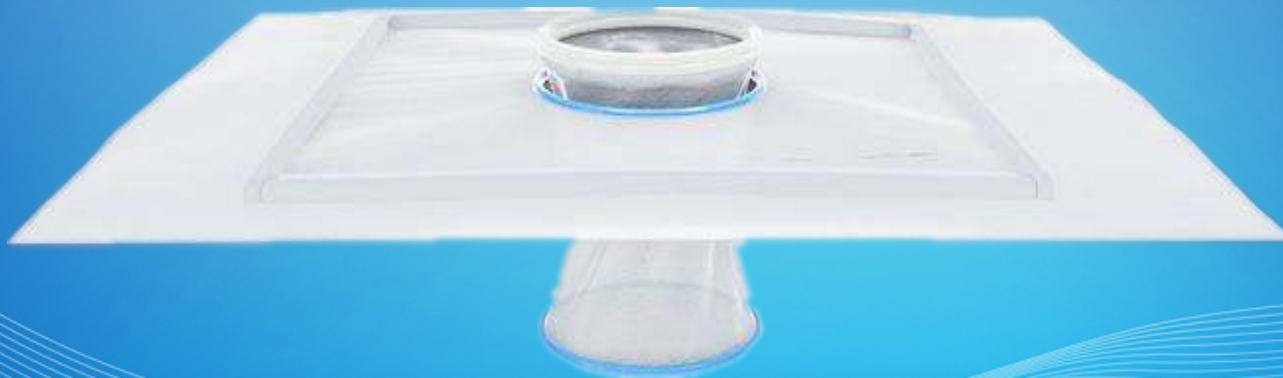


HAIZE MEDICAL

ViClean Single Use Wound Protector

-----New Generation Wound
Protector



Designed by Shanghai Institute of Surgical Engineering and Technology
Manufactured by Jiangsu Haize Medical Scientific Development Co., Ltd.

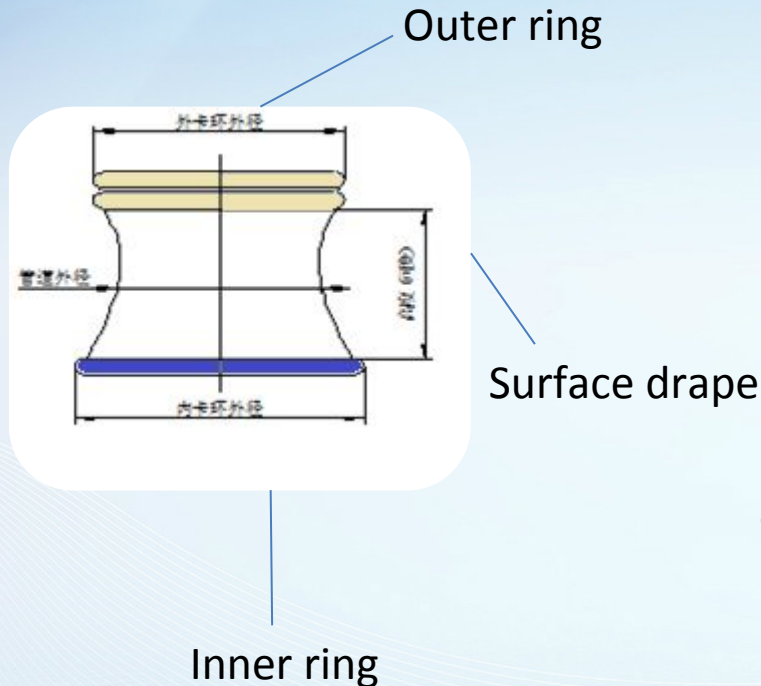
Content

Introduction of wound protector

Performance of traditional wound protector

ViClean Single Use Wound Protector

What is wound protector ?



Structure:

- Wound protector is a bucket structure consisting of two elastic rings, waterproof membrane channel which has connecting and supporting function.

Main function:

- Prevent the direct pollution of waste liquid, which contains tumor cells and pathogenic microorganisms
- Flexibly expand incision, maximize the surgical field.

Types of wound protector



Height-fixed type:

- Thyroid surgery
- Breast surgery
- Thoracic surgery



Height-adjustable type:

- Caesarean Section
- Gastrointestinal surgery
- Hepato-pancreato-biliary surgery

Performance of traditional wound protector



Defect:

surgical waste fluid can still pollute the incision through the gap between surface and outer ring.

Harm:

increase the risk of tumor cell seeding, pathogen infection and incisional infection.

Performance of traditional wound protector



Defect:

After surface and abdominal wall are contaminated, wounds need to be wiped clean before and after suture.



Harm:

The wound is vulnerable to be contaminated during wiping process.

Performance of traditional wound protector



Defect:

when conducting in vitro operation of viscera with large-amount hemorrhage, surgical effluent will flow out of the wound and contaminate the doctor's chest and operating room.

Harm:

increase the risk of pathogen infection for surgeons, and risk of contamination for next patient.

Performance of traditional wound protector

- The traditional wound protector can partially prevent the direct contamination from the surgical waste water.
- But it can not avoid the indirect contamination, and can not protect surgeons and operation room environment from waste liquid contamination.

The clinic urgently needs wound protector which can offer all-round protection.

ViClean Single Use Wound Protector



On the basis of traditional wound protector, use one middle ring to connect upper ring and the waterproof membrane drape which waste collection bag is attached to.

Completely prevent wound from waste fluid contamination, which bleeds from abdominal cavity. Protect surgeons and operation room environments.

Models of ViClean Single Use Wound Protector



- 微创小切口 : WPB S ,M, L
- 普通切口 : WPB XL, XXL



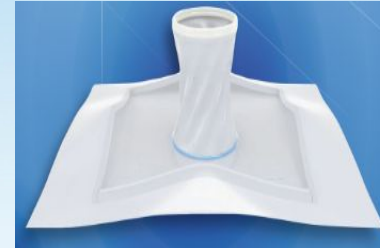
- S, M, L, XL

Remarks: The actual incision shape and size should be taken into account in the specific clinical use. Surgeons decide on their own.

Height-adjustable models: WPA and WPB



Model WPA
Traditional Height-Adjustable Type



Model WPB
Innovative Height-Adjustable type with drape and
waste-collection bag

Type	Size	Size of incision(cm)	Recommended application
WPA/WPB	S	2-6cm	Minimally invasive surgery
	M	5-9cm	Minimally invasive gastrointestinal surgery
	L	9-14cm	Open and minimally invasive gastrointestinal surgery and Caesarean section
	XL	14-20cm	Caesarean section and HPB surgery
	XXL	18-25cm	HPB surgery and open abdominal surgery for obesity

Height-adjustable models: WPA and WPB

Feature	Model WPA	Model WPB	Advantage
<ul style="list-style-type: none"> Adjustable channel height; Tightly wrap tissue 	√	√	<ul style="list-style-type: none"> Prevent bleeding and reduce infection Maintain moisture at the incision site Protect incision from instrument injury
<ul style="list-style-type: none"> 360°circumferential atraumatic retraction 	√	√	<ul style="list-style-type: none"> Expand soft tissue incision
<ul style="list-style-type: none"> Middle ring connects channel and waterproof membrane surface drape 	×	√	<ul style="list-style-type: none"> Sealed protection,no back flow of waste fluid In-vitro operation of viscera,complete isolation
<ul style="list-style-type: none"> Waste collection bag is attached to waterproof membrane surface drape 	×	√	<ul style="list-style-type: none"> Effectively collect waste liquid,protect surgeons and operation room environment
<ul style="list-style-type: none"> porous supporting strips fixed on the edge 	×	√	<ul style="list-style-type: none"> Prevent upper and lower layers of waste collection bag from adhesion,ensure that waste water does not overflow

Guideline

*Strategies to Prevent Surgical Site Infections in Acute Care Hospital: 2014 Update ;

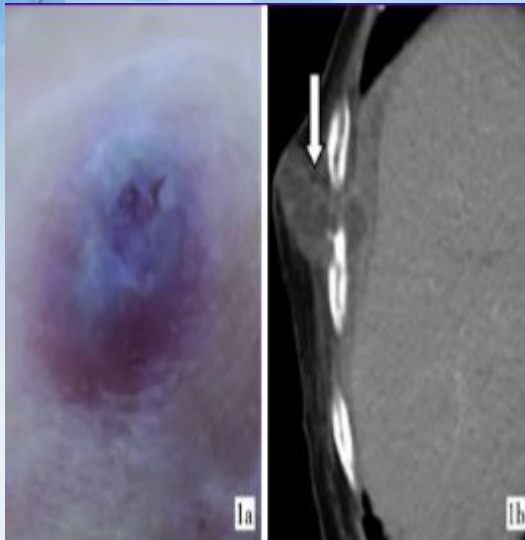
Use impervious plastic wound protectors for gastrointestinal and biliary tract surgery (quality of evidence: I).

A wound protector is a plastic sheath that lines a wound and can facilitate retraction of an incision during surgery without the need for additional mechanical retractors.

A recent meta-analysis of 6 randomized clinical trials in 1,008 patients reported that use of a plastic wound protectors was associated with a 45% decrease in SSIs.

*This expert guidance document is sponsored by the Society for Healthcare Epidemiology of America (SHEA) and is the product of a collaborative effort led by SHEA, the Infectious Diseases Society of America (IDSA), the American Hospital Association (AHA), the Association for Professionals in Infection Control and Epidemiology (APIC), and The Joint Commission, with major contributions from representatives of a number of organizations and societies with content expertise.

Clinical Significance of Incision Protection



Prevent tumor implantation metastasis to incision.

- The incidence of implantation metastasis to abdominal wall after normal colorectal cancer dissection was approximately 0.7%.
- The occurrence of implantation metastasis to abdominal incision after open operation is 0.6-1.6%.

Avoid secondary endometriosis after caesarean section

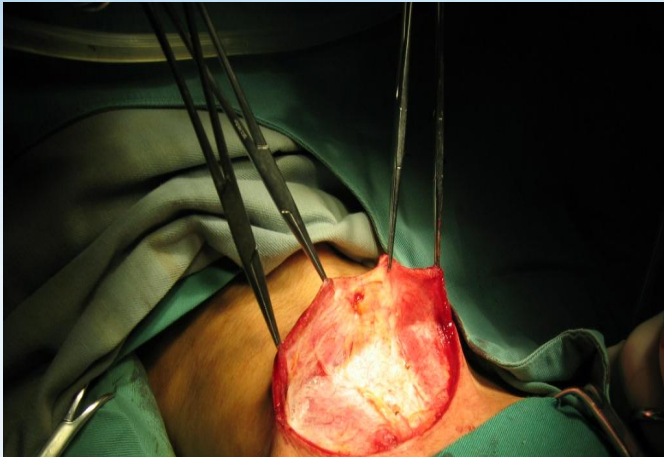
- The incidence of endometriosis after caesarean section is 0.03-0.47%.
- One-piece protection prevent incision from amniotic fluid contamination, reduce risk of amniotic fluid embolism.



*Hughes ES,McDermott FT,Poliglase AI,et al.Tumor recurrence in the abdominal wall scar after large bowel cancer surgery[J].Dis Colon Rectum,1983,26:571 ~ 572.

Incision Protection in Traditional Thyroid Surgery

Flap expansion: Traditional method uses forceps or suture suspension



Defect:

- No protection for incision during operation
- Point trauma

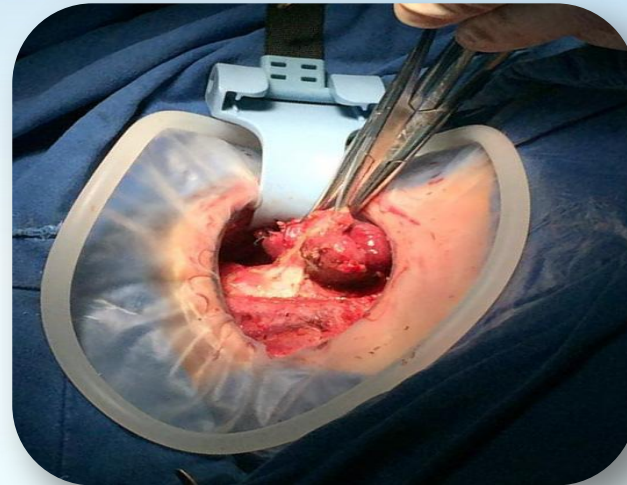


Risk:

- Wound infection or poor healing

Height-fixed Model of Wound Protector: WPC

Model WPC

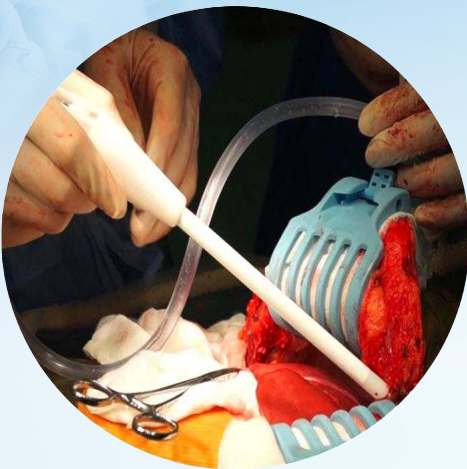


- Maximumly expose incision to provide a clear operative field.
- Protect incision from damage and avoid wound infection.

Height-fixed Model of Wound Protector: WPC

Feature	Advantage
<ul style="list-style-type: none"> ● Inner ring is made of nickel-titanium memory alloy ● Good elasticity, maintain 360 degree circle, no deformation after embedding. 	<ul style="list-style-type: none"> ● Maximumly expose incision to provide a clear operative field, enlarge the operative space ● Expand flaps evenly, wounds heal well
Channel attach incision closely	<ul style="list-style-type: none"> ● Tightly wrap tissue, prevent bleeding ● Maintain moisture at the incision site ● Protect incision from instrument injury
Tough material	<ul style="list-style-type: none"> ● Avoid surgical instruments scratching protective layer and channel
Brim shape design	<ul style="list-style-type: none"> ● Large brim area, protect wound and anterior portion skin.

Type	Size	Size of incision(cm)	Recommended application
WPC	S	2-4cm	Breast surgery and Thyroid surgery with minimal incision,
	M	3-5cm	Breast surgery and Thyroid surgery with minimal incision
	L	4-6cm	Breast surgery and Thyroid surgery with minimal incision
	XL	5-8cm	Axillary dissection, lacteal gland incision and Thyroid surgery



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