3M | Prevena Restor™
Postoperative Recovery

The real-world value of

3M™ Prevena Restor™ Therapy

See how surgeons are protecting their work and extending their care beyond orthopedic surgery

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The challenges of orthopedic surgery

A successful surgery doesn't guarantee a successful recovery

You have complete confidence in the OR. But after discharge, countless recovery challenges can impact both short- and long-term outcomes. Complications like swelling, dehiscence and infections can jeopardize a patient's mobilization and even lead to reoperation.

30-day readmission rate across all orthopedic specialties.[1]

ISSUES	CONSEQUENCES
Complications that lead to readmissions are not reimbursed	Surgeons now assume the risk for patient rehab
Bundled and declining reimbursements, and a growing emphasis on same-day discharges	Pressure to take on more, and sometimes higher-risk, patients
Online reviews and referrals impact volume	Patient experience is more important than ever

You need new tools to support your surgical technique and postop rehab protocol.

3M™ Prevena Restor™ Therapy– designed for the unique challenges of orthopedic surgery

Improve the recovery experience for both surgeons and patients

Extended therapy time:

Up to **14 days** of continuous negative pressure (with a dressing change required at 7 days)

Expanded coverage area:

Larger dressing delivers therapy to the incision *and* surrounding soft tissue

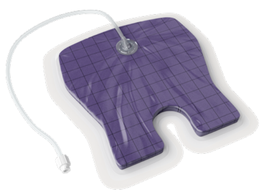
Easy to apply:

Simply peel and place the form-fitting dressing

Precision designed:

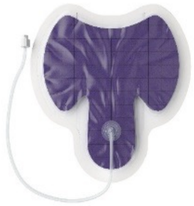
Seamlessly conforms to the patient

3M™ Prevena Restor™ **Arthro•Form™** Dressing



3M™ Prevena Restor™ **Axio•Form™** Dressing

3M™ Prevena Restor™ **Bella•Form™** Dressing



3M™ Prevena Restor™ **Roto•Form™** Dressing

Applicable for a variety of anatomical locations

Knee

Hip

Ankle

Shoulder

Elbow

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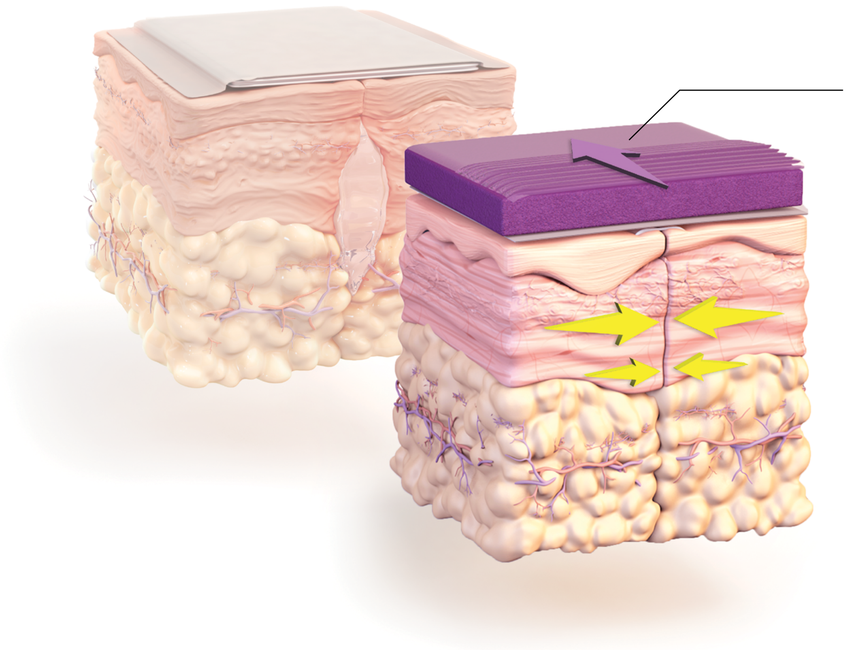
The science of incision management

The 3M™ Prevena Restor™ Incision Management System is built on the proven technology of the original 3M™ Prevena™ Therapy



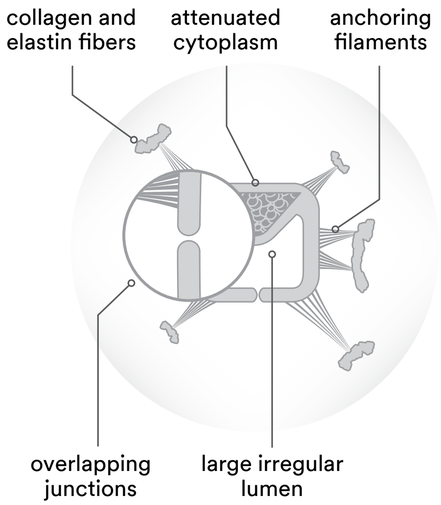
- Delivers continuous negative pressure therapy (-125mmHg) to the incision site
- Helps hold incision edges together[2]
- Removes fluid and infectious materials[3]
- Creates a barrier to external contaminants[4]
- Reduces edema[5]

The science of swelling reduction

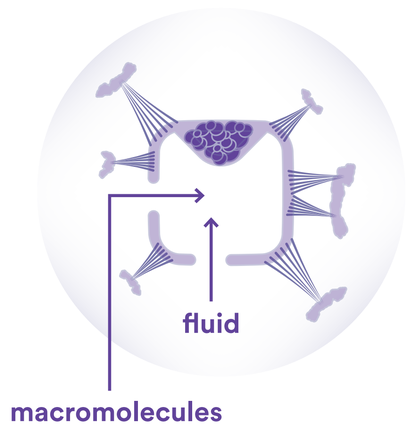
The effects of negative pressure applied to intact skin via 3M™ Prevena™ Therapy were evaluated using finite element analysis (FEA). Based on the analysis, it is hypothesized that volumetric expansion may help:[6]

- Expand the tissue beneath the dressing, pulling the tissue open
- Lower local interstitial fluid pressure
- Open lymphatics to allow fluid clearance

Closed terminal lymphatic pore[7]
(overlapping endothelial cells)



Open terminal lymphatic pore[7]
(separated endothelial cells)



Success stories made possible with the help of the 3M™ Prevena Restor™ Incision Management System

CASE STUDY 1

Management of total knee arthroplasty revision with 3M™ Prevena Restor™ Therapy

CASE STUDY 2

The use of 3M™ Prevena Restor™ Therapy after pilon fracture open reduction internal fixation (ORIF)

CASE STUDY 3

The application of 3M™ Prevena Restor™ Therapy to manage a surgical incision postscapula open reduction internal fixation (ORIF)

CASE STUDY 4

Management of four arthroscopic incisions after rotator cuff repair using 3M™ Prevena Restor™ Therapy

As with any case study, the results and outcomes should not be interpreted as a guarantee or warranty of similar results. Individual results may vary depending on the patient's circumstances and condition.

Management of total knee arthroplasty revision with 3M™ Prevena Restor™ Therapy

THE CASE:

A 72-year-old female required a revision following a total right knee arthroplasty. Her medical history included heart murmurs, tobacco use, and obesity.

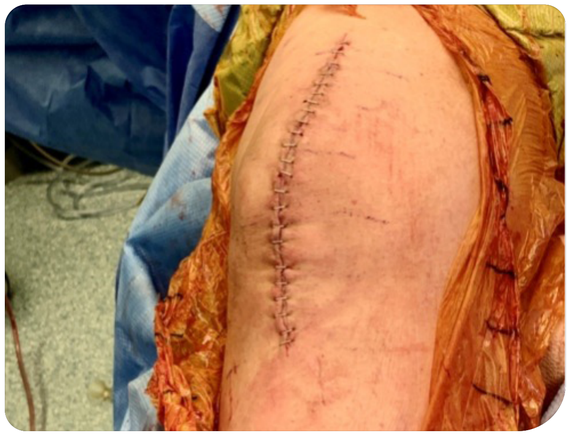


Figure 1. Closed surgical incision.

Patient data and photos courtesy of Yavonne L. Johnson, PA-C, Evan Argintar, MD; Washington, DC.

Management of total knee arthroplasty revision with 3M™ Prevena Restor™ Therapy

THE TREATMENT:

The patient underwent a total knee arthroplasty revision, resulting in a <15cm incision on the right knee. The incision was closed using staples, and the patient received clindamycin for prophylactic antibiotic control.

Immediately after incision closure, 3M™ Prevena Restor™ Therapy was initiated, using a 3M Prevena Restor™ Arthro•Form™ Dressing, which covered the full length of the incision and the area above and below the knee. Negative pressure was applied at -125mmHg.

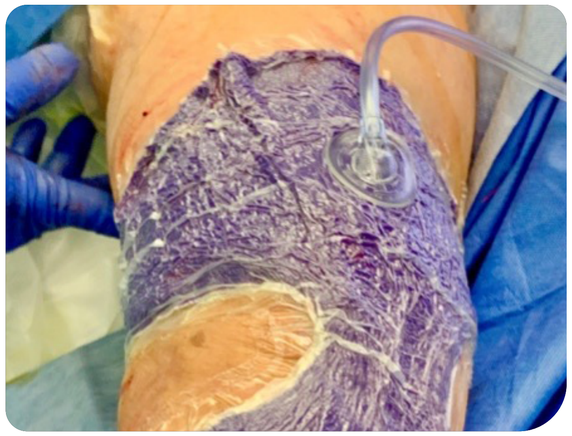


Figure 2. Application of Prevena Restor Therapy with Prevena Restor™Arthro•Form™ Dressing.

Management of total knee arthroplasty revision with 3M™ Prevena Restor™ Therapy

THE RESULTS:

The patient was discharged on postoperative day 5. Seven days after surgery, 3M™ Prevena Restor™ Therapy was discontinued, and the incision remained closed. On postoperative day 14, the incision remained closed without any complications.

The patient reported less pain and swelling and improved post-surgical range of motion in the right knee following Prevena Restor Therapy with Prevena Restor™ Arthro•Form™ Dressing use, compared with the previous total knee arthroplasty procedure.

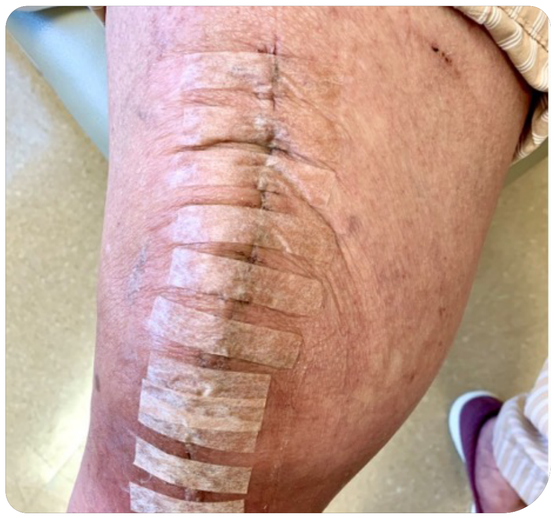


Figure 3. Surgical incision following Prevena Restor™ ArthroForm™ Dressing removal by the healthcare provider on postoperative day 7.

The use of 3M™ Prevena Restor™ Therapy after pilon fracture open reduction internal fixation (ORIF)

THE CASE:

A middle-aged female (between the ages of 51 and 65) presented with a distal tibia pilon fracture, following a traumatic injury. The patient's medical history included diabetes, hypertension, coronary heart disease, peripheral vascular disease, poor nutritional status, anticoagulant usage, and breast cancer. She had a history of previous myocardial infarction with stent placement.

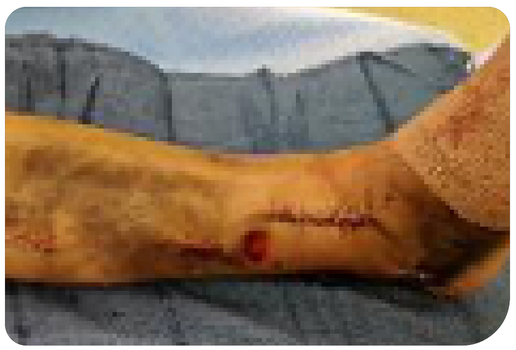


Figure 1. Anterolateral distal tibia incision after closure.

Photos courtesy of Ravi Karia, MD; Department of Orthopaedics, University Health San Antonio, San Antonio, TX.

The use of 3M™ Prevena Restor™ Therapy after pilon fracture open reduction internal fixation (ORIF)

THE TREATMENT:

Intravenous cefazolin was initiated. An ORIF was performed using both anterolateral and posteromedial distal tibia incisions. Incisions were closed using polyester sutures.

The 3M™ Prevena Restor™ AxioForm™ Incision Management System was chosen to help manage the surgical incision and surrounding soft tissue, bolster the incision and surrounding soft tissue envelope, reduce tensile force across the incision, and hold the incision edges together. 3M™ Prevena Restor™ Axio•Form™ Dressing was applied over the incisions, followed by initiation of negative pressure at -125 mmHg (Figure 2). Prevena Restor Therapy was discontinued after 6 days.

Figure 2. Application of Prevena Restor™ Axio•Form™ Incision Management System in the operating room.

The use of 3M™ Prevena Restor™ Therapy after pilon fracture open reduction internal fixation (ORIF)

THE RESULTS:

The patient was discharged 1 day after surgery. After 6 days, the incisions remained intact with no edema in the surrounding tissue (Figure 3). On postoperative day 20, the patient returned for suture removal. Full bony healing was observed 16 weeks after ORIF. During follow-up, the patient did not develop any complications.

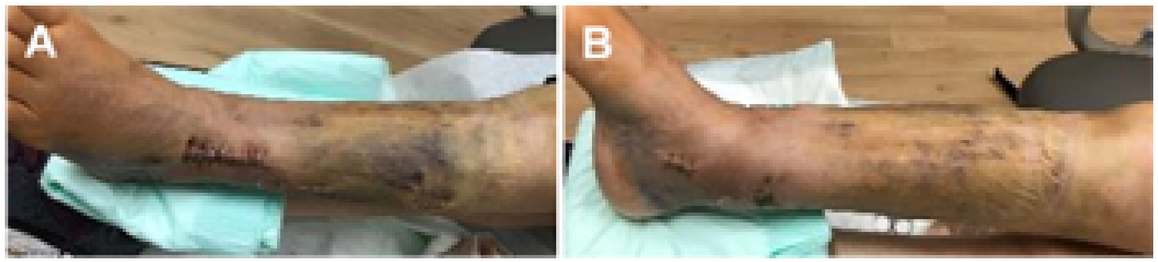


Figure 3. Distal tibial ORIF surgical incision following Prevena Restor™ AxioForm™ Dressing removal by the healthcare provider on postoperative day 6.

A: Anterolateral incision

B: Posteromedial incision

The application of 3M™ Prevena Restor™ Therapy to manage a surgical incision postscapula open reduction internal fixation (ORIF)

THE CASE:

A 26-year-old male was riding his bicycle when he sustained severe, polytraumatic, life-threatening injuries after being struck at a high velocity by a motor vehicle and subsequently pinned underneath.

At initial presentation, trauma and soft tissue injury were noted. The patient presented with bilateral, both-column, acetabular fractures with bilateral posterior walls and left anterior wall, a left scapula fracture with extension into the glenoid, left knee multi-ligamentous injury, and a left leg open wound.

Comorbidities included obesity and anticoagulant use. His medical history included substance abuse, asthma and anemia.

The application of 3M™ Prevena Restor™ Therapy to manage a surgical incision postscapula open reduction internal fixation (ORIF)

THE TREATMENT:

Several high-risk orthopedic surgical procedures were performed in this high-risk patient to address the polytraumatic injuries. The patient received cefazolin and vancomycin perioperatively (Figures 1-4).

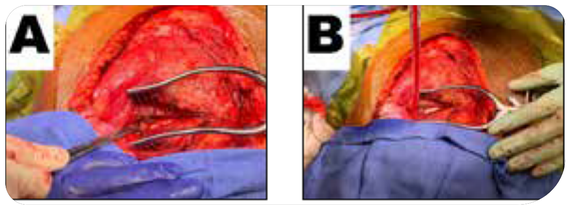


Figure 1. Judet posterior approach (28-inch incision) to the scapula was performed.

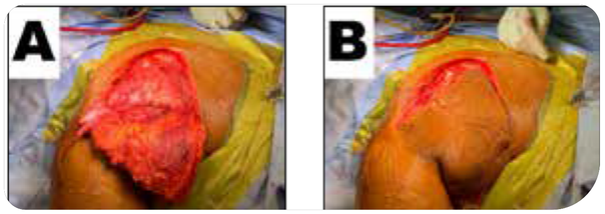


Figure 2. Approximating incisional edges in preparation for closure with staples.

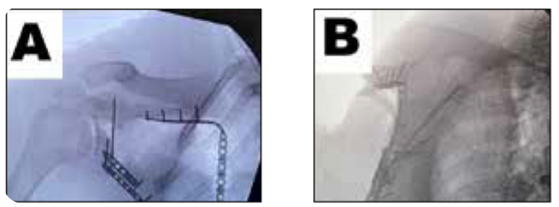


Figure 3. Rediographs of surgically repaired left scapula with ORIF hardware.

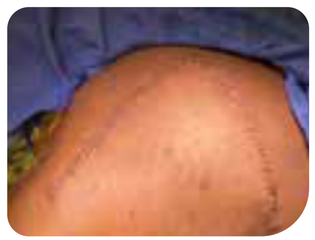


Figure 4. Postoperative closure of surgical incision using staples.

The application of 3M™ Prevena Restor™ Therapy to manage a surgical incision postscapula open reduction internal fixation (ORIF)

THE TREATMENT (CONTINUED):

The 3M™ Prevena Restor™ Roto•Form™ Incision Management System was used to help manage the closed scapular incision and surrounding soft tissue, hold incision edges together, remove infectious materials and reduce tensile forces across the incision (Figure 5).

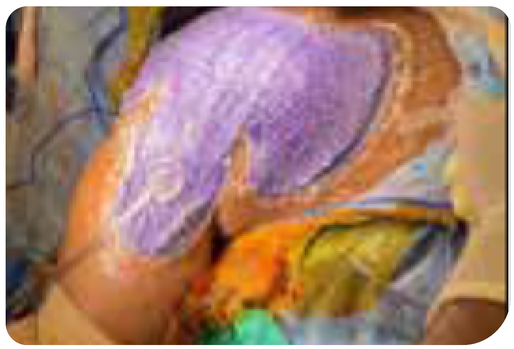


Figure 5. Application of 3M™ Prevena Restor™ Roto•Form™ Dressing over closed scapular incision.

The application of 3M™ Prevena Restor™ Therapy to manage a surgical incision postscapula open reduction internal fixation (ORIF)

THE RESULTS:

Prevena Restor Therapy was discontinued after 7 days. There was minimal postoperative swelling to the incision, the peripheral skin, and soft tissue (Figure 6).

Additionally, the incision demonstrated signs of healing well, with no signs of erythema or infection. Scapula surgery with the Judet approach generally carries a high risk of wound complications, as the scapula ORIF procedure was delayed due to medical optimization and other injuries. These circumstances made the orthopedic surgery more extensive and more prone to a greater risk of soft tissue injury.

In this patient, the 3M™ Prevena Restor™ Roto•Form™ Dressing was integral in helping to provide protection to the incision postscapula ORIF and helped to assist in mitigating the postoperative swelling generally noted in a polytrauma scenario and the patient's prescription of high-dose anticoagulants.

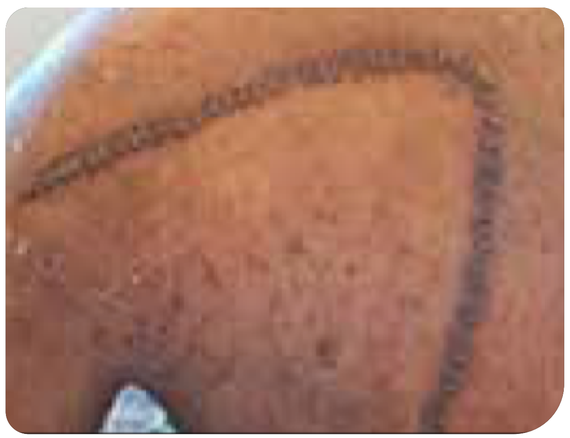


Figure 6. Removal of the Prevena Restor™ Roto•Form™ Dressing after 7 days by the healthcare provider.

Management of four arthroscopic incisions after rotator cuff repair using 3M™ Prevena Restor™ Therapy

THE CASE:

A healthy 54-year-old female with a 38.2 kg/m2 BMI underwent arthroscopic rotator cuff repair and biceps tenodesis of the right shoulder. The surgery was successful, with no intraoperative complications, resulting in four 1-cm closed incisions.

Management of four arthroscopic incisions after rotator cuff repair using 3M™ Prevena Restor™ Therapy

THE TREATMENT:

After closure, the 3M™ Prevena Restor™ Roto•Form™ Dressing was applied over all four incisions at -125 mmHg negative pressure (Figure 1). The goals of therapy were to help hold the incision edges together and manage the incisions and surrounding soft tissue.

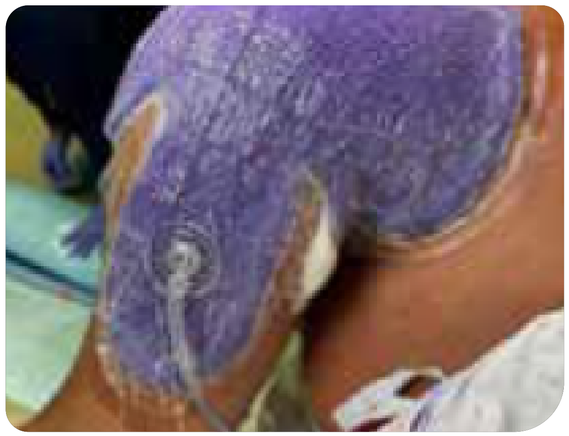


Figure 1. Placement of the Prevena Restor™ Roto•Form™ Dressing and creation of a vacuum seal. A separate dressing (white) that covered the biceps tenodesis incision was isolated with transparent drape before application of Prevena Restor Therapy.

Photos courtesy of Robert K. Fullick, MD; Department of Orthopedic Surgery, McGovern Medical School, University of Texas Health Science Center at Houston, Houston, TX.

Management of four arthroscopic incisions after rotator cuff repair using 3M™ Prevena Restor™ Therapy

THE RESULTS:

The patient was discharged home with 3M™ Prevena Restor™ Therapy, which continued until postoperative day 7. Upon dressing removal by the healthcare provider, it was observed that the therapy goals had been achieved. The incisions were clean, dry, and intact (Figure 2). Exudate had evidently been drawn into the dressing, preventing prolonged contact with the incision (Figure 3). Due to this good response, further incision management was not required.

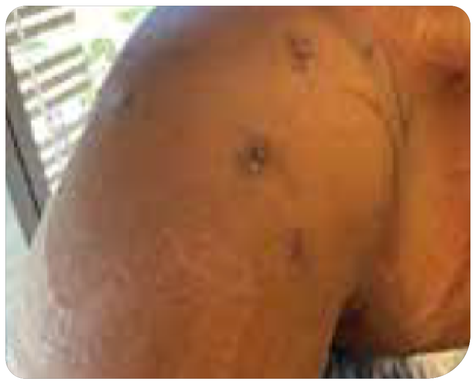


Figure 2. Appearance of the four closed incisions (3 anterior and 1 posterior) following dressing removal by the healthcare provider on postoperative day 7.

Figure 3. Appearance of the 3M™ Prevena Restor™ Roto•Form™ Dressing upon removal by the healthcare provider.

References

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NOTE: Specific indications, limitations, contraindications, warnings, precautions and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. Rx only

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