We demonstrated evidence of a subgroup difference where dual-ring wound protectors reduced SSIs while single-ring retractors did not, which provides greater insight in the choice of wound protection devices."*

Zhang L, Elsolh B, Patel SV. Wound protectors in reducing surgical site infections in lower gastrointestinal surgery: an updated meta-analysis. *Surg Endosc.* 2018;32(3):1111-1122. doi:10.1007/s00464-017-6012-0 (Level of Evidence 1)

*"Among adult patients with intrabiliary stents, the use of a dual-ring wound protector during [pancreaticoduodenectomy] significantly reduces the risk of incisional SSI."*

Bressan AK, Aubin JM, Martel G, et al. Efficacy of a dual-ring wound protector for prevention of surgical site infections after pancreaticoduodenectomy in patients with intrabiliary stents: a randomized clinical trial. *Ann Surg.* 2018;268(1):35-40. doi:10.1097/SLA.0000000000002614 (Level of Evidence 1)

*"[T]he use of plastic-sheath wound retractors such as the Alexis® O C-Section Retractor compared to the traditional Collins self-retaining metal retractor in low-risk women, having the first cesarean is associated with a significantly reduced risk of surgical site infection."*

*"There is significant reduction in the use of electric cautery for subcutaneous bleeding, bowel handling and postoperative pain. Operator satisfaction is improved and postoperative pain is less."*

Hinkson L, Siedentopf JP, Weichert A, Henrich W. Surgical site infection in cesarean sections with the use of a plastic sheath wound retractor compared to the traditional self-retaining metal retractor. *Eur J Obstet Gynecol Reprod Biol.* 2016;203:232-238. doi:10.1016/j.ejogrb.2016.06.003 (Level of Evidence 1)

*"Impervious plastic wound protectors reduce the risk of SSI when employed in non-trauma-related gastrointestinal and biliary tract surgery. Wound protectors represent a safe and simple intervention that may reduce postoperative morbidity and mortality."*

Edwards JP, Ho AL, Tee MC, Dixon E, Ball CG. Wound protectors reduce surgical site infection: a meta-analysis of randomized controlled trials. *Ann Surg.* 2012;256(1):53-59. doi:10.1097/SLA.0b013e3182570372 (Level of Evidence 1)

*"Superficial incisional SSI was significantly diminished in the ALEXIS wound retractor group (P=0.006)."*

Cheng KP, Roslani AC, Sehha N, et al. ALEXIS O-Ring wound retractor vs conventional wound protection for the prevention of surgical site infections in colorectal resections(1). *Colorectal Dis.* 2012;14(6):e346-e351. doi:10.1111/j.1463-1318.2012.02943.x (Level of Evidence 1)

*"[E]nteric organisms were cultured twice as often from the inside surface of the retractor compared with the outside surface of the retractor (49% vs 26%, respectively; P < 0.0001)."*

*"[U]se of a plastic wound retractor may result in reduced enteric bacterial colonization of the surgical incision site during gastrointestinal surgery. Reduced colonization of the surgical incision site by enteric bacteria due to the use of a plastic wound retractor should result in a reduction in SSI following gastrointestinal surgery."*

Mohan HM, McDermott S, Fenelon L, et al. Plastic wound retractors as bacteriological barriers in gastrointestinal surgery: a prospective multi-institutional trial. *J Hosp Infect.* 2012;81(2):109-113. doi:10.1016/j.jhin.2012.03.005 (Level of Evidence 2)

***“These results suggest that the [wound protector] protects an incision site from bacterial invasion.”***

Horiuchi T, Tanishima H, Tamagawa K, et al. A wound protector shields incision sites from bacterial invasion. *Surg Infect (Larchmt)*. 2010;11(6):501-503. doi:10.1089/sur.2009.072 (Level of Evidence 4)

***“There was a significant reduction in the incidence of incisional surgical site infections when the wound protector was used: 3 of 64 (4.7%) vs 15 of 66 (22.7%); P = .004. . .”***

***“. . . In this study the use of barrier wound protection in elective open colorectal resectional surgery resulted in a clinically significant reduction in incisional surgical site infections.”***

Reid K, Pockney P, Draganic B, Smith SR. Barrier wound protection decreases surgical site infection in open elective colorectal surgery: a randomized clinical trial. *Dis Colon Rectum*. 2010;53(10):1374-1380. doi:10.1007/DCR.0b013e3181ed3f7e (Level of Evidence 1)

***“Our data demonstrate that a statistically significant reduction in the incidence of wound infection was achieved with the use of a wound-protection device. This device provides a simple intervention that may eventually have a large impact on the incidence of surgical wound infection and therefore annual health care expenditures.”***

Lee P, Waxman K, Taylor B, Yim S. Use of wound-protection system and postoperative wound-infection rates in open appendectomy: a randomized prospective trial. *Arch Surg*. 2009;144(9):872-875. doi:10.1001/archsurg.2009.151 (Level of Evidence 1)

***“We found that the wound retractor/protector prevented the incision site from drying, decreased tissue damage, and facilitated the migration of neutrophils, suggesting a preventive effect of the device with respect to wound infection. . . .”***

***“. . . The studied wound retractor/protector effectively protects wound tissue from damage due to environmental factors experienced during surgery.”***

Horiuchi T, Nakatsuka S, Tanishima H, et al. A wound retractor/protector can prevent infection by keeping tissue moist and preventing tissue damage at incision sites. *Helix Review Series: Infectious Diseases*. 2007;(3):17-23. (Level of Evidence 5)

***“Wound infection was significantly diminished in the With Alexis retractor group (p=0.0021).”***

Horiuchi T, Tanishima H, Tamagawa K, et al. Randomized, controlled investigation of the anti-infective properties of the Alexis retractor/protector of incision sites. *J Trauma*. 2007;62(1):212-215. doi:10.1097/01.ta.0000196704.78785.ae (Level of Evidence 1)



## Alexis O Wound Protector-Retractors

Featuring a rigid retraction ring for maximum exposure

Reorder No.	Size	Sheath Length	Incision Range	Qty/Box
C8401 <sup>a</sup>	Small	18cm	2.5–6cm	5
C8402	Medium	18cm	5–9cm	5
C8403	Large	25cm	9–14cm	5
C8404	Extra large	34cm	11–17cm	5
C8405	Extra extra large	36cm	17–25cm	5
C8406	Extra extra extra large	39cm	25–32cm	3



## Alexis Wound Protector-Retractors

Featuring a flexible retraction ring for anatomical conformity

Reorder No.	Size	Sheath Length	Incision Range	Qty/Box
C8313 <sup>a</sup>	Extra extra small	20cm	1–3cm	5
C8323 <sup>a</sup>	Extra extra small, short	11cm	1–3cm	5
C8312 <sup>a</sup>	Extra small	19cm	2–4cm	5
C8322 <sup>a</sup>	Extra small, short	13cm	2–4cm	5
C8301 <sup>a</sup>	Small	18cm	2.5–6cm	5
C8302	Medium	18cm	5–9cm	5
C8303	Large	25cm	9–14cm	5
C8304	Extra large	34cm	11–17cm	5



## Alexis O C-Section Protector-Retractors

Featuring a rigid retraction ring for maximum uterine exposure

Reorder No.	Size	Sheath Length	Incision Range	Qty/Box
G6313	Large	25cm	9–14cm	5
G6314	Extra large	34cm	11–17cm	5

<sup>a</sup> Model includes a tether to facilitate device removal.



## Alexis Laparoscopic Systems

Featuring a laparoscopic cap to facilitate specimen extraction

Reorder No.	Size	Sheath Length	Incision Range	Qty/Box
C8501 <sup>a</sup>	Small	18cm	2.5–6cm	6
C8502	Medium	18cm	5–9cm	6



## Alexis Orthopaedic Protectors

Featuring a rigid retraction ring for maximum retraction and a flexible retraction ring for maximum versatility

Reorder No.	Size	Sheath Length	Incision Range	Qty/Box
<i>Rigid Retraction Ring</i>				
HR000	Extra small/medium	14cm	2.5–7cm	5
HR001	Small/small	14cm	2.5–8cm	5
HR004	Small/medium	14cm	2.5–8cm	5
HR005	Medium/large	17cm	5–13cm	5

### *Flexible Retraction Ring*

HR100	Extra small/medium	14cm	2.5–7cm	5
HR101	Small/small	14cm	2.5–8cm	5
HR104	Small/medium	14cm	2.5–8cm	5
HR105	Medium/large	17cm	5–13cm	5

<sup>a</sup> Model includes a tether to facilitate device removal.

- Reid K, Pockney P, Draganic B, Smith SR. Barrier wound protection decreases surgical site infection in open elective colorectal surgery: a randomized clinical trial. *Dis Colon Rectum*. 2010;53(10):1374–1380. doi:10.1007/DCR.0b013e3181ed3f7e (Level of Evidence 1)
- Cheng KP, Roslani AC, Sehha N, et al. ALEXIS O-Ring wound retractor vs conventional wound protection for the prevention of surgical site infections in colorectal resections(1). *Colorectal Dis*. 2012;14(6):e346–e351. doi:10.1111/j.1463-1318.2012.02943.x (Level of Evidence 1)
- Lee P, Waxman K, Taylor B, Yim S. Use of wound-protection system and postoperative wound-infection rates in open appendectomy: a randomized prospective trial. *Arch Surg*. 2009;144(9):872–875. doi:10.1001/archsurg.2009.151 (Level of Evidence 1)
- Horiuchi T, Tanishima H, Tamagawa K, et al. Randomized, controlled investigation of the anti-infective properties of the Alexis retractor/protector of incision sites. *J Trauma*. 2007;62(1):212–215. doi:10.1097/01.ta.0000196704.78785.ae (Level of Evidence 1)
- Hinkson L, Siedentopf JP, Weichert A, Henrich W. Surgical site infection in cesarean sections with the use of a plastic sheath wound retractor compared to the traditional self-retaining metal retractor. *Eur J Obstet Gynecol Reprod Biol*. 2016;203:232–238. doi:10.1016/j.ejogrb.2016.06.003 (Level of Evidence 1)
- Horiuchi T, Tanishima H, Tamagawa K, et al. A wound protector shields incision sites from bacterial invasion. *Surg Infect (Larchmt)*. 2010;11(6):501–503. doi:10.1089/sur.2009.072 (Level of Evidence 4)
- Mohan HM, McDermott S, Fenelon L, et al. Plastic wound retractors as bacteriological barriers in gastrointestinal surgery: a prospective multi-institutional trial. *J Hosp Infect*. 2012;81(2):109–113. doi:10.1016/j.jhin.2012.03.005 (Level of Evidence 2)
- Horiuchi T, Nakatsuka S, Tanishima H, et al. A wound retractor/protector can prevent infection by keeping tissue moist and preventing tissue damage at incision sites. *Helix Review Series: Infectious Diseases*. 2007;(3):17–23. (Level of Evidence 5)
- Spera P, Lloyd JD, Hernandez E, et al. AORN ergonomic tool 5: tissue retraction in the perioperative setting. *AORN J*. 2011;94(1):54–58. doi:10.1016/j.aorn.2010.08.031

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