

Clinical Evidence Plastic Surgery

Negative Pressure Therapy for Incision Management

- For over 25 years, negative pressure vacuum-assisted closure (V.A.C.®) technology has been clinically shown to promote wound healing by reducing edema and promoting granulation tissue formation and perfusion through the removal of exudate and infectious materials.
- 3M extended the use of its negative pressure technology to closed surgical incisions with similarly positive clinical results, outlined in more than 70+ journal publications focused on closed incision negative pressure therapy (ciNPT), with nearly half of the evidence specific to orthopedic cases.
- The 3M[™] Prevena[™] Incision Management System clinical evidence summaries presented adhere to the American Society of Plastic Surgeons (ASPS)
 Evidence Rating Scale¹ and reflect the benefits of ciNPT for different incision types and surgical outcomes compared to the standard of care.



Reference:

1. Sullivan D, Chung KC, Eaves FF, Rohrich RJ. The Level of Evidence Pyramid: Indicating Levels of Evidence in Plastic and Reconstructive Surgery Articles. Plast Reconstr Surg 2011;128(1):311-314

3M[™] Prevena[™] Therapy evidence table by specialty.

- The body of evidence for using ciNPT has been growing steadily since 2006
- The table listed below is based on the Evidence Rating Scale for Therapeutic Studies developed by the American Society of Plastic Surgeons (ASPS)

Surgical Incision	ASPS Level of Evidence	First Author (Year)	Surgical Incision Type	Control	Postoperative Clinical Endpoints*
Breast Surgery		Gabriel (2018)	Breast reconstruction	Steri-Strips	Surgical site infection (SSI), dehiscence, seroma, necrosis, surgical site complication (SSC), return to the operating room (ROR), drain days
	3	Ferrando (2018)	Oncological Breast Surgery	Steri-Strip Skin Adhesive for 14 days changed after 7 days	SSC, necrosis, scar assessment
		Savage (2020)	bilateral breast reduction	SOC: Various Dressing materials, Fitted Garment, Drainage	SSC, Hospital length of stay (LOS), postoperative opioid use
Abdominal Wall Reconstruction with Concomitant Panniculectomy	3	Ayuso (2021)	Open abdominal wall reconstruction with Concomitant Panniculectomy	SOC : Standard Surgical Dressing	Wound occurrence, seroma, wound breakdown, cellulitis, deep wound infection, mesh infection, LOS, Readmission, ROR, and hernia recurrence
Pectoralis Major Muscle Flap for Deep Sternal Infections	3	Lo Torto (2017)	Sternotomy and monolateral pectoralis major muscle flap (MPMF)	SOC: Sterile Gauze/Elastic Bandages	postoperative complications: seroma, haematoma, dehiscence, surgical revision
Pressure Ulcer Reconstruction	Ulcer ruction 3 Papp (2018) Pressure Ulcer Reconstruction SOC before implementa		SOC before implementation of ciNPT	Complications, acute and late reoperation, LOS, Rate of open Wounds at 3 month, HE in publication	

* Clinical endpoints reflect the conditions and methods specific to each publication and should not be interpreted as general outcomes related to Prevena Therapy. Individual results for each case may vary, depending on the patient, circumstances, and conditions.

Reduced complications and reoperation after breast reconstruction.

Gabriel A et al (Loma Linda University). The Impact of Closed Incision Negative Pressure Therapy on Postoperative Breast Reconstruction Outcomes. Plast Reconstr Surg Glob Open 2018;6:e1880.

With use of Prevena Therapy following postmastectomy

achieved, a significant shorter time to drain removal, and

breast reconstruction significantly lower rates of infection, dehiscence, necrosis, and seromas was

significantly fewer returns to the OR.



Study Design Results Retrospective, comparative study (Level III) **Surgical Site Complications** Dehiscence **Reduction in Dehiscence* Reduction in SSCs*** 2.4 % (8/331) Prevena Therapy vs. 8.5 % (28/331) Prevena Therapy vs. 56% 47% 5.4 % (18/334) Control 15.9 % (53/334) Control (p=0.0178)* (p=0.0092)* **Surgical Site Infections** Necrosis **Reduction in Necrosis* Reduction in SSIs*** 5.1 % (17/331) Prevena Therapy vs. 2.1 % (7/331) Prevena Therapy vs. 45% 53% 9.3 % (31/334) Control 4.5 % (15/334) Control (p=0.0070)* (p=0.0225)* Seroma **Return to OR Reduction in Seroma* Reduction in Reoperations*** 2.4 % (8/331) Prevena Therapy vs. 1.8 % (6/331) Prevena Therapy vs. 56% 68% 5.7 % (19/334) Control 5.4% (18/334) Control (p=0.0106)* (p=0.0496)* Calculation(s) are derived based on relative patient group incidence rate reported in this study * Statistically significant (p<0.05) **Key Points Cost Savings** Summary

Reduction in per patient cost for SSC

- \$2,010 Prevena Therapy vs. 2,228 SOC
- Mean per Patient Cost Savings: \$218

Gabriel A, Maxwell P. Economic analysis based on the use of closed-incision negativepressure therapy after postoperative breast reconstruction. Plast Reconstr Surg 2019;143:36S

Study Purpose

The investigators compared incision management outcomes in patients who received 3M[™] Prevena[™] Therapy versus standard of care (SOC) after breast reconstruction mastectomy.

Methods

- Single site retrospective observational study: 2009 - 2017.
- 356 Patients (Prevena Therapy n=177 v SOC n=179);
- 665 closed breast incisions (Prevena Therapy n=331 vs. SOC n=334).
- SOC: 3M[™] Steri-Strip[™] Wound Closures.
- 3M[™] Prevena[™] Plus Customizable Dressing.
- · Patients were discharged home after 1 night stay and returned for follow-up on POD 3 and 7.
- Patient demographics, chemotherapy exposure, surgical technique, number of drains, time to drain removal, and 90-day postoperative complication rates were analyzed.

Improved outcomes with use of ciNPT after breast surgery in high-risk patients.

Ferrando PM, Ala A, Bussone R et al. Closed Incision Negative Pressure Therapy in Oncological Breast Surgery: Comparison with Standard Care Dressings. Plast Reconstr Surg Glob Open 2018; 6(6):e1732



Study Design

Prospective comparative (Italy) (Level II)

Study Purpose

The study evaluated the use of ciNPT (3M[™] Prevena[™] Therapy) for oncological breast surgery patients that were high-risk for unfavourable healing.

Methods

- From January 2015 to June 2015, 47 patients were prospectively selected. Patients were undergoing oncological breast surgery.
- Inclusion criteria: patients had a minimum of 4 risk factors with at least 1 high risk factor.
- 17 patients (25 surgeries) voluntary treated with ciNPT; the remaining 20 patients (22 surgeries) chose conventional post-surgery dressing.
- SOC: 3M[™] Steri-Strip[™] Wound Closures.
- 3M[™] Prevena[™] Plus Customizable Dressing for 7 days.
- 90 days follow-up to evaluate postsurgical complications.
- At 12 months, the quality of life, scar, and overall aesthetic outcomes were assessed.

Results

Surgical Site Complications



Reduction in SSCs* 4% (1/25) Prevena Therapy vs. 45% (10/22) Control (**p=0.001)***

Necrosis



Reduction in Necrosis* 4.0% (1/25) Prevena Therapy vs. 31.8% (7/22) Control (**p=0.02)***

Patient Scar Assessment



Improved PSAS outcome at 12 month* 11 (6-18) Prevena Therapy vs. 20 (14-34) Control (p=0.002)*

Calculation(s) are derived based on relative patient group incidence rate reported in this study. * Statistically significant (p<0.05)

Key Points

Summary

This study demonstrates that the use of Prevena Therapy in oncological breast surgery resulted in a statistically significant reduction in surgical site complications.

At the 12-month follow-up, questionnaires completed by both the plastic surgeon (Observer Scar Assessment Scale) and the patient (Patient Scar Assessment Scale) on level of satisfaction showed a significant difference in favour of ciNPT.

Illustration of the 3M[™] Prevena[™] Incision Management System cost-effectiveness based on Ferrando et al outcomes.

Ferrando PM, Ala A, Bussone R et al. Closed Incision Negative Pressure Therapy in Oncological Breast Surgery: Comparison with Standard Care Dressings. Plast Reconstr Surg Glob Open 2018; 6(6):e1732.

Oncological Breast Surgery			
Hypothetical Economic Model	3M™ Prevena™ Therapy	3M™ Steri-Strip™	
Patients	25	22	
Number of Complications (a)	1	10	
Cost per SSC ¹ (b)	\$9,782	\$9,782	
Per Patient Complication Cost (a*b)/n	\$391	\$ 4,446	
Per Patient Therapy Cost*	\$830		
Total Cost Per Patient	\$1,221	\$ 4,446	
Potential Per Incision Savings Using Prevena Therapy	\$3,225		

Cost Savings



Reduction in per patient cost for SSC \$1,221 Prevena Therapy vs. \$4,446 SOC

1. Hou Y. Incidence and impact of surgical site complications on length of stay and cost of care in open surgical procedures. HEOR-2021-004-DAR.

*3M[™] Prevena[™] Plus Customizable Dressing is an estimate; individual prices may vary.

The above model uses selected study data to provide an illustration of estimates of costs for use of the Prevena Therapy or Steri-Strip. This model is an illustration and not a guarantee of actual individual costs, savings, outcomes or results. The hospital is advised to use this model as an illustration only to assist in an overall assessment of products and pricing.

Reduced wound complications and opioid use after bilateral breast reduction.

Savage N, Jain M, Champion R et al. Incisional negative pressure wound therapy in bilateral breast reduction patients. Australian Journal of Plastic Surgery. 2020; 3(1):30-38.



Study Design

Retrospective comparative cohort study – Australia (Level III)

Study Purpose

The purpose of the study was to evaluate the effect of closed incision negative pressure therapy (ciNPT), 3M[™] Prevena[™] Therapy, on surgical complications, opioid use and hospitalization length after bilateral breast reduction.

Methods

- Consecutive bilateral breast reductions performed by a single surgeon June 2015 to August 2017. 52 patients analyzed: SOC (n=29) and Prevena Therapy (n=23).
- Prevena Therapy was used for 7 days with no drains and no fitted garment.
- SOC: application of an adhesive non-woven fabric dressing, gauze and adhesive fabric dressing again, drains removed on post-operative day 1, fitted garment used post OP.
- Discharge criteria defined as able to mobilize, subjective pain score less than 4, feeling subjectively well.
- Outcome Measure: SSC including local inflammatory response, dehiscence, surgical site infection, delayed healing, nipple necrosis, abscess; Opioid use measured in oral morphine equivalents.

Results

Surgical Site Complications



Reduction in SSCs* 13.0 % (3/23) Prevena Therapy vs. 44.8 % (13/29) Control (p=0.014)*

Hospital Length of Stay (LOS)



Reduction in LOS* 1.35 (±0.49) Prevena Therapy vs. 2.03 (±0.33) Control (p< 0.001)*

Opioid Use and Prescription





Less Opioid use (mg)* in the Ward 45.5 (± 38.25) Prevena Therapy vs. 62.5 (± 39.6) Control (p= 0.045)*

Fewer Opioids at Discharge (mg)* 125.5 (±63.6) Prevena Therapy vs. 230.0 (±115) Control (p< 0.001)*

* Statistically significant (p<0.05) Calculation(s) are derived based on relative patient group incidence rate reported in this study.

Key Points

Summary

- This is the first study to provide evidence for the use of ciNPT in bilateral breast reduction. This study indicates that Prevena Therapy could be associated with a significant reduction in surgical site complication occurrences, decreased total ward opioid use and discharge opioid prescription as well as decreased hospital length of stay.
- The study was not limited to high-risk patients.

Illustration of the 3M[™] Prevena[™] Therapy Incision Management System cost-effectiveness based on Savage et al outcomes.

Savage N, Jain M, Champion R et al. Incisional negative pressure wound therapy in bilateral breast reduction patients. Australian Journal of Plastic Surgery. 2020; 3(1):30-38.

Breast Reduction			
Hypothetical Economic Model	3M™ Prevena™ Therapy	SOC***	
Patients	23	29	
Number of Complications (a)	3	13	
Cost per SSC ¹ (b)	\$9,782	\$9,782	
Per Patient Complication Cost (a*b)/n	\$1.276	\$ 4,385	
Per Patient Therapy Cost*	\$830		
Total Cost Per Patient	\$2106	\$ 4,385	
Potential Per Incision Savings Using Prevena Therapy	\$2,279		

Cost Savings



Reduction in per patient cost for SSC \$2,106 Prevena Therapy vs. \$4,385 SOC

1. Hou Y. Incidence and impact of surgical site complications on length of stay and cost of care in open surgical procedures. HEOR-2021-004-DAR.

*3M[™] Prevena[™] Plus Customizable Dressing is an estimate; individual prices may vary.

The above model uses selected study data to provide an illustration of estimates of costs for use of the Prevena Therapy or SOC. This model is an illustration and not a guarantee of actual individual costs, savings, outcomes or results. The hospital is advised to use this model as an illustration only to assist in an overall assessment of products and pricing.

Reduced complications and costs in pressure ulcer reconstruction.

Papp A. Incisional negative pressure therapy reduces complications and costs in pressure ulcer reconstruction. Int Wound J. 2019;16(2):394-400.



Study Design

Prospective Non-Randomized Trial with historical control (Level III-Canada)

Study Purpose

Study aims to decrease postoperative woundhealing complications with incisional negative pressure wound therapy (3M[™] Prevena[™] Therapy) following Pressure Ulcer Reconstruction in patients with spinal cord impairment.

Methods

- 37 Surgically treated pressure ulcer patients receiving Prevena Therapy included prospectively.
- 24 Surgically treated patients receiving SOC (3M[™] Steri-Strip[™] Wound Closures & Mephore) data assessed retrospectively.
- Prevena Therapy remained in-situ for 7 days.
- 90 Day Follow Up.

Indications for Operative Management:

- Grade 3-4 with full-thickness skin loss exposing fat or deeper tissues.
- Underlying bone exposure.
- Documentation of osteomyelitis.
- Lack of progression in wound healing in 3 months after optimization of patient variables.

Results

Wound Complications



Reduction in general in-hospital complications* 10.8% (4/37) Prevena Therapy vs. 41.7% (10/24) Control (p=0.0051)*

Hospital Length of Stay



Reduction in hospital length of stay* 24.8 days Prevena Therapy vs. 33.8 days Control (p=0.0103)*

Dehisced Wound



Reduction in number of open wounds at 3 months post operative* 5.4% (2/37) Prevena Therapy vs. 25.0% (5/24) Control (p=0.0481)*

Calculation(s) are derived based on relative patient group incidence rate reported in this study. * Statistically significant (p<0.05)

Key Points

Summary

Results showed benefit to use Prevena Therapy following pressure ulcer reconstruction sites no complications or side-effects related to the use of the dressing.

The use of incisional negative pressure wound therapy resulted in a significant decrease in overall complications, significantly reduced length of stay in hospital, and significantly decreased the number of open recurrent wounds at 3 months after discharge from the hospital.

A reduction in length of stay by 9 days can account for significant cost savings. The cost benefit analyses performed by the author showed a cost savings of over \$4,400 CAD per patient.

Cost illustration of the 3M[™] Prevena[™] Therapy Incision Management System cost-effectiveness based on Papp et al outcomes.

Papp A	Incisional	negative i	pressure therap	v reduces com	plications a	and costs in	pressure ulcer	r reconstruction.	Int Wound J. 2	2019:16(2):394-400.

Plastics Pressure Ulcer			
Hypothetical Economic Model	<u> 3M™ Prevena™ Therapy</u>	Control	
Number of Patients (n)	37	24	
Number of Complications (a)	4	10	
Cost Per Complication ¹ (b)	\$9,782 CAD	\$9,782 CAD	
Cost of Complication per Patient (a*b)/n	\$1,057 CAD	\$4,075 CAD	
Cost of Therapy per Patient*	\$830 CAD		
Total Cost Per Patient	\$1,887 CAD	\$4,075 CAD	
Potential Per Incision Savings Using Prevena Therapy	\$2,188 (CAD)		

Cost Savings



Reduction in per patient cost for SSC \$1,887 CAD Prevena Therapy vs. \$4,075 SOC CAD

1. *Hou Y. Incidence and impact of surgical site complications on length of stay and cost of care in open surgical procedures. HEOR-2021-004-DAR.

*3M[™] Prevena[™] Plus Customizable Dressing is an estimate; individual prices may vary.

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ciNPT for open abdominal wall reconstruction with concomitant panniculectomy.

Ayuso SA, Elhage SA, Okorji LM, Kercher KW, Colavita PD, Heniford BT, Augenstein VA. Closed-Incision Negative Pressure Therapy Decreases Wound Morbidity in Open Abdominal Wall Reconstruction With Concomitant Panniculectomy. Ann Plast Surg. 2021 Oct 7. doi: 10.1097/SAP.00000000002966. Epub ahead of print. PMID: 34670966.



Study Design Results Retrospective Cohort Study (USA) - Level III Wound Occurrences **Deep SSI Study Purpose Reduction in Wound Occurrences* Reduction in Deep SSI** To evaluate the use of closed-incision negative 15.6% Prevena Therapy vs. 1.6% Prevena Therapy vs. 56% pressure therapy (ciNPT) and its effects on 6.6% Control 35.5% Control postoperative wound complications in open (p=0.001)* (p=0.20)Abdominal Wall Reconstruction (AWR) patients with Concomitant Panniculectomy (CP). Methods Wound Breakdown **Key Points** Prospective institutional database identified 67 patients that received 3M[™] Prevena[™] Therapy. Summary **Reduction in Superficial Wound** These patients were matched 1:1 to 67 patients Breakdown* that received standard surgical dressings before 3.1% Prevena Therapy vs. the use of ciNPT. Patients undergoing abdominal wall reconstruction 19.7% Control with concomitant panniculectomy can be at higher In the study period, patient prehabilitation and (p<0.01)* perioperative protocols at the institution were the risk for wound complications due to the need for same which aids in eliminating confounders. large incisions and tissue undermining. In this study, **Return to the Operating Room** the use of Prevena Therapy significantly decreased From 2016 onward all patient rehabilitation and perioperative protocols at the institution were the the risk of postoperative wound occurrences same. Reduction in number of OR Visits * including superficial wound breakdown. The study Reduced 0% (0/67) Prevena Therapy vs. Prevena Therapy was used for 7 days. also demonstrated the lessened need for wound-

- Concomitant Panniculectomy makes this a study on high-risk patients.
- Primary outcomes: wound complications defined as seroma requiring drainage, cellulitis requiring antibiotics, deep wound infection, and superficial wound breakdown.



13.3% (8/67) Control (p<0.01)*

*Statistically significant (p<0.05) Calculation(s) are derived based on relative patient group incidence rate reported in this study.

related reoperations in ciNPT patients.

Cost illustration of the 3M[™] Prevena[™] Therapy Incision Management System cost-effectiveness based on Ayuso et al outcomes.

Ayuso SA, Elhage SA, Okorji LM, Kercher KW, Colavita PD, Heniford BT, Augenstein VA. Closed-Incision Negative Pressure Therapy Decreases Wound Morbidity in Open Abdominal Wall Reconstruction With Concomitant Panniculectomy. Ann Plast Surg. 2021 Oct 7. doi: 10.1097/SAP.00000000002966. Epub ahead of print. PMID: 34670966.

Plastics AWR with CP Hypothetical Economic Model	3M™ Prevena™ Therapy	Control	
Number of Patients (n)	100	100	
Number of Wound Occurrences (a)	16	36	
Cost Per Complication ¹ (b)	\$9,782	\$9,782	
Cost of Complication per Patient (a*b)/n	\$1,565	\$3,522	
Cost of Therapy per Patient*	\$495		
Total Cost per Patient	\$2,060	\$3,522	
Potential Per Incision Savings Using Prevena Therapy	\$1,462		

Cost Savings

42%

Reduction in per patient cost for wound occurrences \$1,462 Prevena Therapy vs. \$3,522 SOC

1. *Hou Y. Incidence and impact of surgical site complications on length of stay and cost of care in open surgical procedures. HEOR-2021-004-DAR.

*3M[™] Prevena[™] Peel and Place System Kit is an estimates; individual prices may vary.

The above model uses selected study data to provide an illustration of estimates of costs for use of the Prevena Therapy or Standard of Care (Control). This model is an illustration and not a guarantee of actual individual costs, savings, outcomes or results. Results are based on selected study data and may not be typical. The hospital is advised to use this model as an illustration only to assist in an overall assessment of products and pricing.

3M[™] Prevena[™] Therapy for pectoralis major muscle flap for sternal wound infections.

Lo Torto F, Monfrecola A, Kaciulyte J, et al. Preliminary result with incisional negative pressure wound therapy and pectoralis major muscle flap for median sternotomy wound infection in a high-risk patient population. International Wound Journal. 2017;14(6):1335-1339.



Study Design

Retrospective Single Centre Comparative Cohort Study (Italy) Level III

Study Purpose

To evaluate the effect of closed incision negative pressure therapy (ciNPT) after sternotomy and monolateral pectoralis major muscle flap (MPMF) coverage in patients at risk for Deep Sternal Wound Infections (DSWI).

Methods

- All patients presented post-sternotomy DSWI following cardiac surgery.
- After excision of the wound margins and deep debridement with resection of all necrotic parts of the sternum and the ribs, the muscle monoliteral flap was placed upon the sternal defect and fixated without tension.
- 30 ciNPT (Prevena Therapy) patients; 48 SOC (Sterile Gauze/Elastic Bandages) patients.
- All patients had major risk factors: defined as BMI ≥ 30, Diabetes Mellitus, Smokers, ≥ 66 years, female gender.
- Postoperative complications included seroma, hematoma, dehiscence, and surgical revision.

Results

Wound Complications



Reduction in Wound Complications* 13% (4/30) Prevena Therapy vs. 37.5% (18/48) Control (**p=0.0228)***

Wound Dehiscence



Incidence in Dehiscence* 0% (0/30) Prevena Therapy vs. 15% (7/48) Control (p=0.0394)*

Revision Surgery



Reduction in Revision Surgery* 3% (1/30) Prevena Therapy vs. 15% (7/48) Control (**p=0.1433)***

*Statistically significant (p<0.05) Calculation(s) are derived based on relative patient group incidence rate reported in this study.

Key Points

Summary

Prevena Therapy was introduced at this institution as a mechanism to reduce wound tension in order to decrease complication rates in patients at risk after flap surgery for deep sternal wound infections.

The findings of this study support ciNPT aids in improving the outcomes of deep sternal wound infection treatment with monolateral pectoralis major muscle flap (MPMF) in high-risk patients.

Cost illustration of the 3M[™] Prevena[™] Therapy Incision Management System cost-effectiveness based on La Torto et al outcomes.

Plastics MPMF & DSWI Hypothetical Economic Model	3M™ Prevena™ Therapy	Control
Number of Patients (n)	30	48
Number of Wound Occurrences (a)	4	18
Cost Per Occurrence ¹ (b)	\$9,782	\$9,782
Cost of Occurrence per Patient (a*b)/n	\$1,304	\$3,668
Cost of Therapy per Patient	\$495	
Total Cost per Patient	\$1,799	\$3,668
Potential Per Incision Savings Using Prevena Therapy	\$1,869	

Cost Savings

51%

Reduction in per patient cost for wound complications \$1,799 Prevena Therapy vs. \$3,668 SOC

1. *Hou Y. Incidence and impact of surgical site complications on length of stay and cost of care in open surgical procedures. HEOR-2021-004-DAR.

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Torto F, Monfrecola A, Kaciulyte J, et al. Preliminary result with incisional negative pressure wound therapy and pectoralis major muscle flap for median sternotomy wound infection in a high-risk patient population. International Wound Journal. 2017;14(6):1335-1339.

3M[™] Prevena[™] Therapy for the high-risk Plastic Surgery patient.

How to identify the patient as high-risk for surgical site infection or complication:

Post-sternotomy DSWI following cardiac surgery

Torto F, Monfrecola A, Kaciulyte J, et al. Preliminary result with incisional negative pressure wound therapy and pectoralis major muscle flap for median sternotomy wound infection in a high-risk patient population. International Wound Journal. 2017;14(6):1335-1339.

All Post-sternotomy DSWI surgery patients included had at least 1 major risk factor:

- BMI ≥ 30
- Diabetes
- Smoking
- age ≥ 66
- female

Abdominal Wall Reconstruction with Concomitant Panniculectomy

Ayuso SA, Elhage SA, Okorji LM, Kercher KW, Colavita PD, Heniford BT, Augenstein VA. Closed-Incision Negative Pressure Therapy Decreases Wound Morbidity in Open Abdominal Wall Reconstruction With Concomitant Panniculectomy. Ann Plast Surg. 2021 Oct 7. doi: 10.1097/SAP.00000000002966. Epub ahead of print. PMID: 34670966

All patients with abdominal wall reconstruction with concomitant panniculectomy are at high-risk.

Oncological Breast Surgery

Ferrando PM, Ala A, Bussone R et al. Closed Incision Negative Pressure Therapy in Oncological Breast Surgery: Comparison with Standard Care Dressings. Plast Reconstr Surg Glob Open 2018; 6(6):e1732

Patients are high risk for SSC with 4+ of the below risk factors including at least 1 high risk factor (indicated as bold):

Patient-related factors:

- age ≥ 65
- BMI ≥ 30
- breast conformation (large size, ptosis)
- Smoking
- Diabetes
- Hypertension
- Corticosteroids
- Peripheral artery disease
- Liver disease
- Chemotherapy
- Radiation

Surgery-related factors:

- Previous surgery ≤ 30 days
- Previous surgery > 30 days
- Extensive undermining
- Type of reconstruction (1-stage)
- Use of acellular dermal matrix
- Autologous reconstruction

3M[™] Prevena[™] Therapy for the high-risk Plastic Surgery patient.

How to identify the patient as high-risk for surgical site infection or complication:

Patients are high-risk if they have \geq 1 of the following risk factors

Patient-related factors:

- BMI ≥ 30
- Smokers
- Radiation
- Corticosteroids
- Revision surgery within 30 days
- Extensive undermining

Ferrando PM, Ala A, Bussone R et al. Closed Incision Negative Pressure Therapy in Oncological Breast Surgery: Comparison with Standard Care Dressings. Plast Reconstr Surg Glob Open 2018; 6(6):e1732

Torto F, Monfrecola A, Kaciulyte J, et al. Preliminary result with incisional negative pressure wound therapy and pectoralis major muscle flap for median sternotomy wound infection in a high-risk patient population. International Wound Journal. 2017;14(6):1335-1339.

3M

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