

Coloplast Case Report Challenge Booklet

2018



Introduction

What makes Coloplast special is our willingness to listen to the people who use our products, and act on what we learn. By listening, we gain a better understanding of the challenges healthcare professionals face when caring for wounds, and of new ways to improve quality of life for patients living with wounds.

We recognise that caring for wounds and skin can be a complex and uncertain process. Through the Coloplast Case Report Challenge, we want to acknowledge the important work of healthcare professionals working with wounds. The Case Report Challenge is a global call to healthcare professionals to submit challenging wound care cases and to share their dedication to wound care with fellow healthcare professionals and experts within the field. This initiative is part of our ongoing dedication to share deeper knowledge and guidance and support the continuous professional development of healthcare professionals working with wounds.

In this case report booklet, you will find selected case reports submitted as part of the Coloplast Case Report Challenge 2018. The products used in this booklet are not limited to the specific wound types and can be used in a broad range of wound types according to the Instructions for Use. The intention of this booklet is to share best practices and to inspire the continuous work of healthcare professionals working with wounds.

Together, we are united by a shared purpose and passion to achieve
Fewer days with wounds.

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Treatment and Management of Necrotizing Fasciitis and the role of Biatain® Alginate Ag

Dr. Aborajooch A. Emad, Assistant Professor, Faculty of Medicine, Mu'tah University, Al Karak, Jordan

Introduction

The patient presented with necrotizing fasciitis on the right perianal region extending upward to both inguinal area with hotness and redness up to the umbilicus and both flanks. There was copious foul smelling discharge from an opening at 9 o'clock 4 cm away from the anal verge with extension of redness, hotness and tenderness over the medial side of the thigh and groin.



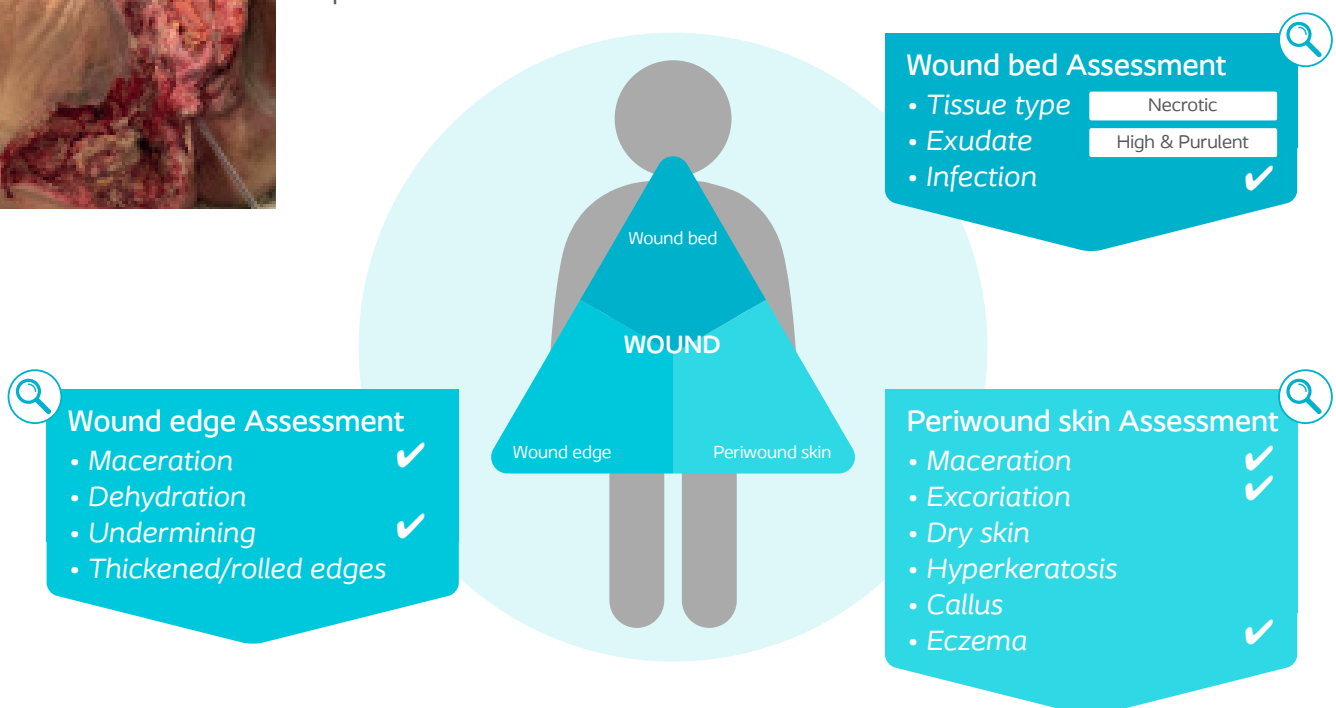
Patient

A 64-year-old female patient known to have HTN, Diabetes mellitus type II. She is on antihypertensive medication and oral hypoglycemic agent with modest blood sugar control. She is a non smoker and non alcoholic. At the time of admission, the patient had general weakness, high grade fever at 39°C for 3 days and foul smelling perianal discharge. The patient was ill looking, febrile, tachypneic and tachycardic. Blood pressure 110/70, pulse rate 110/minute and respiratory rate of 25/minute. On local examination, indurated edematous right perianal region with partially opened abscess collection at 9 o'clock 4 cm from anal verge. Tender, hot and emphysematous skin extended upward to the suprapubic and downward to the right medial thigh. The abdomen was soft and nontender. Her white blood cell counts were raised (26000/ μ l), hemoglobin was 12 g/l, serum creatinine was high (1.7 mg/dl), C reactive protein was elevated 102 and serum random blood sugar was 700 mg/dl, sodium 136mmol/l. The Laboratory Indicator for Risk of Necrotizing fasciitis (LIRNEC) score was 6.

Initial wound assessment - Day 0

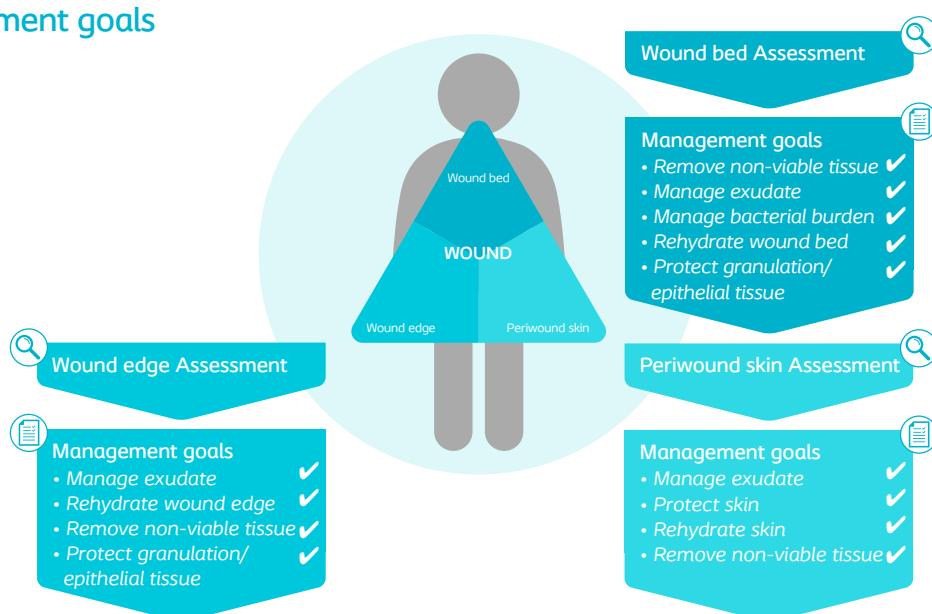


Size of wound
Length **750** mm
Width **750** mm
Depth **120** mm





Management goals



Treatment

Multiple surgical debridement extended beyond the areas of necrosis until viable tissue was reached and the entire necrotic area was excised. In each debridement, the wound was irrigated with 0.9% saline with good hemostasis. Aggressive broad-spectrum empiric antimicrobial therapy was started and culture was taken. Biatain® Alginate Ag with Purilon® Gel were applied every other day for 28 days to manage the bacterial burden and to provide fast and effective autolytic debridement. When the wound bed did not show any more signs of infection, the dressing was changed to a regular dressing and sterile gauze and changed daily for 17 days.

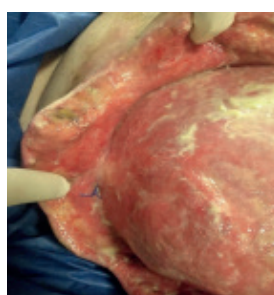
Results

On day 20, an increase in granulation tissue in the wound bed was observed. There was also a significant decrease in exudate levels. The undermined wound edges were filled with granulation tissue and healthy periwound skin was also observed. After 45 days, the wound bed showed healthy granulation tissue with low exudate and healthy wound edge and periwound skin. The patient was therefore referred to plastic surgery for wound closure.

**DAY
10**



**DAY
20**



**DAY
45**



Conclusion

In this case, Biatain Alginate Ag has shown to be effective, largely due to its broad spectrum of antimicrobial activity. This feature is particularly important in the era of increasing bacterial resistance to antibiotics. It was also observed that Purilon Gel was largely effective for autolytic debridement. To conclude, it was observed that both products improved granulation tissue growth in the wound bed, maintained a moist wound environment, absorbed exudate and improved healthy granulation tissue in the undermined areas of the wound edge.

Treatment of a wound with soft-tissue necrosis and tendon exposure after bone fracture fixation with Biatain® Non-Adhesive and Biatain® Silicone

Dengbin Liao Orthopedics, West China Hospital, Sichuan University, China

Introduction

Soft-tissue deficiency/necrosis, tendon exposure and bone fracture are very common in severe trauma wounds. Key issues of tendon exposure include tendon damage by dehydration and infection of the bone fracture site due to exposure of fixation materials to the environment. In these cases, personal, functional rehabilitation is very important to maintain the function of the ankle.

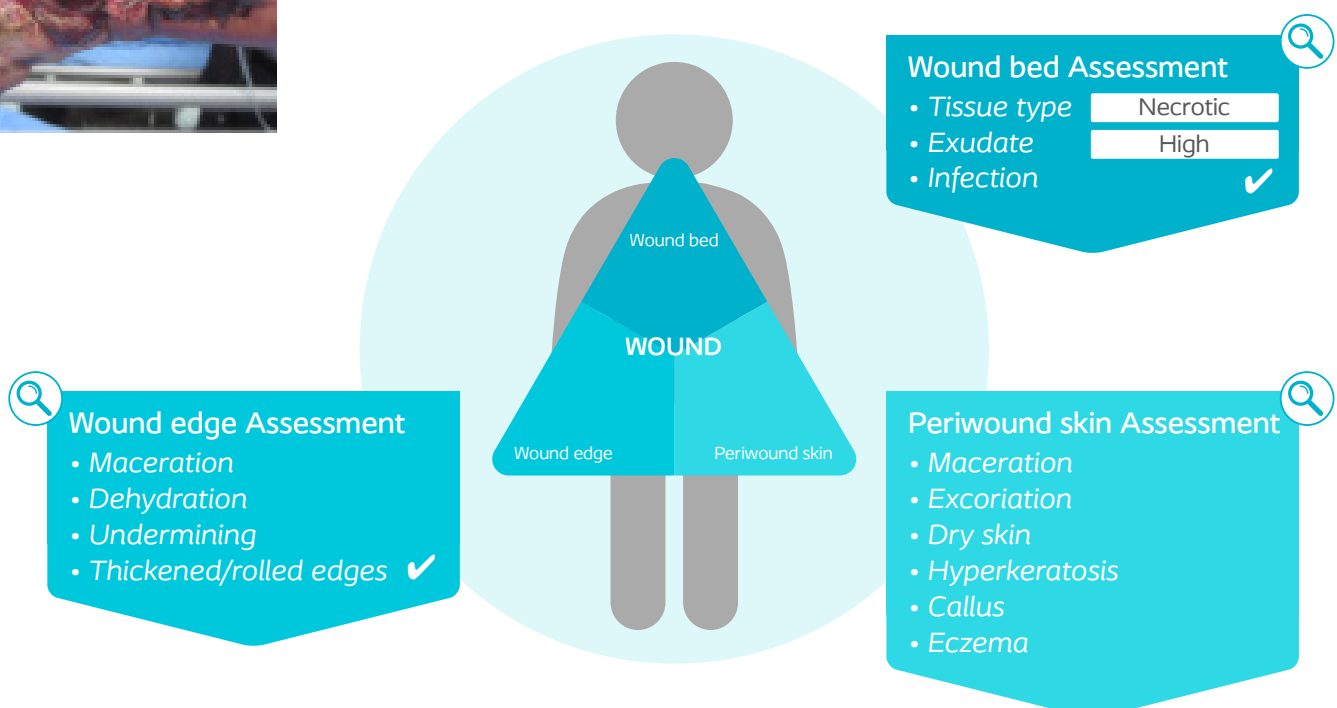
Patient

A 34-year-old male patient was admitted with fractures to the left tibia and fibula following a traffic accident. Two days after undergoing bone fracture surgery, a low level of yellow exudate leaked from the wound. Medical staff used infra-red radiation to prevent wound infection and increased the frequency and power of the radiation as exudate levels increased. After one month of this treatment plan, the wound had deteriorated with soft tissue necrosis developing in the upper surgical site.

Initial wound assessment - Day 0

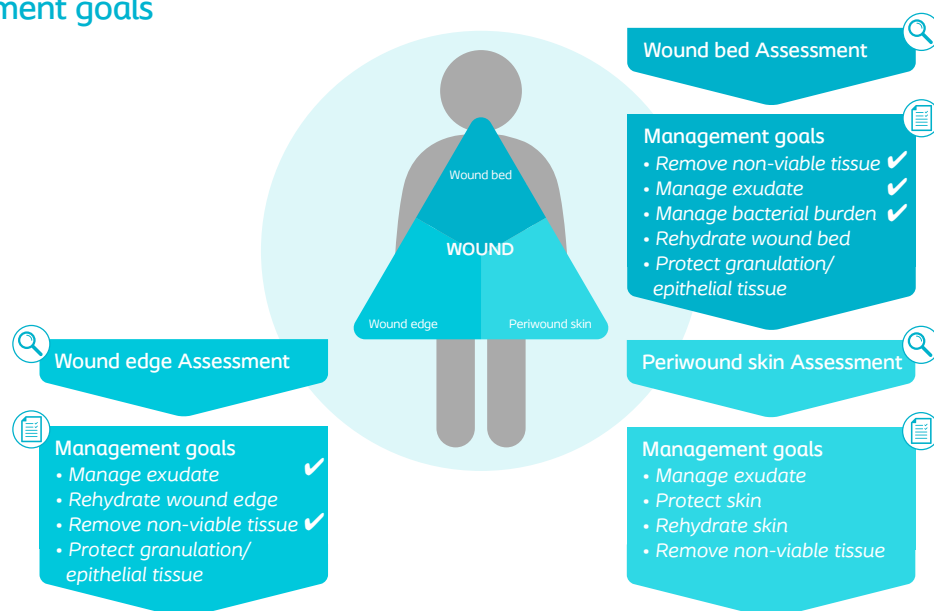


Size of wound
Length **120 mm**
Width **50 mm**
Depth **10 mm**





Management goals



Treatment

The key wound management goals were to maintain a moist wound environment to ensure tendon vitality, prevent infection, maintain the function of the ankle and to cover the fixation material to improve wound healing. Initial surgical debridement was followed by iodine saturated gauze debridement, changed daily for 1 week. This was followed by NPWT for 2 weeks. The tendon became dehydrated and fixation material was exposed. Treatment was updated, using Purilon Gel as a first layer dressing to cover the tendon surface and Physiotulle as a secondary dressing to maintain moisture balance in the wound. A cotton pad was used as an outside layer. The dressing was changed every 1 to 2 days for 2 weeks. However, the granulation tissue became swollen due to poor exudate management. The cotton pad was exchanged with Biatain® Non-Adhesive Foam, which resulted in the wound healing on day 128 post-surgery.

Results

On day 7, partial dissolution of the necrosis scar was done followed by iodine solution and surgical debridement. On day 21, the wound size decreased to 12 x 7 cm, showing 60% granulation, 20% tendon, 10% fixation material, 10% slough after 2 weeks NPWT. Low exudation and no clinical signs of infection. Dehydrated tendon and exposed fixation material. Purilon® Gel, Physiotulle® and cotton pad were applied. On day 35, the wound size decreased to 11 x 6 cm and slough replaced by fascia. Near-complete coverage of fixation material by granulation. Some granulation tissue swelling and hypergranulation. Cotton pad was replaced with Biatain Non-Adhesive Foam. On day 52, the wound size decreased to 9 x 5 cm. The patient was discharged and Biatain Silicone was used to promote wound healing. On day 128 the wound was fully healed.

**DAY
7**



**DAY
21**



**DAY
35**



**DAY
128**



Conclusion

It is important for wound care staff to understand the causes and phases of wound healing and be confident in identifying different anatomical tissue in specific body locations. The tendon might be damaged by dehydration and the bone fracture site is at risk of infection if the fixation material is exposed. Therefore, the moist wound environment plays an important role in keeping the tendon and bone vital. The Biatain Non-Adhesive Foam used from day 35 demonstrated better exudate management than cotton pads. Faster growth of granulation tissue and little swelling was observed, which supported wound healing. The patient's functional rehabilitation should be priority and will further aid wound healing.

Treatment of a venous foot ulcer exhibiting high levels of exudate using Biatain® Alginate Ag and Biatain® Non-Adhesive Foam dressings

Emre Özker, Assoc.Prof. Dr, Cardiovascular Surgeon & Lale Ünsal, Wound Care Nurse, Acibadem Hospital, Istanbul, Turkey

Introduction

Venous ulcers are the most frequently encountered type of lower extremity ulcer and are commonly found in the peri-malleolar gaiter area. Affected extremities are usually edematous with skin changes like hemosiderosis, lipodermatosclerosis and blanche atrophy. Venous ulcers are often shallow with irregular borders, highly exuding and slightly painful. A holistic approach to the extremity, including treating the venous disorder, controlling the edema through compression, managing exudate and infection and protecting the periwound skin is of the utmost importance. The Triangle of Wound Assessment is a key tool for holistic wound care, encompassing every aspect of wound evaluation and treatment. Herein we present treatment of a recalcitrant, infected venous ulcer using the Triangle of Wound Assessment.

Patient

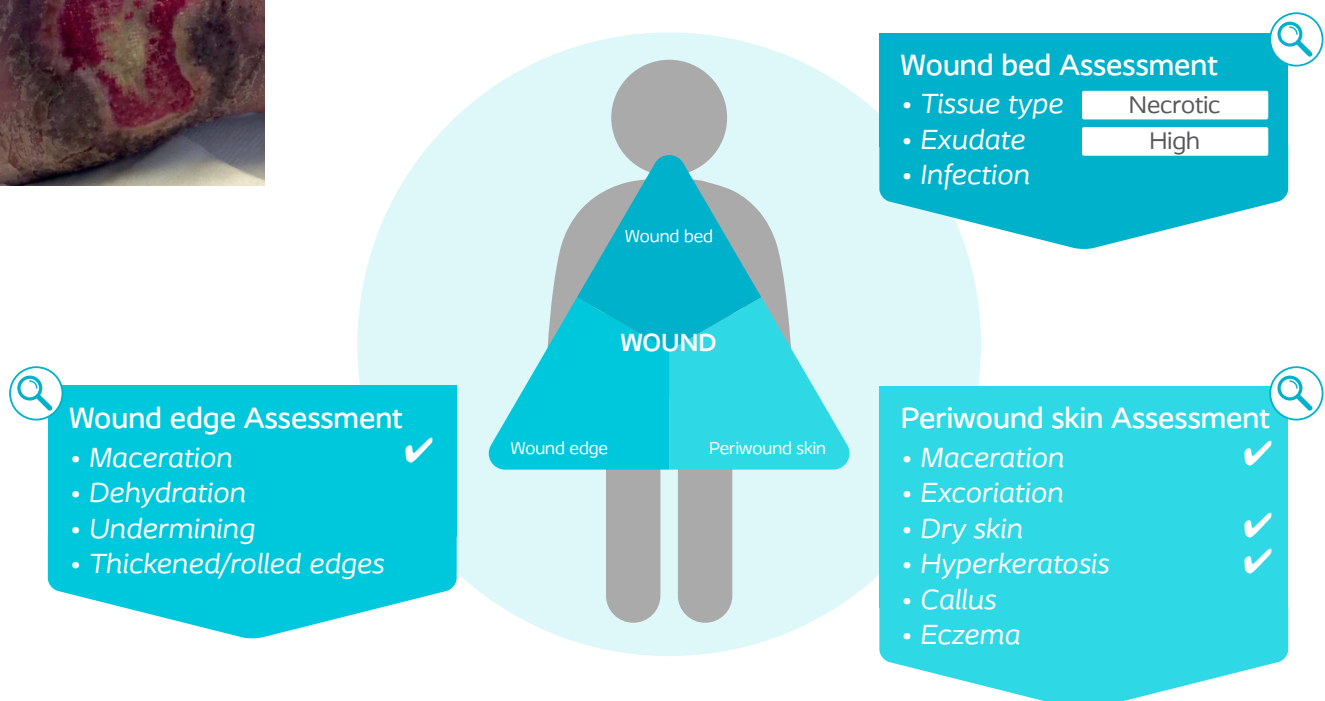
A 71-year-old diabetic male patient with a 20-year history of deep vein thrombosis presented with arterial stenosis in the lower extremity, mild cardiac insufficiency and a wound on his left lateral malleolus. In January 2018, the patient underwent plastic surgery. However, the wound gradually increased in size over a 5 month period resulting in admittance to the wound clinic in May 2018. The patient used antibiotic creams and the wound had high levels of exudate and odour. Due to the high levels of exudate, the periwound skin showed clear signs of maceration.

Initial wound assessment - Day 0

Size of wound

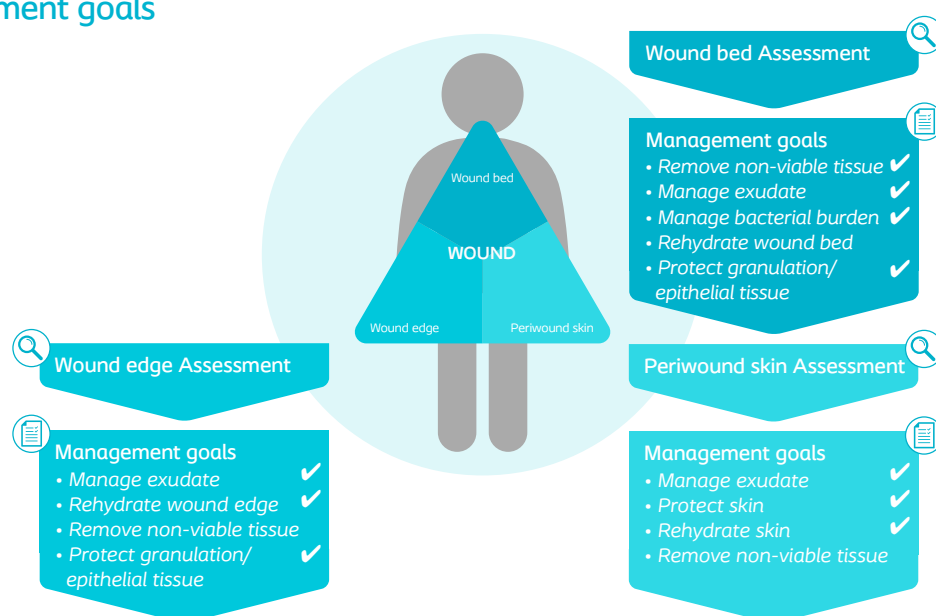


Length 59 mm
Width 70 mm
Depth 3 mm





Management goals



Treatment

At the time of hospital admission the wound bed was covered with necrotic tissue and debris from antibiotic cream. Mechanical debridement and cleansing was initiated. High levels of exudate, related to chronic venous insufficiency and cardiac insufficiency, was present. The patient's HbA1c level was 5.5%. His pedal pulses were non-palpable. The lower extremity arterial doppler reported bilateral stenosis and occlusion of below knee arteries. There was no sign of neuropathy. Biatain® Alginate Ag and Biatain® Non-Adhesive Foam were chosen to manage the exudate. The appearance and high levels of exudate raised suspicion of infection. Culturing of an exudate sample identified *Pseudomonas aeruginosa* infection and the patient was prescribed ciprofloxacin for 15 days. Alginate with silver was selected to manage the infection. In addition to the highly absorbent dressing, barrier cream was used to manage the maceration of the periwound skin. Compression therapy was applied throughout treatment to decrease the lower extremity edema and control the discharge. All dressings were changed twice a week. The wound closed in 4 months.

Results

Biatain Alginate Ag and Biatain Non-Adhesive Foam provided exudate management, conformability to the wound bed and protected the wound edge and periwound skin from maceration. New granulation tissue was observed, and the wound size was dramatically reduced. The barrier cream managed periwound maceration and improved the condition of the easily pliable skin. The 4-layer bandage helped to reduce the edema and decrease exudate levels. The size of the wound decreased from 27.5 cm² at admission to 11.6 cm² on 04.06.2018 to 7.5 cm² on 05.07.2018. Biatain Alginate Ag treatment was stopped 14 days later.

DAY
0



DAY
32



DAY
73



Conclusion

The wound bed exudate level was minimized, and the growth of granulation tissue was improved. The odour and the high amount of exudate signaled local infection. Therefore, Biatain Alginate with Ag was the preferred dressing choice. Wound edge maceration was controlled through management of excess exudate. In conclusion, the combination of Biatain Alginate Ag and Biatain Non-Adhesive Foam was successful in managing exudate and supporting the growth of granulation tissue in this highly exuding venous leg ulcer. For this case, it was important to use the Triangle of Wound Assessment to regularly re-assessment the wound, to modify treatment according to changes in the status of the wound bed, wound edge and periwound skin.

Treatment of a recalcitrant diabetic ulcer with Biatain® Non-Adhesive Foam

Dr. Emre Özker, Assoc. Prof, Cardiovascular Surgeon & Lale Ünsal, Wound Care Nurse, Acibadem Hospital, Istanbul, Turkey

Introduction

A diabetic patient with chronic renal failure presented with a wound on the Achilles tendon. The patient has peripheral arterial disease, which had been treated prior to admission to the wound clinic.

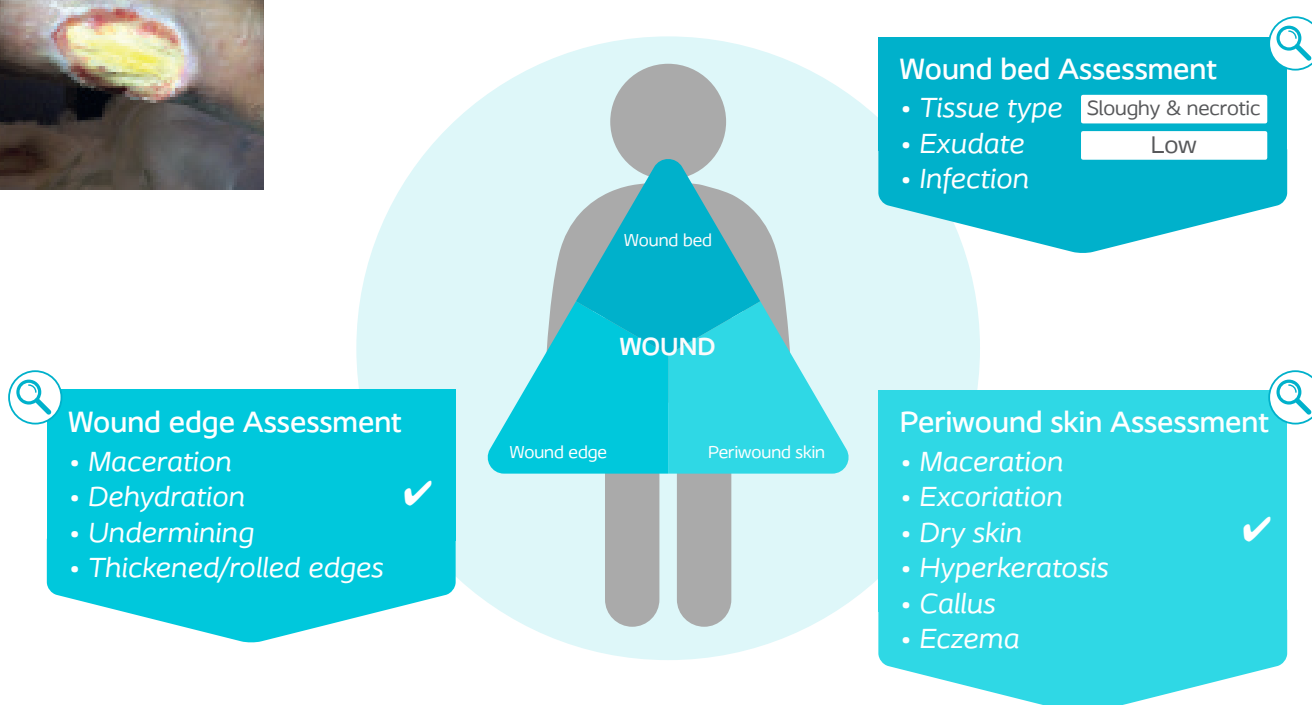
Patient

A 79-year-old mobile male patient presented with a wound on the Achilles tendon. The patient is an ex-smoker and is a diabetic on insulin treatment. He is known to have peripheral arterial disease (treated prior admission to wound clinic), chronic renal disease (dialysis patient), chronic obstructive pulmonary disease and cardiac insufficiency. The wound started to develop on the posterior left leg, on the Achilles tendon in August 2017. The patient underwent percutaneous transluminal angioplasty in another clinic. They initially treated the wound with antibiotic creams. When the treatment failed, they shifted to negative pressure wound treatment. The patient was then admitted to our outpatient wound care clinic in September 2017.

Initial wound assessment - Day 0

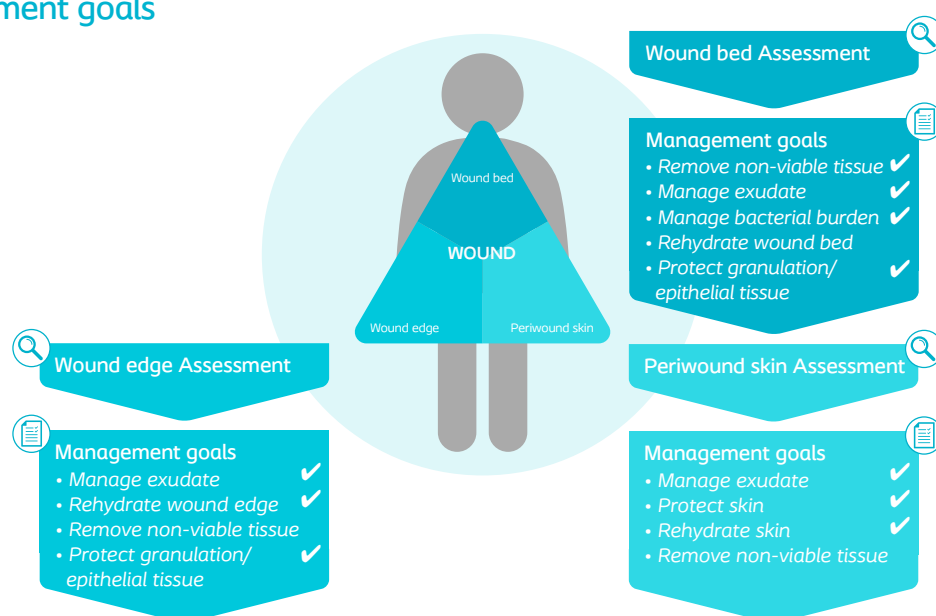


Size of wound
Length 36 mm
Width 47 mm
Depth 122 mm





Management goals



Treatment

Purilon® Gel was used to moisten the necrotic tissue. Biatain® Non-Adhesive Foam was used to control exudate. Comfeel® Barrier Cream was used to rehydrate the dry periwound skin. Surgical debridement was performed to shorten the healing time. As the sloughy tissue disappeared and granulation tissue increased, the treatment was terminated. However, the amount of exudate did not decrease as expected. The wound had a bad odour and was painful, hence contamination was suspected and Physiotulle® Ag was added to the treatment. The treatment was continued with Biatain Non-Adhesive Foam until the exudate levels decreased to an acceptable amount. The treatment was continued using only Physiotulle Ag to maintain a moist and clean wound bed. The dressings were changed every other day in the first month. As the exudate levels decreased and the Purilon Gel treatment stopped, the dressing was changed every 3 days. The wound was healed after 6 months.

Results

Purilon Gel successfully enabled the removal of necrotic tissue. The Biatain Non-Adhesive Foam absorbed the excess wound exudate. The odour and the pain disappeared after starting the treatment of Physiotulle Ag. Physiotulle Ag provided both a moist and clean wound bed. Using the Biatain Non-Adhesive Foam, which has vertical absorption, helped to manage the exudate. Comfeel Barrier Cream managed the dry periwound skin very efficiently. The time interval for dressing change was chosen according to the amount of exudate. As the amount of exudate decreased, the interval was extended to every 3 days. The wound was healed after 6 months.

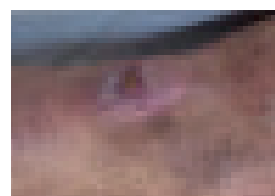
DAY
7



DAY
50



DAY
100



Conclusion

In this case, the wound bed exudate levels were minimised and the tissue type turned into granulation tissue with the support of Biatain Non-Adhesive Foam and Physiotulle Ag. The wound edge maceration was managed after controlling the excess exudate and by using Comfeel Barrier Cream. The dry skin on the periwound skin area was managed by Comfeel Barrier Cream. Following full granulation of the wound bed and healing of the periwound skin, Physiotulle Ag was chosen to keep the wound bed moist and clean. Physiotulle Ag was chosen to prevent contamination of the wound bed. The wound was then closed through the generation of healthy epidermis. In this case, the conclusion was that wound management with Biatain Non-Adhesive Foam and Physiotulle Ag dressings is helpful for managing exudate, improving and protecting the granulation tissue in the wound bed and ensuring epidermis proliferation. No further advanced treatment options were needed. A thorough assessment using the Triangle of Wound Assessment was helpful in guiding the healing of a recalcitrant and chronic wound.

Use of Biatain® Ag Non-Adhesive Foam in the treatment of a chronic venous leg ulcer

Sr. Fijma Luijk, PNP at Nursing with Care, Pretoria, South Africa

Introduction

Venous leg ulcers are open lesions between the knee and ankle that occur in the presence of venous disease. Approximately 3 out of 4 leg ulcers are venous ulcers. Risk factors for developing venous leg ulcers are age older than 65, chronic venous disorders like varicose veins and lipodermatosclerosis, female sex, obesity, trauma, immobility, congenital absence of veins, deep vein thrombosis (DVT) and phlebitis. Most of these ulcers persist for more than 6 weeks and are therefore referred to as chronic leg ulcers. Diagnosing the underlying cause of a wound is an important part of the wound assessment and will help to identify an appropriate treatment plan. Assessment of the wound bed and the periwound skin will help towards selecting the best dressing.



Patient

A 72-year-old female patient suffered a stable hip fracture after falling. She had hypertension, epilepsy, venous insufficiency and chronic urinary tract infection. She was allergic to sulfa. Her nutritional status was good. She was in bed most of the day where she was able to turn on both sides. Her daughter would help her into a wheel chair in the evenings. She stopped smoking 3 months ago after 40+ years of smoking heavily and does not drink alcohol. Medication: Tegretol CR (Carbamazepine), Aldactone (Spironolactone), Bilacor, Coversyl (Perindopril), Augmentin, Flagyl (Metronidazole), Ultram (Tramadol). She had a 3-year-old venous ulcer. The ulcer was in the right gaiter area of the leg, above the malleoli. The ulcer bed was covered with a fibrinous layer mixed with granulation tissue and surrounded by an irregular wound edge. All affordable products available on the local market had been tried and a compression bandage was applied by the daughter. One bandage was tightly applied up to half of the calf muscle. No pain was experienced but discomfort and sadness stemming from lack of hope for healing.



Initial wound assessment - Day 0

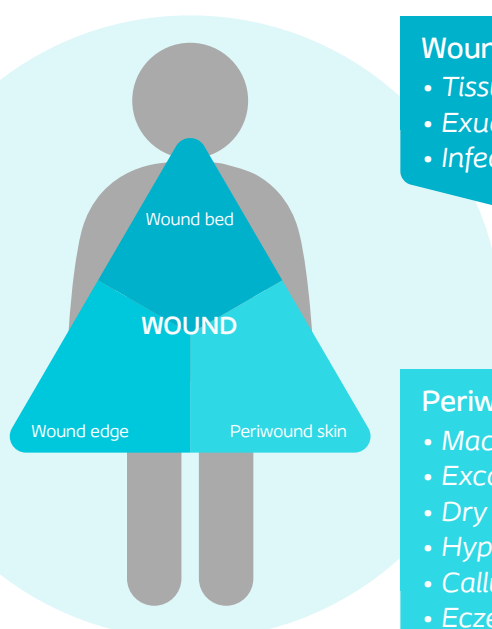


Size of wound
Length **40 mm**
Width **20 mm**
Depth **3 mm**



Wound edge Assessment

- Maceration
- Dehydration
- Undermining
- Thickened/rolled edges



Wound bed Assessment

- Tissue type **Granulation**
- Exudate **Low**
- Infection



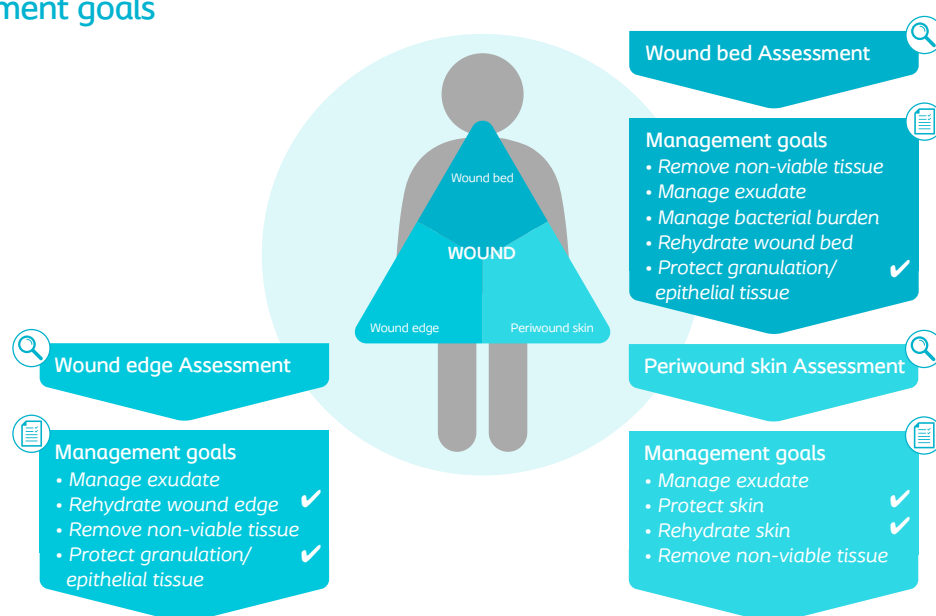
Periwound skin Assessment

- Maceration
- Excoriation
- Dry skin
- Hyperkeratosis
- Callus
- Eczema





Management goals



Treatment

The wound was cleaned with Veriforte and Biatain® Ag Non-Adhesive 10x10cm was applied as recommended by a consultant. The periwound skin was cleansed with pH neutral soap and water, dried properly and E45 cream was used. "African bandage" compression was applied, which is a layer of crepe on the skin, middle layer of wool and top layer of crepe. Biatain Ag Non-Adhesive was changed weekly. The patient and caretaker were educated on the recognition of early signs and symptoms of too high compression (pins and needles, discolouration, shortness of breath) and advised to contact their HCP immediately if they experienced symptoms.

Results

The initial treatment with Biatain Ag Non-Adhesive allowed the wound healing to resume and effectively managed the exudate level and provided a moist wound environment for the wound. On day 7, the compression bandage had visibly decreased the oedema. To ensure blood perfusion to the wound bed and minimise pressure around the wound, the dressing was cut to the size of the wound. The wound bed had lower levels of exudate after the first week. After 13 days, there was a reduction in the wound size and only 2 areas of less than 1 cm were still open. After 19 days from starting the treatment, the wound was completely healed. A very thin, fragile skin was covering the 3-year-old ulcer. Compression stockings were measured and applied. The photo taken at day 19 was sent to the whole family while tears were running down the patient's grateful face.

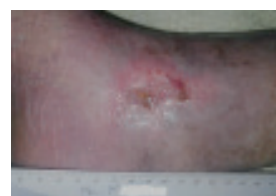
DAY
7



DAY
13



DAY
19



Conclusion

Chronic wound care is largely dependent on the selected dressings ability to provide a moist environment ideal for healing, while also protecting the periwound skin. In this case, the use of Biatain Ag Non-Adhesive Foam supported the growth of new granulation tissue and closure of the wound bed, maintained a moist wound environment, rehydrated the wound bed and avoided adherence to the wound bed. The dressing also facilitated removal without trauma to the wound bed, wound edge and the fragile periwound skin. The antimicrobial component of the dressing managed the initial local infection.

Treatment of a pressure ulcer in hospice care using Biatain® Ibu Non-Adhesive Foam containing Ibuprofen

Hyunhee Ghil, RN, HN, WOCN, MCM, South Korea

Introduction

Hospice care patients, like cancer patients, are not easy to move. This, combined with increased risk of edema and nutritional deficiencies often leads to development of pressure injuries. Pressure injuries make the treatment of hospice care patients more difficult and increases costs by prolonging the hospitalisation period. The patients suffer from pain, not only caused by cancer, but also from the pain associated with pressure injuries. Therefore, wound pain management should be part of the treatment plan for hospice care patients suffering from pressure injuries^{1,2}

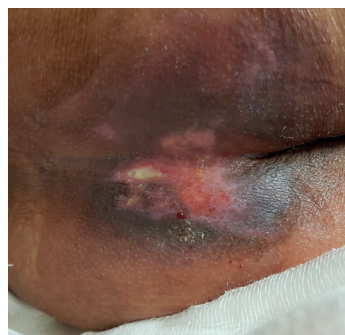


Patient

A 22-year-old male patient with no related medical history was hospitalized with left lower quadrant pain. Following an abdominal CT scan and colonoscopy he was diagnosed with sigmoid colon cancer. He underwent surgery on February 22, 2017. After surgery, he had colostomy surgery and started chemotherapy. The outcome of the chemotherapy was not good, so he was transferred to a hospice for palliative care. The patient was bedbound and as a result of his immobility, developed pressure injuries on the sacrum and coccyx.



Initial wound assessment - Day 0

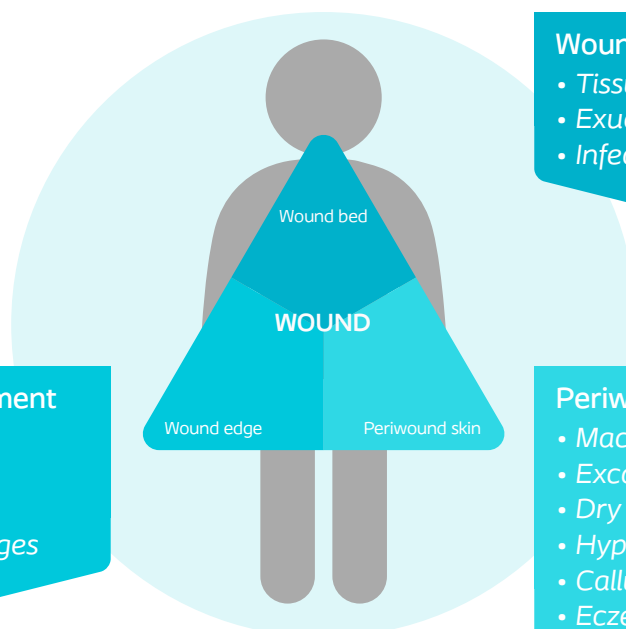


Size of wound
Length **100 mm**
Width **100 mm**
Depth **2 mm**



Wound edge Assessment

- Maceration
- Dehydration
- Undermining
- Thickened/rolled edges



Wound bed Assessment

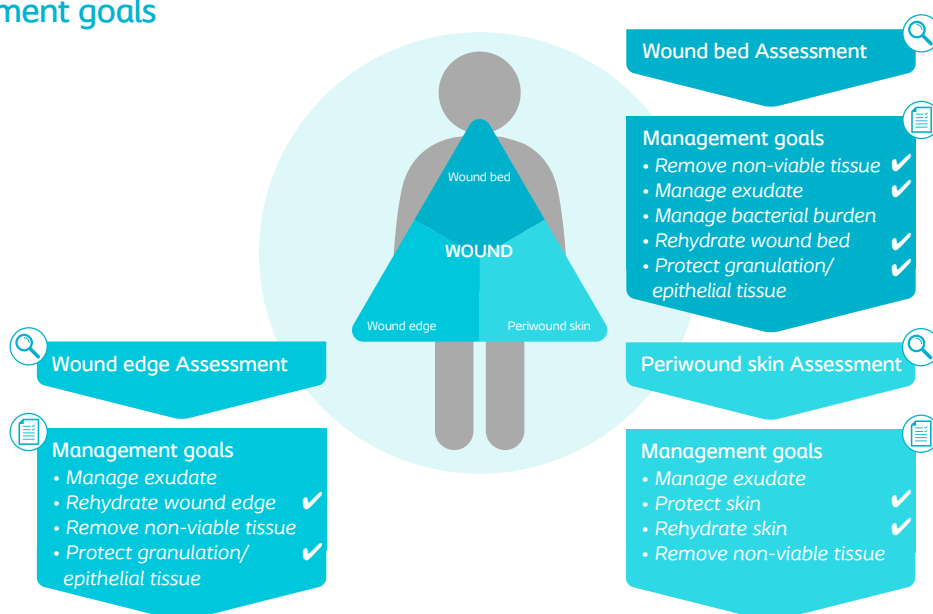
- Tissue type **Sloughy**
- Exudate **Medium**
- Infection

Periwound skin Assessment

- Maceration
- Excoriation
- Dry skin
- Hyperkeratosis
- Callus
- Eczema



Management goals



Treatment

First, the periwound skin was cleaned using Comfeel® cleanser and the wound bed was irrigated with normal saline. DuoDERM hydroactive gel was used for slough removal.

A foam dressing containing ibuprofen (Biatain® Ibu Non-Adhesive) was applied, since it is indicated for moist wound healing and management of painful wounds, such as pressure injuries.

Moreover, pressure relief was ensured by changing the patient's position every 2 hours and encouraging oral intake of a combination of proteins and mineral containing liquid agents. Emotional support was given to the patient, and the wound recovery process was communicated with the patient and his family.

Results

After 7 days, sloughy tissue was gradually removed, and no additional tissue damage was found. The patient did not complain about pressure injury pain. The wound bed, edge and periwound skin all showed signs of healing.

The dressing was replaced every 3~4 days. After 14 days, there were signs of epithelial tissue on the wound edges, and all the slough was removed. Use of Biatain Ibu Non-Adhesive was continued, being changed every 5~7 days. After 21 days, epithelial tissue was found in the wound bed with normal wound edge and periwound skin.

**DAY
7**



**DAY
14**



**DAY
21**



Conclusion

In this case, the patient felt the wound management of the pressure ulcer was comfortable while using Biatain Ibu Non-Adhesive Foam dressing. The patient and his family expressed satisfaction with the wound care and materials. In addition, adhesive tape was used to prevent damage to the periwound skin. The patient felt the dressing helped to regulate the pain caused by the pressure ulcer while also effectively absorbing exudate. It was also considered to use skin protective products to protect the skin from damage caused by the diapers. Using the Triangle of Wound Assessment to assess and manage the wound and the Biatain Ibu Non-Adhesive Foam dressing to support the healing process of the pressure ulcer helped to relieve the pain of this hospice care patient.

Treatment of a traumatic right thigh wound using Biatain® Silicone Ag dressing

Helle Damgaard Nielsen, Plastic Surgery Nurse, Plastic Surgery Department, Aalborg University Hospital, Denmark

Introduction

Traumatic wounds can be at high risk of infection and skin necrosis. While working with traumatic skin flaps, a good blood supply is crucial to give the flap the best chance of survival. However, if the flap does not survive, debridement and skin transplantation is required for wound healing. Prior to a skin transplantation, the wound bed must be granulating and biofilm and infection must be avoided. It is also important that the periwound skin remains warm and dry and that exudate levels are low.



Patient

A 66-year-old female patient suffered a traumatic wound to the right thigh in a sailing accident in Greece. A large flap of skin was torn on impact from the boat's boom. The flap was surgically repositioned and sewn back. Upon returning to Denmark the flap was dark in colour, some epidermolysis was observed, and the wound was moderately to highly exuding. The wound was very painful, especially during debridement and the patient was unable to walk on the right leg. The periwound skin was dry with sporadic necrosis.

Generally, the woman was in good physical condition, a non-smoker with no excess use of alcohol. She was treated with Eltroxin for her low metabolism.



Initial wound assessment - Day 0

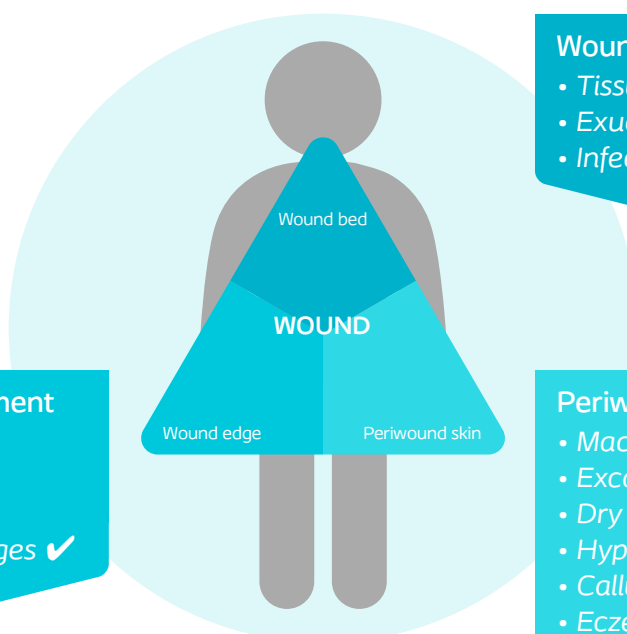


Size of wound
Length **150 mm**
Width **100 mm**
Depth **5-15 mm**



Wound edge Assessment

- Maceration
- Dehydration
- Undermining
- Thickened/rolled edges ✓



Wound bed Assessment

- Tissue type Granulation + slough
- Exudate Moderate to high
- Infection ✓

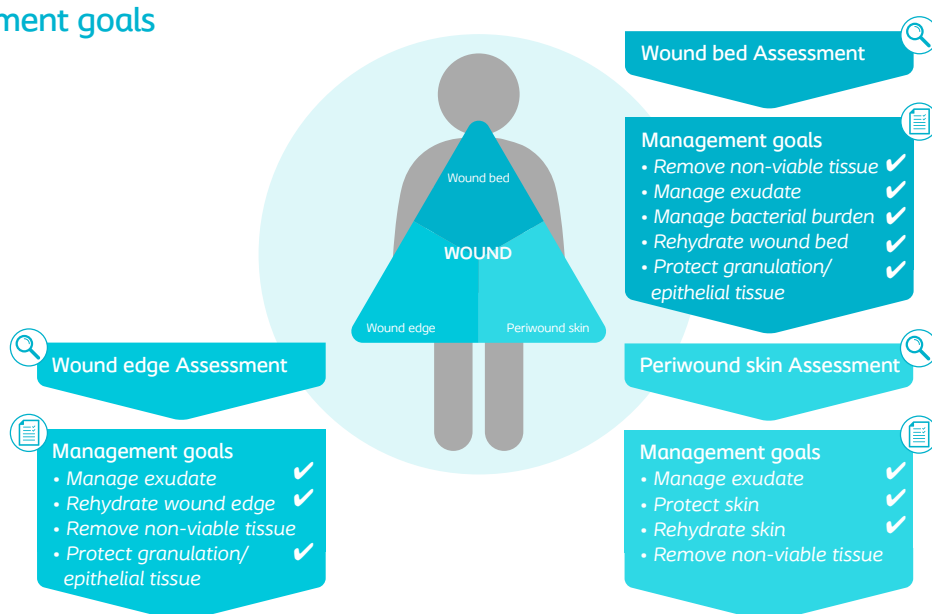


Periwound skin Assessment

- Maceration
- Excoriation
- Dry skin
- Hyperkeratosis
- Callus
- Eczema ✓



Management goals



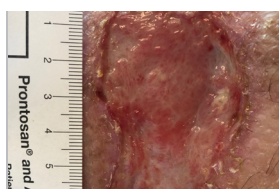
Treatment

During the first 2-3 weeks, necrosis was observed and Physiottulle® Ag combined with absorbing gauze under compression was selected to combat the high level of exudate. The flap was necrotized and sharp debridement was performed regularly. Due to pain, Xylokain was used locally in the wound. At the end of June, the wound was surgically debrided under anesthesia. The wound size was 10-15 cm in width and approximately 0.5-1.5 cm in depth. Hereafter, the wound was treated with NPWT for 9 days. On 6/7/2018, treatment with Biatain® Silicone Ag Sacral dressing 25 x 25 cm was initiated. The Biatain Silicone Ag Sacral shape was chosen due to the perfect fit to the wound, with a smaller, additional dressing to cover the lower wound area. The dressing was changed once per week. And after 4-5 weeks a smaller dressing size was chosen, Biatain Silicone Ag Sacral 15 x 19 cm. There were no clinical signs of infection during treatment; no redness, swelling nor fever. Thus, there was no need for wound swabs or blood testing for infection. Biatain Silicone Ag was used prophylactically, due to the size and high risk of infection. When observing the wound and dressings at dressing changes, there was green exudate, a sign of local *Pseudomonas aeruginosa* bacterial flora.

Results

Impressive wound progression was observed at every dressing change, so much so that the planned skin transplant was abandoned. The wound bed was at the same level as the wound edge and the dressing effectively absorbed the exudate. The dressing conformed completely to the wound bed. During treatment the periwound skin was warm and dry with no signs of maceration and the wound edges were not macerated. The patient became more mobile and the pain during dressing changes was reduced. The dressing adhered well to the periwound skin and the dressing was easy to apply and remove.

DAY 14



DAY 28



DAY 35



Conclusion

Biatain Silicone Ag stayed in place and was soft and comfortable for the patient to wear. It conformed well to the wound bed and kept the wound edges and periwound skin intact and dry.

Biatain Silicone Ag minimised the microbiological load in the wound, observed as green exudate typical of *Pseudomonas aeruginosa*, allowing healing to progress. The patient described the dressing as easy to wear because it stayed in place for 7 days. She felt independent and it gave her undisturbed wound healing.

Treatment of a pressure injury wound in the sacral area with Biatain® Alginate Ag, Biatain® Alginate and Biatain Soft-Hold dressing in a geriatric patient

Dr. Lee Chin Yen, Wound Care Coordinator, Wound Care Unit, Hospital Tengku Ampuan Afzan Kuantan, Pahang, Malaysia

Introduction

Pressure Injury (PI) is known to be one of the most debilitating complications of hospital acquired infections with high economic burden to the health care services.¹ The development of PI leads to increased length of hospital stay, hospital costs, as well as significant risks of morbidity and mortality.² The Triangle of Wound Assessment is recognised as a holistic assessment framework for complete analysis of a patient's wound bed, wound edge and periwound skin to ensure effective treatment and intervention.³ The Triangle of Wound Assessment tool provides a framework for optimal wound management decisions and treatment options.⁴

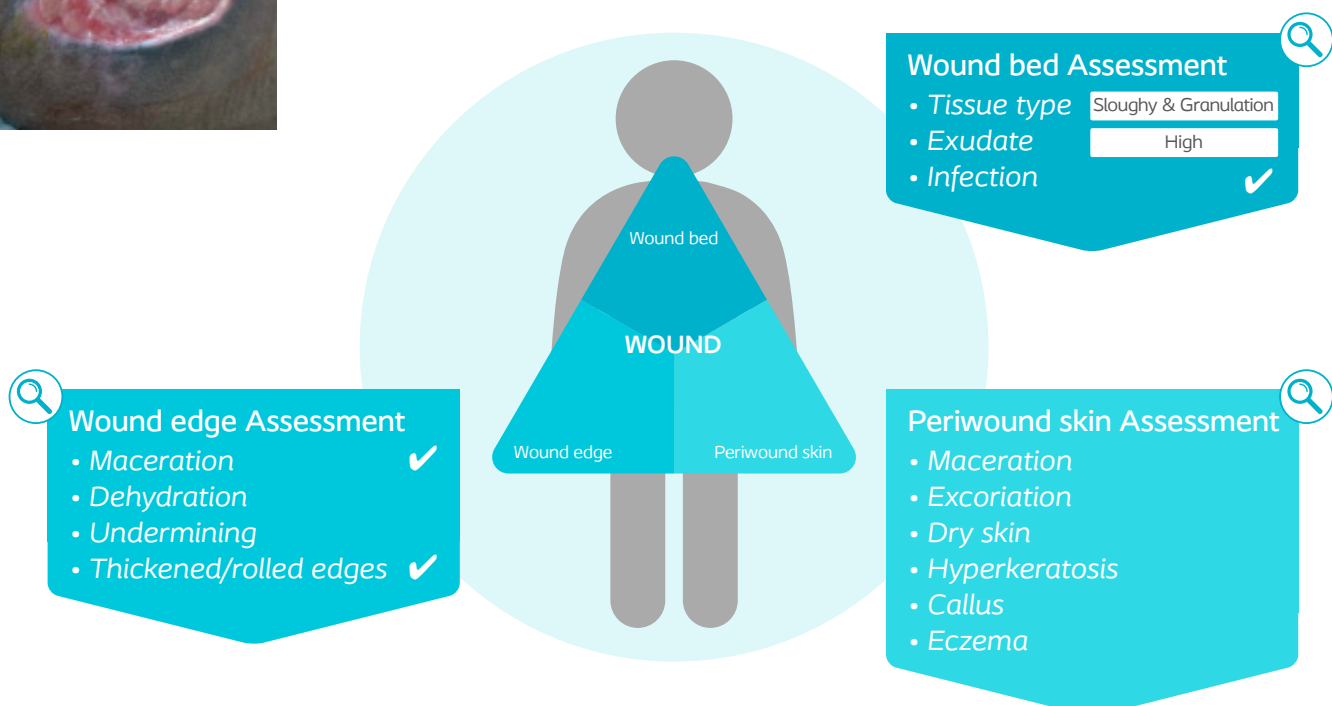
Patient

A 77-year-old female patient had underlying dyslipidaemia and diet-controlled diabetes mellitus. She stayed at a nursing home and was partially dependent on others for her daily care. She was otherwise well-nourished and had good family support. She expressed pain due to traumatic osteoarthritis of her left knee, which resulted in reduced mobility. Subsequently, a pressure injury developed over her sacral area 5 days prior to the first wound assessment. She had a pain score of 3/10 due the sacral pressure injury.

Initial wound assessment - Day 0

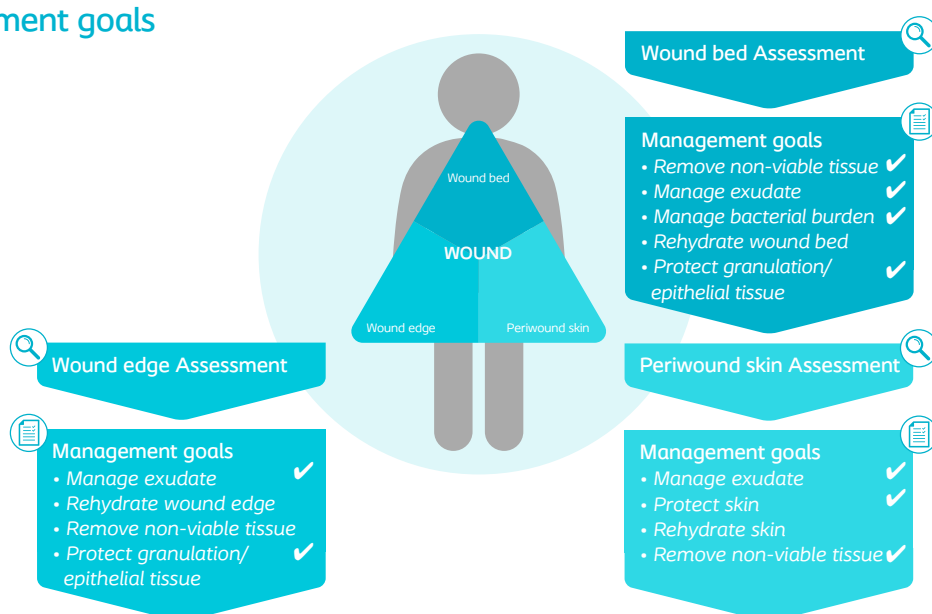


Size of wound
Length **50 mm**
Width **45 mm**
Depth **30 mm**





Management goals



Treatment

A holistic management plan was carried out. The patient was mobilised using wheelchair whenever possible. While lying down, hourly turning to relieve the pressure from the sacral area was done. The patient's diet was supplemented with a diabetic formula and a high protein diet to facilitate wound healing. Mechanical debridement to remove the sloughy tissue was performed at the bedside. Biatain® Alginate Ag was applied for a short duration to manage the local infection and was subsequently changed to Biatain Alginate, when the local infection was under control. Biatain® Soft-Hold Foam was used as a secondary dressing to manage heavy exudate. The dressing was changed every 2-3 days to manage the exudate. To protect against contamination from faecal material and urine, barrier cream was applied and diapers were changed frequently.

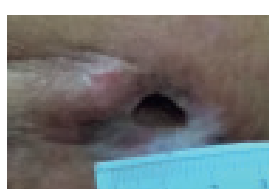
Results

After two weeks, the local infection was under control. There was a clear reduction in exudate levels, local erythema and pain score. More importantly, the wound reduced in size and depth. The patient was also more mobile, cheerful and was able to be involved in social events in the nursing home.

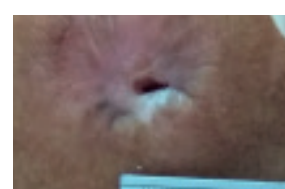
DAY
14



DAY
30



DAY
60



Conclusion

Management of pressure injuries to achieve optimal healing outcomes, involves a multi-disciplinary approach. The Triangle of Wound Assessment guides the implementation of a holistic management plan, not only focusing at the wound bed and wound edges, but also at the periwound skin area. In this case, the products used were user friendly and patient friendly. Biatain Alginate Ag provided antimicrobial properties to manage local infection. Additionally, Biatain Soft-Hold enable painless removal of the dressing while still allowing adequate moisture levels at the wound bed. The combination of Biatain Alginate and Biatain Soft-Hold used in this case was very effective in the management of high levels of exudate. For periwound skin management, the barrier cream acted as a protective layer to reduce risk of contamination. Odour reduction and pain relief helped the patient to regain the confidence to socialise, leading to better psychological well-being. In conclusion, the use of the Triangle of Wound Assessment framework in wound care management, especially in the clinical setting, provides a holistic approach to wound care management and leads to optimal wound healing.

Ref.: 1. Dealey C, Posnett J and Walker A (2012) The cost of pressure ulcers in the United Kingdom. *Journal of Wound Care* 21(6): 261–266. 2. Walker R, Huxley L, Juttner M, Burmeister E, Scott J and Aitken LM (2017) A Pilot Randomized Controlled Trial Using Prophylactic Dressings to Minimize Sacral Pressure Injuries in High-Risk Hospitalized Patients. *Clinical Nursing Research* 26(4): 484–503. 3. (Romanelli M, Dowsett C, Doughty D, Senet P, Munter C and Martinez JLL. (2016) Advances in wound care: the Triangle of Wound Assessment WUWHS Position Document. *Wounds International* 2016, 1–30. 1–30. 4. Dowsett C and Hallen B von (2017) The Triangle of Wound Assessment: a holistic framework from wound assessment to management goals and treatments. *Wounds International* 8(4): 34–39.

Treatment of postoperative stoma with surrounding tissue necrosis, using Biatain[®] Alginate Ag and Biatain[®] Alginate dressing

Lina Qiao, First Affiliated Hospital of Xi 'An Jiaotong University, Shaanxi, China

Introduction

Severe trauma on the abdomen wall will sometimes lead to closed abdominal injury and fractures. Surgery is needed to fix fractures and gut damage, and a stoma will be created after surgery. The postoperative incision and stoma site suffer relatively high rupture rates due to their increased risk of intraperitoneal and fecal contamination, which can lead to wounds connecting to the abdominal cavity. This kind of chronic wound is at high risk of infection, very highly exuding and hard to close due to high tension on the abdominal area.



Patient

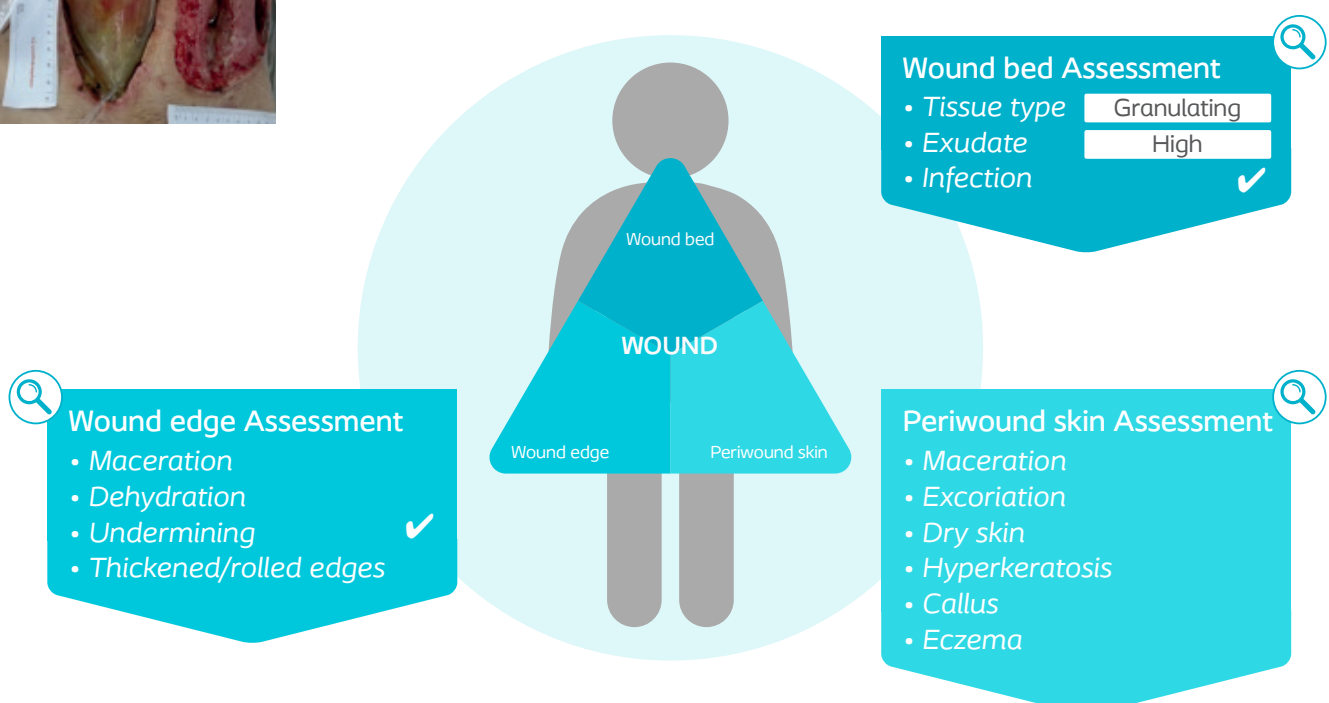
A 39-year-old male patient was diagnosed with multiple fractures and closed abdominal injury. He underwent a partial sigmoid colon resection and enterotomy. Debridement and secondary closure was performed 10 days later due to incision dehiscence. The patient was admitted to our hospital the following day with acute renal failure and septic shock. The central abdomen wound was 25 x 10 x 5 cm with visible intestinal exposure. The left lower abdomen wound was 15 x 15 x 3 cm, connected to the abdominal cavity and producing a large amount of odorous exudate (500-1000ml/day).

Diagnosis: Postoperative necrosis of the stoma and surrounding tissue after enterotomy, septic shock and renal failure.

Initial wound assessment - Day 0

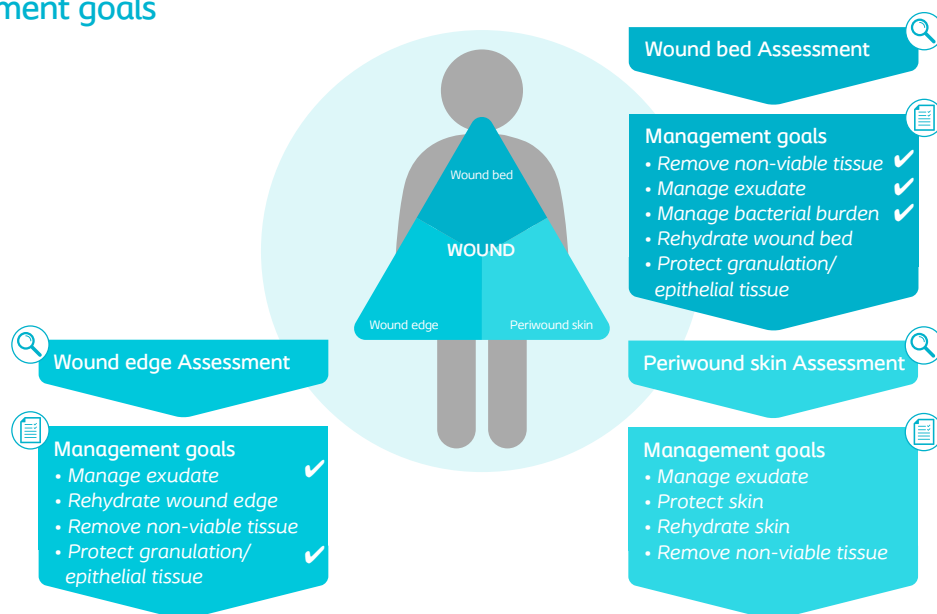


Size of wound
Length **150 mm**
Width **150 mm**
Depth **30 mm**





Management goals



Treatment

A holistic wound assessment with doctor-patient cooperation combined with infection control, nutritional support and psychological nursing was essential to treat the patient.

The overall management goals was to control infection as well as ensure adequate drainage, wound closure, protection of viscera with systemic support. To treat the wound, surgical debridement of the wound was performed 4 days after hospitalization, followed by NPWT with drainage to the left lower abdomen. After NPWT removal, 5 days of Biatain® Alginate Ag, with daily dressing changes controlled infection. A skin graft was performed 30 days after the operation.

Results

On day 6, the patient was groggy but conscious. The renal function was gradually restored but with serious systemic infection. The left lower abdominal wound had undermining of 8 cm at 3-4 o'clock position and was connected to the abdominal cavity and the mid-abdominal wound. The periwound skin showed edema. Exudate levels and odor was high. On day 26, the patient had stable vital signs, normal renal function and systemic infection was under control. The middle abdominal wound was 23 x 8 x 2 cm, the left lower abdomen wound was 13 x 15 x 2 cm with 100% red granulation. Exudate levels were still high, but without odor. The wound edge and periwound skin was normal. The treatment was changed from Biatain Alginate Ag to Biatain Alginate. On day 30, skin graft was performed and granulation occurred. On day 50, the patient was discharged when infection was controlled and all laboratory tests returned normal. The wounds healed 2 months later.

**DAY
6**



**DAY
26**



**DAY
50**



**DAY
110**



Conclusion

Dynamic wound evaluation to adjust treatment according to different stages is very important. The wounds changed fast due to systematic treatment and abdominal viscera recovery, so a daily evaluation was necessary. NPWT provided adequate drainage to promote granulation growth. Following this, timely debridement combined with Biatain Alginate Ag controlled the infection. Skin grafting after wound bed preparation can promote wound healing.

Treatment of a pilonidal sinus after resection with Biatain[®] Alginate

Martine Vrijs, Wound and Ostomy Nurse, AZ Diest Hospital, Belgium

Introduction

This case report is about a wound in the sacral area caused by dehiscence after removing the stitches of a resection of a pilonidal sinus. It occurs in the cleft at the top of the buttocks. A pilonidal sinus (PNS) is a small hole or tunnel in the skin. It may fill with fluid or pus, causing the formation of a cyst or abscess. A pilonidal cyst usually contains hair, dirt, and debris. It can cause severe pain and can often become infected. The exact cause of this condition isn't known but is believed to be a combination of changing hormones (because it occurs after puberty), hair growth, and friction from clothes or from spending a long time sitting.

The patient was relatively young and wanted to go back to work as soon as possible. However, the wound was painful and highly exuding. The treatment chosen was Biatain Alginate filler. This treatment resulted in faster healing with less pain. Integrating the Triangle of Wound Assessment in the mandatory patient file made this case a success and contributed to full closure of the wound.



Patient

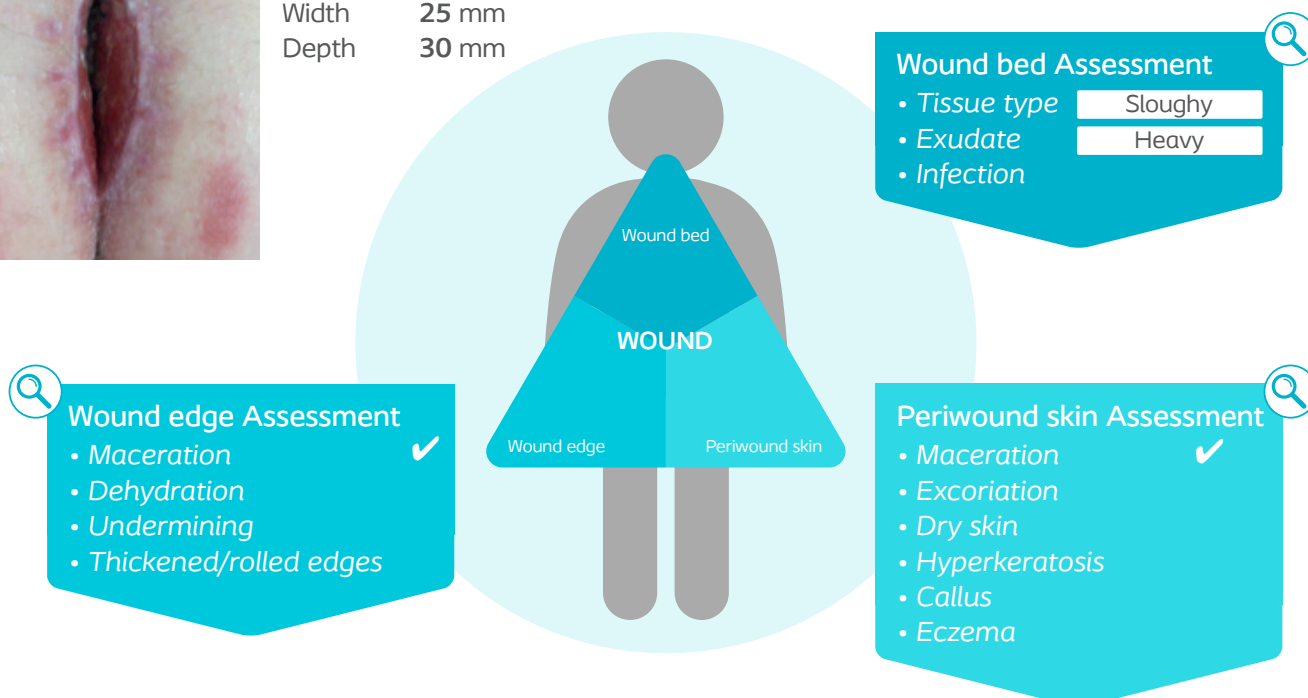
A 31-year-old male patient, working as a construction worker. The patient had a resection of a pilonidal sinus with primary closure of the wound. On the 10th day post-op the wound showed slight dehiscence and after removal of stitches the wound showed complete dehiscence. The wound bed showed sloughy tissue and moderate levels of bloody exudate. There were no signs of infection but the wound edges and periwound skin showed signs of maceration. The patient was in pain, especially when the wound was cleaned and treated. After cleansing the wound thoroughly, it was decided to fill the wound with Biatain Alginate Filler and to protect the wound edges and periwound skin with a barrier cream. The patient was overweight (height: 1.80 m & weight 105 kg) and a heavy smoker (20 cigarettes a day). Occasional alcohol drinker and on daily medication for hypercholesterolemia (Fenofibraat 200 mg, 1 x day) and hay fever (Rupatall 10 mg, 1 x day).



Initial wound assessment - Day 0

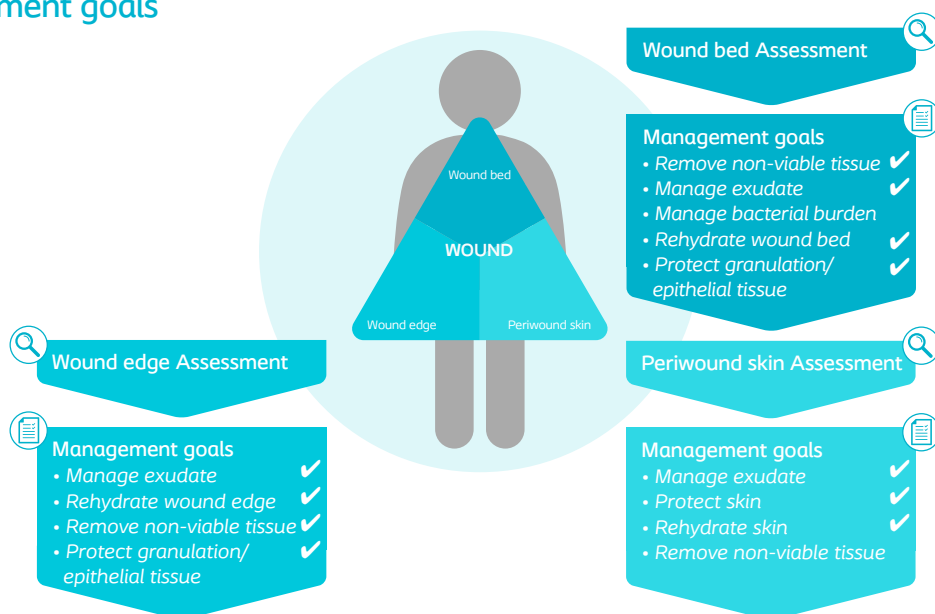


Size of wound
Length **55 mm**
Width **25 mm**
Depth **30 mm**





Management goals



Treatment

There were no common signs of infection, but due to dehiscence of the wound the exudate could find its way out. Wound assessment for infection was undertaken during every dressing change and since there was no sign of infection, a treatment without Ag was selected. The wound was cleaned with neutral cleanser (NaCl) and under the shower. The body hair on the periwound skin was shaved. The wound was gently filled with Biatain® Alginate filler, when the cavity was full, the rest of the filler was cut off. Barrier cream was applied to the periwound skin and wound edge. A dry absorbing dressing fixated with paper adhesive plaster was used as a secondary dressing, due to patient allergy.

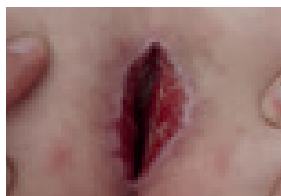
Results

Dressing change was performed daily, the wound showed granulation progression and a clear reduction in exudate level. There were no signs of infection. The patient did not experience much pain, compared to using a gauze filler. When Biatain Alginate became saturated, it formed a gel and could be removed without causing trauma to the wound bed. The wound bed showed vital granulation and no blood due to the debriding and haemostatic effect of Biatain Alginate. The barrier cream had a soothing effect and helped protect the periwound skin and wound edges. As the wound progressed, the patient reported reduced pain and was able to resume his daily activities very quickly and perform treatment himself.

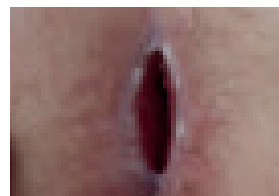
DAY
0



DAY
14



DAY
28



Conclusion

Biatain Alginate controlled exudate levels and dressing change was reduced to once per week. The patient also experienced a reduction in pain. Granulation and epithelialisation progressed quickly and the wound bed was vital without maceration or slough. The periwound skin and wound edges were protected using a barrier cream. The overall wound progression result was fast which lead to a swift return the patient's daily activities.

Treatment of a septic, chronic venous leg ulcer with Biatain[®] Alginate Ag, Biatain[®] Silicone Ag & Biatain[®] Ag Non-Adhesive Foam dressings

Mazizi Njokweni, Podiatrist, Leratong Hospital, Gauteng, South Africa

Introduction

Venous ulcers, also known as stasis ulcers, are the most common etiology of lower extremity ulceration. Venous leg ulcers can take 6-8 weeks or more to heal and tend to recur if not properly managed.^{1,2}

The aim of this case report was to evaluate the effectiveness of an ionic silver-impregnated foam and alginate dressing together with the use of a three-layer compression therapy bandaging system to treat a chronic and septic venous leg ulcer. Subject selection was random and a non-healing, septic venous leg ulcer with complex features was chosen.



Patient

A 35-year-old mobile female patient weighing 145 kg with a 2-year-old septic venous leg ulcer on the left leg. The patient was RVD reactive/HIV positive since 2012 and taking an oral pharmaceutical therapy (Aluvia 250mg twice daily). Pus swab results detected *Pseudomonas aureginosa* and *Klebsiella*. According to her VCT clinic medical history the CD4 count reading was 406 cell/mm³. The patient also had hypertension and venous insufficiency. On her initial visit the patient had an ABPI reading of 0.85. The presenting wound was on the anterior lower leg with vasculitic ulcers on the upper and lower gaiter area of the left leg. The patient's legs had pitting oedema and the skin felt warm. The wound edges were rolled and inflamed. The entire wound bed was covered with a thick, wet slough with portions of necrotic tissue. The wounds were highly exuding with seropurulent, malodourous fluid. The patient reported severe pain. The patient's ulcers were previously treated with an enzymatic debriding ointment, a paraffin gauze dressing, and covered with a hydro-conductive foam and crepe bandage.

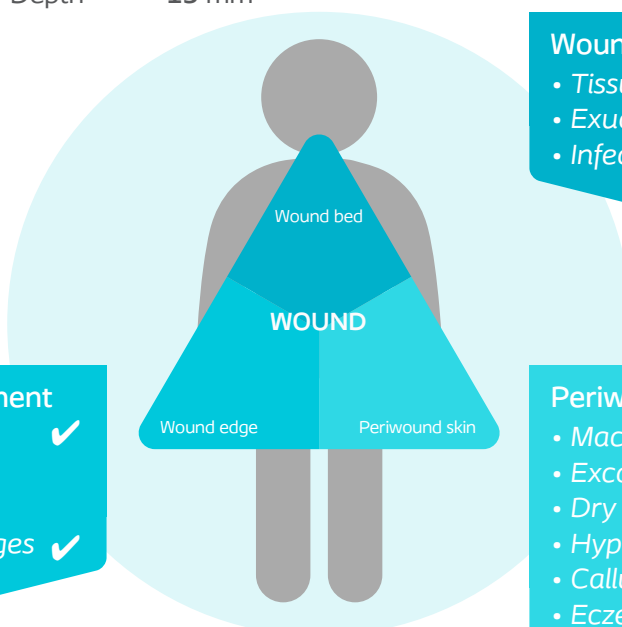


Initial wound assessment - Day 0



Size of wound

Length 100 mm
Width 130 mm
Depth 15 mm



Wound bed Assessment

- Tissue type Sloughy
- Exudate High
- Infection ✓



Wound edge Assessment

- Maceration ✓
- Dehydration
- Undermining
- Thickened/rolled edges ✓

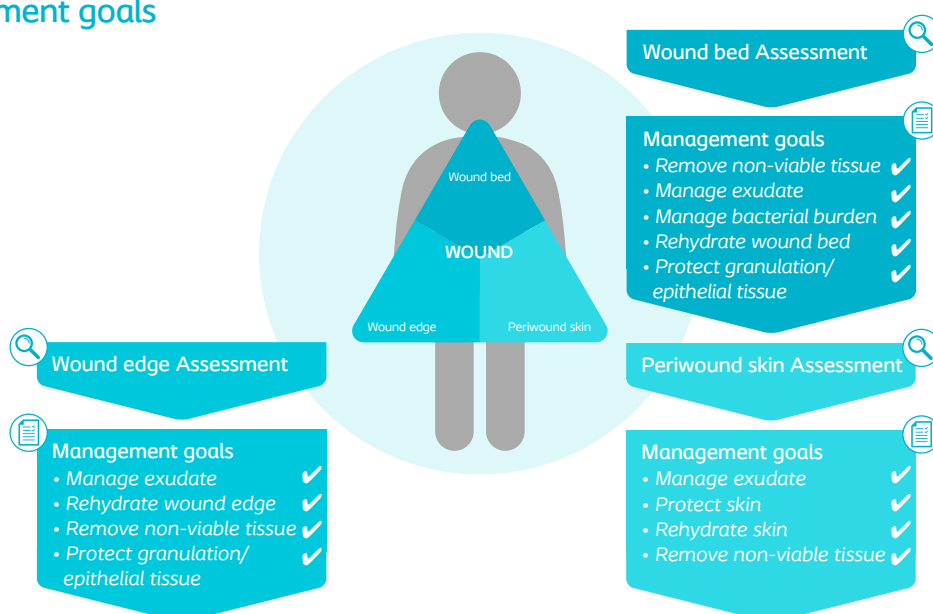


Periwound skin Assessment

- Maceration ✓
- Excoriation
- Dry skin
- Hyperkeratosis
- Callus
- Eczema ✓



Management goals



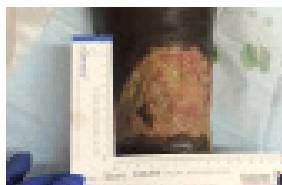
Treatment

At each dressing change, the wound was cleaned and soaked for 15 minutes with Polyhexidine and Butaine solution to reduce the bioburden. A barrier cream was applied on the periwound skin to protect the macerated skin from further deterioration. As part of the autolytic debridement, Purilon® Gel was used to clear the slimy thick slough from the wounds. Biatain® Ag Non-Adhesive Foam was used for optimum control of exudate and bioburden in the wound. Biatain Alginate Ag was used for cavity filling of the small satellite wounds. On the third week Biatain® Silicone Ag was used to cover the small satellite wounds. A three-layer compression bandaging system was used to reduce the swelling and assist with adequate venous return throughout this case. Instructions and exercises for adequate venous return were demonstrated and communicated to the patient. Due to signs of systemic infection, the patient was given a seven-day course of broad-spectrum antibiotics. The dietetics department stimulated weight loss and balanced the patient's diet to assist in shortening the wound healing process.

Results

This case shows a co-operative approach using Purilon Gel, Biatain Ag Non-Adhesive Foam and Biatain Alginate Ag is an effective tool in dealing with sepsis in a wound. The use of these products facilitated autolytic debridement of non-viable tissue and induced an optimal moist wound healing environment. The use of compression therapy assisted with the reduction of limb oedema. After a week, the wound bed had 90% granulation and the wound area decreased in size. The small satellite ulcers showed 100% epithelization and the oedema was slightly reduced. The hyperpigmentation and maceration of the peri-wound area was slightly reduced, and the skin integrity was restored to normal moist levels. The use of a Purilon Gel completely desloughed the wound bed from week 2-5. The wound edges went back to the normal level and the amount of exudate went from high to low after 30 days, and the wound odour "vanished into thin air". Pain grading went from 9/10 to 3/10 between day 16 and day 32. The overall wound was reduced from 10 x 13 cm to 1.4 x 9.7 cm.

DAY
5



DAY
25



DAY
46



Conclusion

In this case, the Biatain Ag Non-Adhesive Foam, Biatain Alginate Ag and Biatain Silicone Ag range has showcased impressive results in managing the wound colonies, topical infections, exudate, odour and pain. Purilon Gel worked well to clear the slough in the wound bed and aided the process of granulation. The barrier cream dealt well with the maceration of the periwound skin. Implementation of compression therapy bandaging played a major role in reducing the oedema, swelling and wound size. By involving dieticians and physiotherapists in a multidisciplinary approach, the outcome of this case was successful. It is evident that combining the Triangle of Wound Assessment and the moist wound healing process provided the golden key to accelerating healing of this chronic wound, and most importantly improved the quality of this patient's life.

Treatment grade 4 diabetic foot ulcer with Biatain[®] Silicone and Biatain[®] Alginate Ag

Wang Min, Zhou Xianli, Zhang Rui, Department of Endocrinology, Xinqiao Hospital Affiliated to Army Medical University, Chongqing, China

Introduction

In 2013 it was estimated that 11.6% of the Chinese adult population were diagnosed with diabetes mellitus, which is the equivalent to 113.9 million people.¹ Out of these 113.9 million people, many are expected to develop ulcers, including diabetic foot ulcers (DFU). As the risk of reoccurring ulcers are high among diabetic patients, this could significantly increase the number of Chinese adults with newly developed DFUs. Due to the limited awareness in treating DFUs, patients risk being treated only once the ulceration has become severe. Difficulties in treating DFUs include; managing severe local infection, wound exudate and bleeding during debridement. Other challenges include appropriately treating the necrotic tissue within large abscess cavities and large tissue defects.



Patient

A 50-year-old female patient was diagnosed with diabetes mellitus three years ago. She scratched her fourth digit toe on the right foot and developed a pinprick-sized ulceration. The ulceration gradually became bigger, while the patient was staying at the local hospital where she was being treated for her diabetes. At the local hospital, the patient was treated with insulin, vancomycin and metronidazole but the ulceration was not treated. The swelling of her right foot became increasingly aggravated and amputation was recommended, but the patient refused.

Concomitant diseases: Anaemia, hypoproteinaemia. Admitting diagnosis: Type 2 diabetes mellitus; Diabetic foot Wagner grade 4; Extensive abscess cavity on right dorsum pedis; Obvious subcutaneous fluctuations; Nigrescence and necrosis on the fourth digit of the foot with a small amount of pus and foul odor.



Initial wound assessment - Day 0

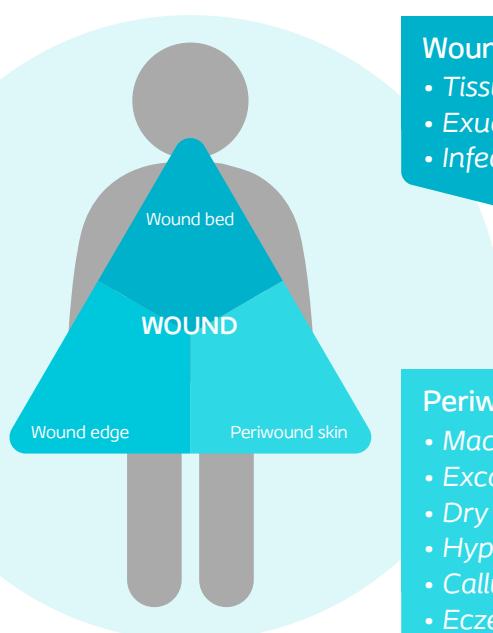


Size of wound
Length **140 mm**
Width **60 mm**
Depth **10 mm**



Wound edge Assessment

- Maceration
- Dehydration
- Undermining
- Thickened/rolled edges



Wound bed Assessment

- Tissue type **Sloughy**
- Exudate **High**
- Infection



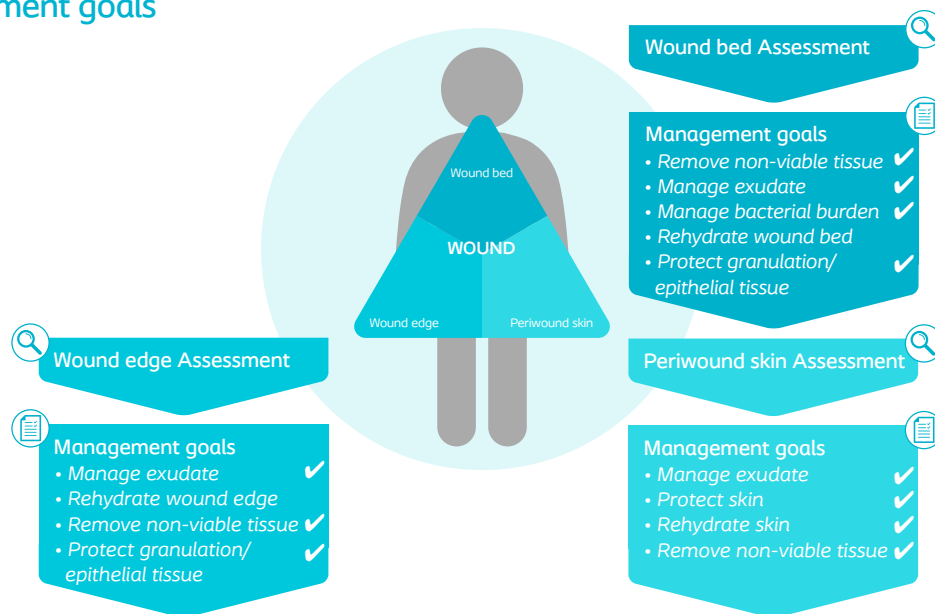
Peri wound skin Assessment

- Maceration
- Excoriation
- Dry skin
- Hyperkeratosis
- Callus
- Eczema





Management goals



Treatment

The patient's diabetes was treated through blood glucose control and intravenous antibiotics. This was combined with a range of symptomatic supportive treatments, including microcirculation improvement, correction of hypoproteinaemia and anaemia. The wound was treated through incision and drainage. Pus and necrotic tissue was removed. The patient was also given red light therapy. In the initial infection stage, Biatain® Alginate Ag was chosen to manage the infection and exudate. The dressing was changed every 2-3 days. At day 14, when no local signs of infection were observed and the wound bed showed granulation tissue, a combination of Biatain Alginate, Purilon® Gel and Biatain® Silicone was used sequentially. When the wound reached the epithelial stage, only Biatain Silicone were used. The patient was also provided with information about diabetes, foot care and dietary instructions.

Results

On day 1, debridement and irrigation was performed to control the infection, incision and drainage. A microbiological sample was taken from the wound and cultured. Biatain Alginate Ag in combination with a cotton cushion was chosen and red light therapy was also preformed. On day 4, the necrotic tissue was readily distinguishable, the tendon was exposed, the redness and swelling had improved. However, there was more necrotic tissue on the fourth digit toe of the right foot. The area was debrided and the fourth digit was amputated, followed by rinsing, drainage and tendon and bone moisturisation. Biatain Alginate Ag and cotton cushion were used with bandage compression. On day 14, no signs of infection were found and no microbial growth seen in culture. Dressings were changed to Biatain Alginate and Biatain Silicone. Purilon Gel was applied to protect the tendon. On day 42, the incision and undermining had closed and granulation tissue well-grown, but the tendon was still exposed, so Purilon Gel was applied to maintain moisture. Debridement and rinsing were performed and the wound was covered with Biatain Silicone and bandage fixing. On day 87, the wound was almost closed and epithelisation was good. The wound showed 90% epithelisation and 10% granulation (two areas of 1.0cm×1.0cm). The low levels of wound exudate were murky and pink.

**DAY
4**



**DAY
42**



**DAY
87**



Conclusion

Good compliance to treatment guidelines is always beneficial to wound healing and is likely to shorten hospitalisation time. An early and correct evaluation, diagnosis and treatment of abscesses is beneficial to control further deterioration of the wound, shorten the treatment time and avoid amputation. In this case, the treatment and exudate management was satisfying and there was no wound dehydration or maceration. Effective management of exudate reduced the risk of infection, promoted wound healing and improved the patient's comfort and satisfaction. Exposed bone tendons need to be moisturised and the ankle joint must be able to perform flexion and rotation movements to maintain joint function. After a small toe amputation, abnormal pressure points can be formed, and diabetic foot shoes can be used to prevent recurrence.

Treatment of a mixed venous arterial ulcer with Biatain® Ag Non-Adhesive Foam dressing

Sr. Renate Wannenburg, Wound Care, Eugene Marais Hospital , Pretoria, South Africa

Introduction

In October 2017, the patient had an allergic reaction to a prescribed medication. As a result, the patient felt itchiness on her legs and scratched to the extent that she developed wounds on both legs. The left one more severe than the right one. She was treated with oral antibiotics, Melladerm, and compression therapy. However, the patient was not compliant to the treatment plan. And therefore referred to a general surgeon and admitted in hospital. The wound was debrided and the patient was on bedrest for 2 weeks. However, the patient was readmitted to the hospital for debridement and this time referred to a vascular surgeon. Arteriogram was done with insertion of stents and angioplasty of two major arteries; Ischemic pain from 10/10 to 3/10.



Patient

A 79-year-old female patient with a mix arterial and venous ulcer stage 3 on lateral lower left leg. The patient also suffered from hypertension, obesity, venous and arterial insufficiency with ulceration on left lower leg. Limited mobility with a mind set of not wanting to walk. No smoking or alcohol habits.

Medication: Panamor, Disprin, Lancap, Bilacor, Tramacet.



Initial wound assessment - Day 0

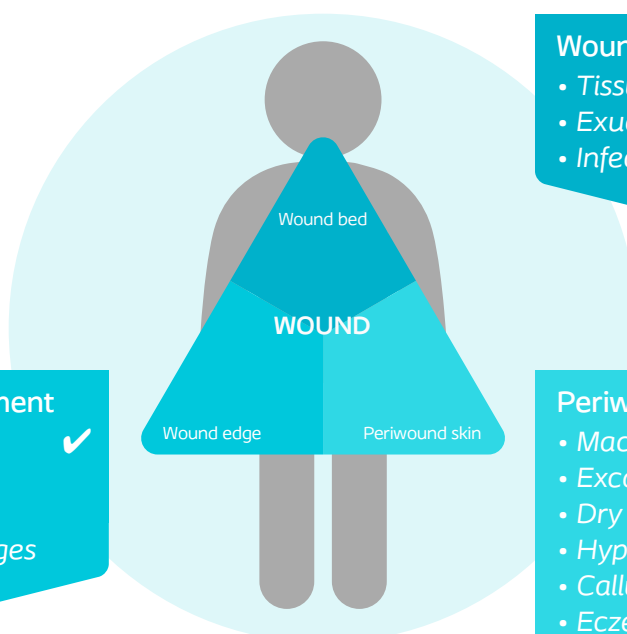


Size of wound
Length **150 mm**
Width **75 mm**
Depth **2 mm**



Wound edge Assessment

- Maceration ✓
- Dehydration
- Undermining
- Thickened/rolled edges



Wound bed Assessment

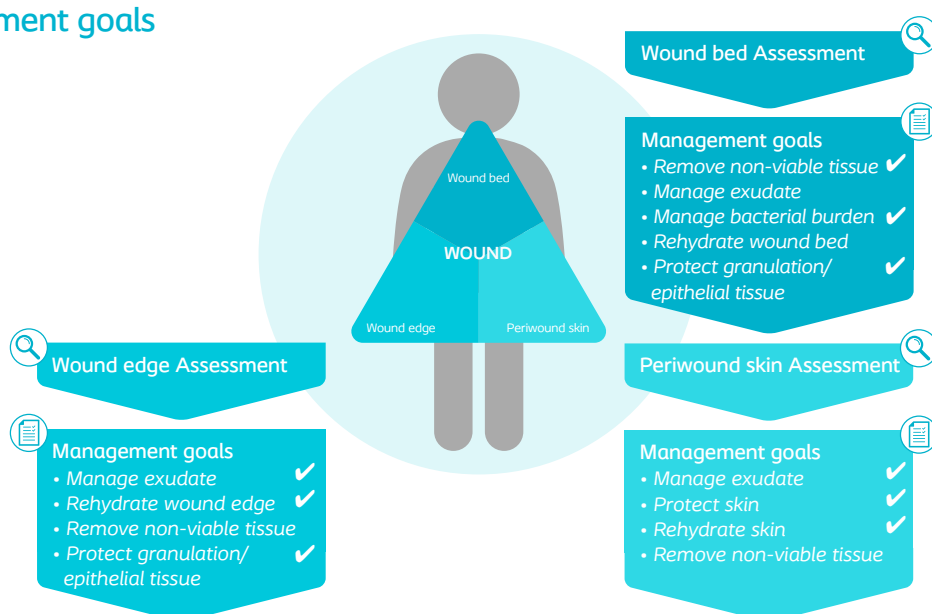
- Tissue type
- Exudate
- Infection ✓

Periwound skin Assessment

- Maceration ✓
- Excoriation ✓
- Dry skin ✓
- Hyperkeratosis
- Callus
- Eczema



Management goals



Treatment

Both legs were cleansed using Prontosan solution, which was left on for 10 min. Aqua cream was applied to the periwound skin. The wound bed was cleansed using Prontosan solution and Prontosan Gel was applied to the wound bed to remove sloughy tissue and to keep the wound bed moist. Biatain® Ag foam was applied in combination with compression therapy of Zinc layer and Crepe 1 layer spiral technique. A medium stretch compression bandage of 18mmHg was used and changed once a week. Pain was managed using Tramacet and Panamor. The patient was also encouraged to follow an exercise plan and a high protein diet was also incorporated into the treatment plan. The patient continuously received positive motivation on keeping good general health.

Results

On day 28, there was a reduction of the wound size of 90%, pain scale score was 1/10, exudate was managed and the infection was under control. The patient mobility increased and the overall health of the patient was improved. On day 42, the wounds were completely healed. The combination of using Biatain Ag Non-Adhesive Foam and compression therapy allowed the wound to effectively heal.

**DAY
7**



**DAY
28**



**DAY
42**



Conclusion

In this case, Biatain Ag Non-Adhesive Foam supported to manage the local infection, sloughy tissue and exudate. Once the wound healing progressed, reduction in pain was also noticed. Changing the dressings on a weekly basis, also meant that the wound could heal undisturbed. Patient quality and attitude of life improved due to the fact she could visibly see the wound healing progress every week.

Treatment of a lower leg ulcer with Biatain® Ag Non-Adhesive Foam dressing

Sharon Cassidy, Clinical Nurse Specialist, SOS Nursing, New Zealand

Introduction

This case report is about a chronic wound on the right lower leg (shin) sustained through a traumatic injury caused by the patient slipping through a wire fence. For the past two years healthcare professionals have been battling to heal this chronic ulcer with no success. When managing a chronic leg ulcer, it is important to make a holistic assessment of the patient and the wound in order to develop an effective management plan and to identify a dressing that does not irritate the periwound skin and supports moist wound healing.



Patient

A 58-year-old female patient sustained a traumatic right lower leg (shin) injury. The patient lives on a farm and the injury was caused by slipping through a wire fence. The patient has a history of many accidental injuries, which have all healed in a timely manner.

The patient has numerous comorbidities, which include Diabetes Mellitus Type 2 (steroid induced) and chronic asthma. The patient has never smoked, does not drink alcohol, has a stable blood pressure and a BMI of 29.4. She has allergies to many medicines and environmental factors and takes a range of supplements to support her immune system: Co-Q10, Zinc, Magnesium, Selenium, Vitamin E and Vitamin B1. The patient tests her blood sugars levels several times a day to adjust her insulin as required and electrolytes and calcium levels are checked by her general practitioner on a regular basis.



Initial wound assessment - Day 0

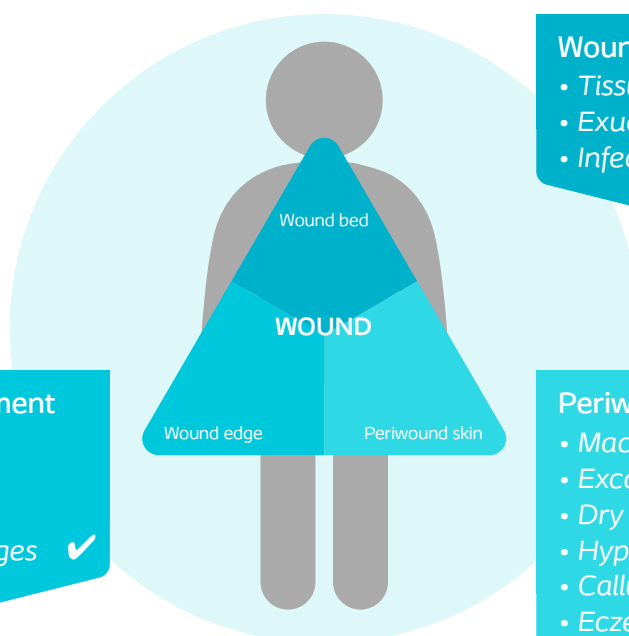


Size of wound
Length 22 mm
Width 17 mm
Depth 2 mm



Wound edge Assessment

- Maceration
- Dehydration
- Undermining
- Thickened/rolled edges ✓



Wound bed Assessment

- Tissue type Sloughy
- Exudate Medium
- Infection ✓

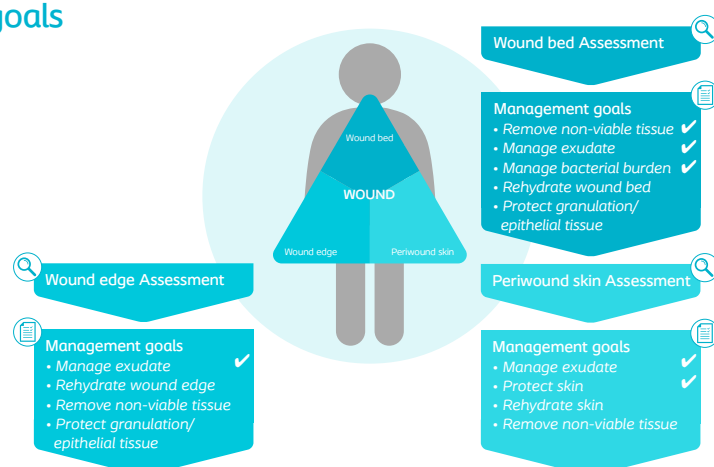


Periwound skin Assessment

- Maceration ✓
- Excoriation
- Dry skin
- Hyperkeratosis
- Callus
- Eczema



Management goals



Treatment

Underlying arterial and venous abnormalities leading to the persistence of the ulcer were ruled out at the beginning of the treatment and the patient had no history of DVT or varicose veins. An ultrasound vein mapping was performed to exclude deep venous and perforator incompetence. The findings then were reported as 'normal' and the patient is currently waiting to undergo a second medical case review and wound biopsy. Over a two-year period many advanced dressings have been used including negative pressure therapy. Initially a Plastic Surgeon secured a meshed graft in place, but this did not integrate. The wound went on to reduce in size, but failed to close. A year later the same surgeon debrided the wound back to healthy tissue and applied the primary dressing Epifix, fixed in place with a simple secondary dressing. A second application was applied in the patients home a week later. Epifix is a human amniotic membrane allograft that contains up to 226 growth factors, specialized cytokines and enzyme inhibitors to enhance wound healing. A month after application the wound started to produce more exudate, the periwound was red and hot to the touch, which indicated a wound infection. A wound swab confirmed Staphylococcus Aureus and antibiotics were prescribed. Biatain® Ag Non-Adhesive Foam dressing was then used for one month and changed twice a week. The dressing was fixed in place with hyperfix tape and a light tubifast stocking. Due to nerve damage the patient had been advised early in her treatment that she was not to have compression bandaging and at times requires topical lignocaine and regular oral pain relief.

Results

It was found that Biatain Ag Non-Adhesive Foam conformed well to the wound bed. It achieved the goals of absorbing and retaining exudate within the wound bed. It eliminated maceration of the wound edge and periwound skin and in this case it was observed that the rolled edges of the wound were reduced and no further infection was developed. As documented by photographs below the wound did increase in width but decreased slightly in length and depth. Given the time this wound has been present it would not be expected to heal within a month and it is pleasing to see granulating tissue emerging. As evidenced by the photographs there is some new, loose, superficial skin at the lower edge of the wound. The patient is unsure how this has happened and suggested it could be a result of rubbing her leg while asleep, so this section was not included in the measurements.

DAY
0



DAY
5



DAY
21



Conclusion

For this case, Biatain Ag Non-Adhesive Foam appears to have helped achieve the goals of removing non viable tissue, managing exudate and maceration, bacterial burden and protecting the periwound skin. Objective evidence shows there is still some non viable tissue present in the wound bed, but granulating tissue is appearing. In this case, Biatain Ag Non-Adhesive Foam helped manage the exudate, corrected the rolled edges, maceration and bacterial burden problems. The length and depth of the wound decreased in size, but the width of the wound increased slightly. The periwound skin sustained superficial skin loss at the lower end of the wound and perhaps in hindsight a barrier wipe around the periwound skin may have helped to avoid this problem. The patient has been very happy with this dressing and requested its continued use until her wound has healed. It was explained to the patient that it is best practice to rotate dressings and avoid overuse of silver products when there are no signs of infection. Thus, the next step is to use Biatain Non-Adhesive Foam and only reintroduce the Biatain Ag Non-Adhesive Foam, if signs of infection emerge again. The patient was happy with this plan. The patient stated "I found the dressing soft and comfortable. It doesn't irritate my skin like the other dressings, like silicone, latex or film dressings. They are hot and annoying and don't agree with my skin."

Comprehensive treatment of an infected perianal wound with Purilon® Gel and Biatain® Alginate Ag

Dr. Su Hang, First Affiliated Hospital of China Medical University, Colorectal Surgery, China

Introduction

Perianal abscess is a common disease treated at the anorectal department. It is a suppurative infection of the perianal soft tissue. Incision and drainage of the abscess is the fundamental method of treatment for these type of wounds. Clinical signs include high levels of exudate and there is a high risk of infection from stool due to the location of the wound, which may delay healing. The wound is normally left open to heal by secondary intention.



Patient

A 41-year-old male patient was admitted to the hospital with an acute mixed bacterial perianal abscess. Perianal swelling and a hot pain abscess was present and the wound show signs of infection. The perianal infection had been present for over a year. The wound had previously been treated by puncturing to discharge pus from the wound. The patient had been diagnosed with Non-Hodgkin Lymphoma in 2017 and had undertaken regular chemotherapy since.



Initial wound assessment - Day 0

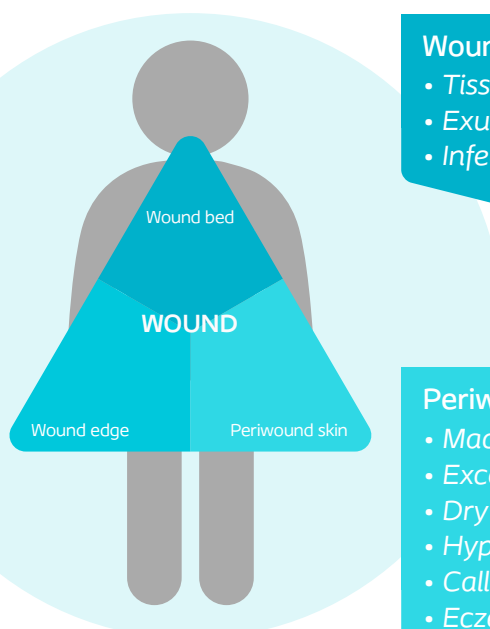


Size of wound
Length **40 mm**
Width **30 mm**
Depth **50 mm**



Wound edge Assessment

- Maceration
- Dehydration
- Undermining
- Thickened/rolled edges



Wound bed Assessment

- Tissue type **Necrotic**
- Exudate **High**
- Infection

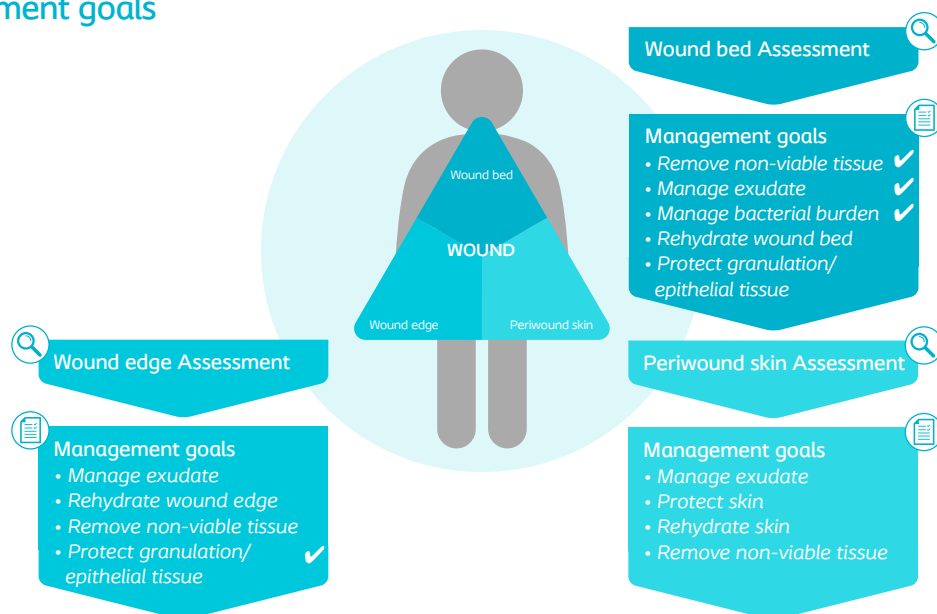


Peri wound skin Assessment

- Maceration
- Excoriation
- Dry skin
- Hyperkeratosis
- Callus
- Eczema



Management goals



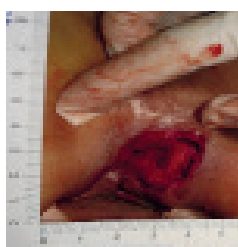
Treatment

The wound was surgically debrided and Purilon Gel was applied for further debridement. Biatain Alginate Ag was applied to control infection and absorb exudate. Dressing change was done on a daily basis for the first five days. After 3 weeks, the dressings were changed every 2-3 days.

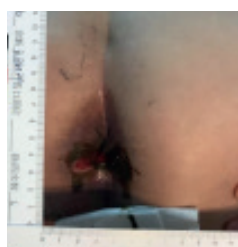
Results

On day 3 to 4, the wound bed showed signs of granulation. The exudate was thin and yellowish. There was no edema or local fever. Local pain relief was used. The wound edge showed no signs of infection and was neat, but with undermining into the anal canal. The wound edge was still connected with the anus. The periwound skin looked normal. On day 5 to 8, the wound bed was fresh and epithelialising. The exudate was still thin and yellowish. The patient did not experience any pain and there were still no signs of edema or local fever. The wound edge was normal and showed good healing. The passage into the anal canal was filled with granulation tissue, but still slightly brittle and had not completely healed. The periwound skin looked normal. On day 14, the wound bed had soft granulating tissue with low levels of exudate. Both the wound edge and periwound skin looked normal. On day 21, the wound was fully healed.

**DAY
1**



**DAY
8**



**DAY
21**



Conclusion

In this case, it was observed that Purilon Gel promoted gentle removal of necrotic tissue, provided a moist wound environment for the wound and absorbed low levels of exudate. The Biatain Alginate Ag absorbed the exudate and formed a cohesive gel covering the wound, maintaining a moist environment and promoting wound healing. Biatain Alginate Ag has an antimicrobial effect and may provide infection control during wear time. In this case, Biatain Alginate Ag controlled the infection with less pain, enabled the wound bed to be clean and facilitated faster healing.

Wound treatment after surgical removal of basal cell carcinoma on both lower legs with Biatain® Silicone Ag dressing

Vibeke Vestergaard, Plastic Surgery Nurse, Plastic Surgery Department Z, Aalborg University Hospital, Denmark

Introduction

Skin grafts normally heal in 5 to 7 days. If there are small defects in the partial skin graft, it can take as long as 2-3 weeks for the wound to heal from the edges. In most cases, we never use foam dressings on skin grafts, because they are too tight. However, an outbreak of psoriasis increased the risk of biofilm and infection while also causing maceration of the periwound. This can in turn lead to delayed wound healing.



Patient

A 61-year-old female patient, who since childhood has had severe psoriasis. The patient had used various creams to manage the psoriasis and has also bought gentle washing powder and organic clothes in attempts to manage the psoriasis. Six years ago she was diagnosed with psoriatic arthritis, which lead to early retirement. She has been suffering from severe asthma and six months ago she had a pulmonary embolism. The patient was on permanent anticoagulating treatment (Xaralto) and is a non-smoker. Her BMI was 37 and she has oedema at the lower extremities. She has been treated with diuretica (Centyl).

The patient suffered from basal cell carcinoma on the lower extremities, which was removed through surgery. The wound defect was 40% covered with a partial-skin transplant from the left thigh. The wounds where slow-healing due to severe psoriasis, so the patient would be very dependent on how well the dressing was tolerated by her fragile skin. The patient felt stressed by the wound and she was in pain.



Initial wound assessment - Day 0



Left leg



Right leg

Size of wound - Left leg

Length **70 mm**
Width **70 mm**
Depth **10 mm**

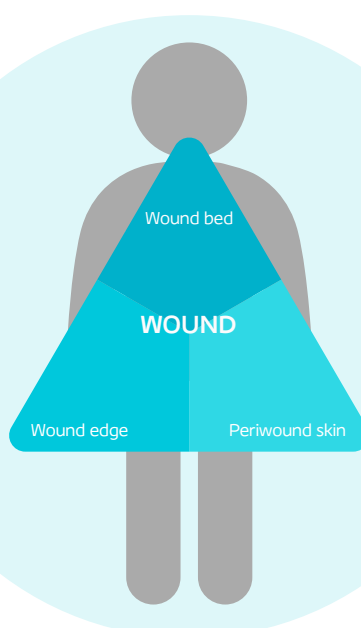
Size of wound - Right leg

Length **70 mm**
Width **40 mm**
Depth **10 mm**



Wound edge Assessment

- Maceration ✓
- Dehydration
- Undermining
- Thickened/rolled edges ✓



Wound bed Assessment

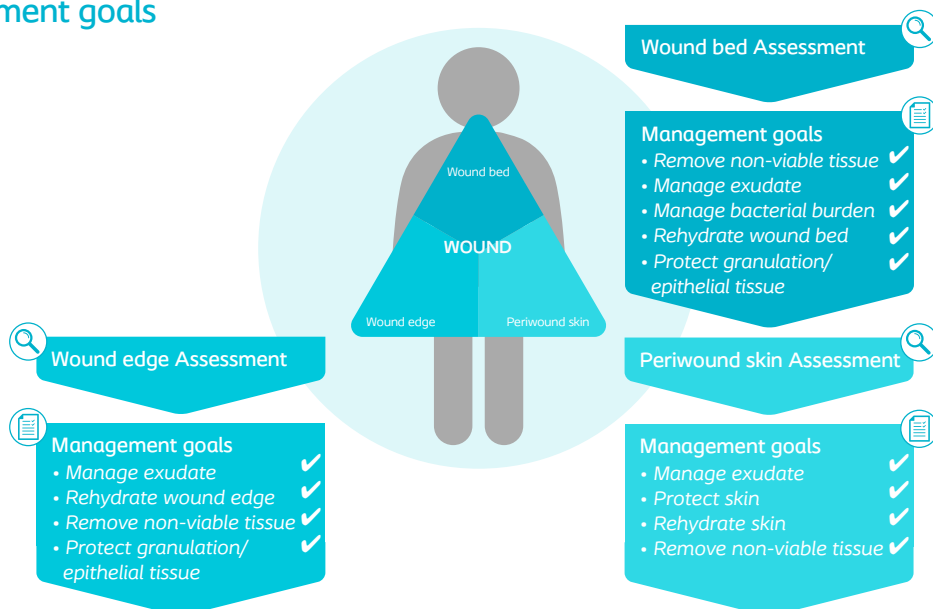
- Tissue type
- Exudate
- Infection

Periwound skin Assessment

- Maceration ✓
- Excoriation ✓
- Dry skin
- Hyperkeratosis
- Callus
- Eczema ✓



Management goals



Treatment

At the first dressing change (day 7) oedema and hematoma were observed. The skin graft only covered 40% of the total wound area. There was a 1 cm deep defect on both extremities where fluid and exudate was leaking. The wounds were treated with Revamil honey, wound contact layers and superabsorbers for the first 5 weeks. The periwound skin was macerated causing outbreaks of psoriasis. The patient felt stressed by the wounds and was in pain. The home care nurse was visiting daily the first couple of weeks, then every second day. After 7 weeks, the treatment was changed to Biatain® Silicone Ag 10 x 10 cm due to very slow wound healing and irritation to the periwound skin caused by the initial use of a super absorber dressing. The wound was debrided, and slough was removed. Double layered Tubifast was used for compression on both lower extremities. There were no clear signs of infection, but evidence of *Pseudomonas aeruginosa* in the form of distinct green exudate was observed. Therefore, an Ag product was used.

Results

By using Biatain Silicone Ag dressing, we observed wound healing in just 7 weeks. The dressing managed the exudate, protected the wound edges and the periwound skin. The dressing accelerated the granulation of the wound bed compared to the primary treatment with the skin transplant. In addition, there were no further outbreaks of psoriasis during the 7-week treatment period using Biatain Silicone Ag.



Conclusion

The experience with Biatain Silicone Ag was that it managed the wounds very well and conforms to the wound bed. The dressing prevented the appearance of further green exudate caused by *Pseudomonas aeruginosa*. The continuous silver release contributed to minimization of the microbiological load in the wounds. There was no maceration of the wound edge nor the periwound skin. There has been no outbreak of psoriasis since the treatment with Biatain Silicone Ag started. The dressing change intervals decreased to 1 or 2 dressing changes per week, which left the wound to heal undisturbed. Biatain Silicone Ag was easy to apply and remove without pain, and without harming the periwound skin or the wound bed. The patient has mentioned that Biatain Silicone Ag was very comfortable to wear due to its silky-soft feel. Biatain Silicone Ag works very well under compression therapy. The patient felt much less stressed and was able to change the Biatain Silicone Ag dressing by herself, which made her more independent from the home care nurse. Finally, it is worth mentioning that the patient herself said that she didn't believe the wound would heal without using Biatain Silicone Ag.

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Our business includes Ostomy Care, Continence Care, Wound and Skin Care and Interventional Urology. We operate globally and employ about 12,000 employees.

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