

Severe surgical wound dehiscence with secondary infection and temporary ileostomy following iatrogenic bowel injury after myomectomy: challenges and management in a low-resource setting

ABSTRACT

This case study aims to highlight an improvised and resource-conscious approach to managing severe surgical wound dehiscence complicated by secondary infection and temporary ileostomy formation following an iatrogenic bowel injury that occurred during a myomectomy. It also seeks to demonstrate how innovative wound management strategies were employed to both control and contain faecal output. These included the use of anti-motility medication (loperamide), stool-thickening foods and an Eakin fistula pouch. Together, these measures facilitated wound debridement and promoted spontaneous healing despite challenges, such as poor stoma siting and mucocutaneous separation in a low-resource setting.

Methods The principles of fistula management sepsis control, nutritional support, anatomy definition, and procedure planning (SNAP) were applied in managing this complex wound. A multidisciplinary team approach was implemented, involving surgeons, stoma care specialists, a clinical psychologist, ward nursing staff and nutritionists. Family members were actively engaged in decision-making and provided essential financial and emotional support. Additional management strategies focused on containing faecal output, promoting wound debridement, preventing infection and supporting spontaneous healing

Results The patient responded positively to the multidisciplinary plan of care within a low-resource clinical environment. Faecal output was effectively controlled and contained using an improvised fistula management technique, which minimised wound contamination and facilitated progressive debridement. Gradual development of healthy granulation tissue was observed, leading to spontaneous wound contraction and eventual closure without the need for further surgical intervention. The patient's nutritional status and overall well-being improved significantly throughout the recovery period.

Keywords iatrogenic bowel injury, ileostomy, mucocutaneous separation, stoma siting, wound dehiscence

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INTRODUCTION AND CURRENT EVIDENCE

Surgical wound dehiscence complicated by secondary infection remains a serious postoperative complication,

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particularly in patients who have undergone emergency abdominal surgery with the creation of a stoma.^{1,2} Myomectomy is a surgical procedure performed to remove uterine fibroids while preserving the uterus. Although generally safe, it can be technically demanding due to the close proximity of the uterus to the bowel and other pelvic structures.³ During complex or emergency surgery such as myomectomy, accidental injury to the bowel, referred to as an iatrogenic bowel injury may occur. An iatrogenic bowel injury is an unintended perforation or damage to the bowel during surgery, which increases the risk of contamination, infection and subsequent wound breakdown.⁴⁻⁶

When such an injury occurs, the creation of a temporary stoma (such as an ileostomy) is often necessary to divert

faecal output, protect the distal bowel and allow healing of the injured segment or associated anastomosis.⁶ However, in emergency situations, stoma siting may be suboptimal due to time constraints or limited preoperative planning, resulting in appliance leakage, skin irritation and further wound contamination.⁵⁻⁶ Mucocutaneous separation, defined as the partial or complete detachment of the stoma from the surrounding skin, may also occur early in the postoperative period.⁷ This condition exposes the underlying tissue, increasing the risk of infection, delays healing and increases patient discomfort.

Electrolyte imbalance is another potential complication, particularly in patients with high-output ileostomies, as excessive fluid and electrolyte losses can lead to dehydration and metabolic disturbances.⁸

In low-resource settings, such as Ghana, managing complex abdominal wounds with concurrent stoma care is particularly challenging due to the limited availability of advanced wound care materials, personnel trained in stoma and wound care and specialised equipment.^{9,10,11} Effective management therefore requires a multidisciplinary approach involving surgical, nursing, nutritional and psychosocial expertise, as well as active family participation in care.⁹⁻¹² Adherence to wound bed preparation principles, including debridement, infection control, moisture balance, and tissue optimisation, is essential for achieving successful outcomes.^{13,14}

Negative Pressure Wound Therapy (NPWT), a technique that applies controlled sub-atmospheric pressure to a wound to promote granulation tissue formation and remove exudate, has demonstrated effectiveness in managing surgical wound dehiscence both with and without associated stomas.^{15,16,17} Evidence indicates that NPWT reduces infection rates, accelerates wound closure and enhances patient comfort.^{18,19} However, in resource-limited environments, the lack of NPWT systems, high costs of stoma appliances and inadequate access to specialist wound care services continue to hinder optimal management.²⁰ These challenges compel resource-conscious clinicians to improvise and contextually adapt wound management strategies and products based on established principles of fistula care (SNAP)²¹ and reconstructive techniques.²⁰⁻²²

This case study therefore describes an innovative, resource-conscious approach to managing severe surgical wound dehiscence complicated by secondary infection and temporary ileostomy following an iatrogenic bowel injury sustained during myomectomy. It emphasises the impact of poor stoma siting and mucocutaneous separation on wound healing and recovery within a low-resource clinical setting.

PERSONAL AND CLINICAL HISTORY

The patient is a 56-year-old female with a medical history of uterine fibroids and hypertension who underwent an elective myomectomy at the Ejisu Government Hospital in the Ashanti Region of Ghana on 31 July 2019. The procedure

was performed under general anesthesia, and the abdominal wound was closed primarily in layers using absorbable sutures for the fascia and subcutaneous tissue, and interrupted non-absorbable sutures for the skin.

The immediate postoperative course was initially uneventful. However, on the first postoperative day (1 August 2019), the wound dressing was noted to have turned green, prompting a return to the operating theatre for re-exploration and wound revision. Subsequently, the patient developed abdominal distension, purulent wound discharge and partial wound dehiscence. Within two days, the wound breakdown progressed, exposing the underlying bowel. An iatrogenic bowel injury with faecal contamination was identified intraoperatively, necessitating the creation of a diverting ileostomy.

On the second postoperative day following the relaparotomy (3 August 2019), the patient was referred and transferred to the Komfo Anokye Teaching Hospital (KATH), a tertiary referral center in Kumasi, for specialised surgical, wound and stoma management.

Comorbid conditions

The patient's past medical history revealed hypertension, managed with labetalol, and a prior diagnosis of uterine fibroid. There were no additional comorbidities, such as diabetes mellitus or renal impairment.

Medications

Her pharmacological profile included labetalol for blood pressure control. She occasionally self-medicated with over-the-counter analgesics and antipyretics for mild symptoms, such as headache and fever.

Allergies

The patient reported no known allergies to food or drugs.

Social aspects

The patient was married with three children (two males and one female) and lived with her family in her privately-owned home. She maintained regular employment and an active lifestyle, beginning her day early to perform household activities before work. She had strong family and community relationships and received consistent emotional and financial support throughout her illness. Despite her stable socioeconomic status, the patient expressed psychosocial distress, attributing her prolonged postoperative complications to spiritual causes or witchcraft (a belief that reflects cultural interpretations of illness in parts of Ghana). These perceptions influenced her emotional well-being and initial coping responses during recovery.

Wound, ostomy and continence assessment

Aetiology

The wound complication originated from an iatrogenic injury to the small bowel sustained during the myomectomy procedure. The affected bowel segment was repaired primarily

without resection; however, postoperative breakdown of the repair site led to faecal leakage and secondary peritonitis, necessitating the creation of a diverting ileostomy to control sepsis and prevent further contamination of the surgical wound.

Type of stoma

An end ileostomy was constructed; however, complete mucocutaneous separation developed around the stoma site, resulting in difficulty achieving adequate adhesion of the ostomy appliance. This led to persistent faecal leakage and contamination of the wound bed, further complicating wound management.

Stoma output

The stoma produced a high output averaging approximately 2.5 litres per 24 hours, resulting in fluid and electrolyte imbalance and peristomal skin maceration due to leakage of semi-fluid chyme rich in digestive enzymes.

Stoma care

The stoma was placed in the right lower quadrant of the abdomen but was poorly sited, as it lay below the umbilical line and outside the rectus abdominis muscle and partly within an abdominal skin fold. This suboptimal positioning made it difficult to achieve a secure seal with the ostomy appliance. Consequently, early pouching attempts failed due to frequent leakage of stool and peristomal skin maceration, which further contaminated the adjacent wound and delayed wound healing. Subsequent management required creative adaptation of wound care techniques, including improvised containment of faecal output and meticulous protection of the peri wound skin.

Urinary continence

The patient remained continent of urine throughout the management period.

Clinical environment and socioeconomic factors

The case was managed at KATH, a tertiary referral and teaching hospital in Kumasi, Ghana, serving a large population across several regions. The facility provides advanced surgical care but faces resource limitations, including the lack of a stoma specialist, shortages of specialised wound-care products, stoma appliances and NPWT.

The patient did not rely on public health insurance, as she was financially stable. Family support was strong, providing essential assistance with care coordination, financial costs, and emotional reassurance throughout her hospitalisation and recovery.

These environmental and socioeconomic factors significantly influenced wound management strategies, encouraging the adoption of improvised yet effective local techniques consistent with fistula management principles adapted for low-resource contexts.

ASSESSMENT OF ILEOSTOMY AND INFECTED WOUND

Stoma assessment

The patient presented with a retracted end ileostomy located at the right iliac fossa (See Figure 1). The stoma was active, producing continuous output of semi-fluid chyme. It was totally detached from the peristomal skin, with visible mucocutaneous separation extending circumferentially. The peristomal skin showed signs of infection, including erythema, maceration and localised tenderness. Frequent faecal leakage contributed to further skin breakdown and hindered pouch adherence, complicating stoma management. The high-output from the stoma increased the risk of dehydration and electrolyte imbalance, necessitating close monitoring using a fluid balance chart to record fluid intake and output.

Wound assessment

The patient's abdominal wound was extensive, involving the lower abdominal and pelvic regions and extending superiorly toward the epigastric area (See Figure 1).

Clinical characteristics were:

- Location: Lower abdomen extending toward the epigastrium.
- Size and depth: The wound measured approximately 22cm in length, 15cm in width, and 4cm in depth, with irregular margins and exposure of subcutaneous tissue and underlying muscle layers.
- Wound bed: Comprised of mixed tissue, with areas of bright red granulation, yellow-green slough, and patches of black necrotic tissue, indicating ongoing infection and delayed healing.
- Wound edges: Rolled and irregular, with zones of undermining, particularly along the lateral margins.
- Exudate: Heavy, thick, yellowish drainage with a foul odour, suggestive of bacterial colonisation and necrotic tissue breakdown.
- Peri-wound skin: The surrounding skin appeared hyperpigmented but largely intact, with localised maceration near the wound margins caused by persistent exposure to moisture and faecal fluid.



Figure 1. Retracted ileostomy stoma

- Microbiology: A wound swab culture was obtained, which yielded mixed growth of coliform organisms, confirming secondary bacterial infection.

These findings indicated an infected, non-healing abdominal wound complicated by continuous contamination from stomal output and poor local wound conditions, which made effective containment of faecal fluid and wound-bed preparation particularly challenging.

Clinical impression

The combination of an active high-output ileostomy and mucocutaneous separation at the stoma site resulted in poor adhesion of the ostomy appliance, leading to recurrent leakages and secondary wound infection. The abdominal wound was deep and extensive, with exposure of subcutaneous tissue, rectus sheath, and portions of the rectus abdominis muscle, indicating significant soft-tissue loss and compromised healing potential.

The overall presentation represented a complex postoperative abdominal wound complicated by faecal contamination, peristomal maceration and ongoing infection. Effective management required a multidisciplinary approach, innovative strategies to control and contain ileostomy output, and continuous reassessment of the wound to facilitate deposition of granulation tissue and spontaneous healing within a resource-limited clinical setting.

CLINICAL MANAGEMENT AND OUTCOMES

Initial management and assessment

Upon presentation, the patient's abdominal wound was heavily contaminated with faecal fluid. The patient was managed using a multidisciplinary approach. The multidisciplinary team included surgeons, stoma specialist and nutritionist who met to discuss and evaluate possible clinical interventions.

The initial priorities and goals of care were to:

1. Reduce gut motility and high faecal output with antimotility therapy.
2. Suppress wound infection with systemic broad-spectrum antibiotics.
3. Restore electrolyte imbalance with oral rehydration and provision of nutritional support with high-protein, high-calorie diet and stool bulking foods (despite their questionable nutritional value).
4. Contain faecal output to minimise wound contamination.

Although the patient did not have a classic enterocutaneous fistula, but rather a complex wound with a high output ileostomy complicated by mucocutaneous separation the guiding principles of fistula management (SNAP), as advised by a consulting colorectal nurse specialist and stomal therapist (Dee Waugh) were adopted. The core goals to be achieved were:

- a. Effective control and containment of the faecal output
- b. Wound-bed protection
- c. Promotion of spontaneous healing under resource-limited conditions.

The multidisciplinary team, which included surgeons, stoma and wound therapists and a nutritionist met to evaluate possible interventions.

Debridement decision-making

Surgical sharp debridement was considered by the surgical team as part of wound-bed preparation. However, after team deliberation, surgical sharp debridement was not performed due to several clinical and contextual reasons:

1. The wound bed showed areas of early granulation tissue interspersed with slough, indicating partial self-debridement.
2. There was high risk of further bowel exposure or injury, given the proximity of the wound to the ileostomy.
3. The patient's hemodynamic status and nutritional condition were not optimal at the time, increasing procedural risk and post operative recovery.
4. Theatre availability was limited and lack of access to NPWT also constrained surgical options.

Instead, the surgical team adopted a conservative mechanical wound debridement approach carried out by the stomal specialist, involving gentle mechanical cleansing with sterile normal saline using syringe and needle. Autolytic debridement was used through application of moisture-retentive dressings (saline-moistened gauze) to promote natural tissue breakdown or autolysis and slough removal. This conservative strategy aimed to protect fragile granulation tissue while reducing infection risk.

Consultation with colorectal nurse specialist and stomal therapist

A turning point (or game changer) occurred when consultation occurred with the colorectal nurse specialist and stomal therapist. Photographs and wound progress notes were shared via secure professional communication channels.

The subsequent advice provided critical direction in three main ways:

1. Reframing the approach to wound management: the treating team were advised to manage the case as a functional fistula, focusing first on faecal diversion and containment rather than attempting premature wound closure.
2. Encouraging improvisation: Given the limited resources, it was recommended to create a localised isolation system around the stoma using available materials to contain faecal output, thereby mimicking the function of a fistula pouch.

3. Enhancing multidisciplinary coordination: The importance of synchronising roles between surgical, nursing and nutritional teams and maintaining patient and family engagement in care support and decision-making was emphasised to the treating team.

This expert guidance fundamentally shifted the management strategy from conventional wound care toward a fistula-based containment model, which enabled significant wound improvement.

OUTCOME

Following implementation of these revised strategies:

- Faecal leakage was effectively minimised using improvised containment techniques.
- The wound was progressively debrided through autolysis, with a clean granulation bed forming within 10 days.
- Gradual epithelialisation and spontaneous wound closure occurred over the following weeks without the need for surgical revision.
- The patient regained mobility, resumed oral nutrition and achieved stable fluid and electrolyte balance.

The combined effect of expert consultation, multidisciplinary input, and family participation led to a positive clinical outcome despite the constraints of a low-resource environment.

Autolytic and mechanical wound debridement

The patient's complex wound was managed using a combination of autolytic and mechanical debridement techniques to promote wound-bed preparation and granulation. The wound bed was irrigated with normal saline, while the periwound skin was gently cleansed with Savlon solution (containing cetrimide and chlorhexidine), which provided broad-spectrum antimicrobial activity to reduce surface bacterial load. Although Savlon is less commonly used in some settings due to the availability of more advanced antimicrobial cleansers, it remained a practical option in this resource-limited environment for controlling bioburden and preventing secondary infection.

A hydrocolloid dressing was applied in a picture-frame configuration around the wound margins to protect the periwound skin from maceration and to enhance the adhesion of the secondary dressing. The wound bed itself was overlaid with saline-moistened gauze, maintaining a moist environment conducive to autolytic debridement. The dressing was then secured with Tegaderm film, which was anchored onto the hydrocolloid frame rather than directly onto the skin to prevent further irritation and trauma to fragile peri-wound tissue. Dressing changes were performed once daily, or more frequently if leakage or saturation occurred, to maintain cleanliness, control exudate, and monitor healing progression.

Stoma and peristomal skin management

The detached end ileostomy was managed using ostomy paste, which was applied circumferentially around the stoma base to create a smooth, even surface and to enhance the seal of the appliance. This modification allowed for partial attachment of a Hollister one-piece ileostomy pouch (70mm), which was connected to a drainage bag to manage the high faecal output. Given the limited intact peristomal skin and persistent leakage, the pouch was changed daily to prevent maceration and contamination of the adjacent wound bed. This method provided temporary containment of faecal output, reduced local irritation, and facilitated progressive granulation and wound contraction (Figure 2).

Follow-up: Four days after debridement

Four days following the initiation of autolytic and mechanical debridement, the wound demonstrated significant clinical improvement. The wound bed was markedly cleaner, with extensive amounts of slough and necrotic tissue effectively removed. Wound edges appeared more regular, well-perfused, and viable, indicating progression toward granulation. Early signs of healthy tissue formation were evident across the wound surface, reflecting a positive response to the combined debridement and dressing strategy (Figure 3).

Follow-up: Ten days after initial management

Ten days following the initiation of wound management regimen, the wound bed exhibited predominantly red and pink granulation tissue, with small areas of fibrinous material remaining. This indicated ongoing healing and a significant reduction in necrotic tissue compared to initial presentation (Figure 4).



Figure 2. Stoma pouching, mechanical and autolytic dressing



Figure 3. Status of wound four days after debridement

A multidisciplinary discussion with the general and plastic surgical teams explored the option of wound flap closure (a surgical technique involving the transfer of tissue from an adjacent site to cover the defect, aimed at accelerating wound healing). However, the stoma team opted against this approach. This decision was based on several considerations:

1. The patient had already undergone three abdominal surgeries within a short period, increasing the risk of further complications.
2. The potential for wound breakdown remained high, particularly if the patient developed secondary infections (for example respiratory infection) leading to increased intra-abdominal pressure from coughing or straining.
3. Conservative, wound-centered management remained feasible and safer under the prevailing clinical and resource conditions.

Management of ileostomy and wound drainage or wound exudate: challenging phase

During this phase, the team faced a significant challenge in controlling the faecal fluid from the high-output ileostomy to prevent contamination of the healthy wound bed. The location of the detached stoma made conventional pouching difficult, increasing the risk of faecal -induced maceration and delayed healing.

1. To address this, the principles of fistula management were applied. A large Eakin fistula pouch was positioned over the peri-wound area to protect the surrounding skin, without attempting to isolate the stoma itself. Intermittent suction was applied using a mobile suction machine connected via an 18 Fr suction catheter. Continuous suction was avoided due to the device's positive-pressure limitation, and the patient's relative was trained to operate the machine intermittently (every 30minutes) and manipulate the catheter carefully, minimising trauma to the granulating tissue (Figure 5).
2. The high stoma output (approximately 2.5L daily) presented nutritional challenges. Early in this phase, there were

differences in opinion between the stoma and nutritional teams. The stoma team recommended bulky, low-motility foods to reduce faecal volume, while the nutrition team prioritised nutritionally dense diets without consideration of their impact on stoma output. To reconcile these approaches, the team collaborated with the pharmacy department to initiate intravenous parenteral nutrition, prescribe antimotility medications (cap loperamide) and oral bulky food, such as banku, rice, yam and similar foods thus balancing nutritional needs with faecal output.

Throughout this phase, careful wound and stoma management successfully prevented overt infection, protected granulation tissue and maintained patient stability. The integration of fistula management principles, multidisciplinary collaboration, and family participation was essential in overcoming this complex care challenge.

Progressive wound healing and discharge planning

After two months and six days of intensive care, the patient demonstrated substantial clinical improvement. The wound was closing spontaneously, the stoma was adhering securely to the skin, faecal fluid had formed into solid stool, and the periwound skin appeared healthy.

The team initially planned to transition to standard wound care without the fistula pouch. However, due to limited availability of advanced dressing materials, such as foam



Figure 5. Management of the ileostomy and wound drainage



Figure 4. The status of the wound 10 days after initial management



Figure 6. The status of the wound following one month

or calcium alginate dressings, the team implemented the following routine wound care protocol: cleaning the wound with sterile gauze soaked in normal saline and covering it with povidine-iodine saturated gauze. Dressing changes were initially performed as needed, based on saturation, but later transitioned to every alternate day as the patient gained the ability to empty the pouch independently.

The type of ostomy appliance used depended on availability, with some pouches generously donated by Dee Waugh, which greatly facilitated patient care. The entire care team carefully evaluated the patient's readiness for discharge, considering her prolonged hospitalisation. Prior to discharge a home care plan was established to support ongoing wound and stoma management, ensuring continuity of care and minimising the risk of post-discharge complications. Before discharge, the patient and family received comprehensive education and training in stoma and wound care, demonstrating competence in all necessary skills. They also received advice on dietary modification, fluid and electrolyte balance, and early signs of infection.

Post-discharge, regular home visits were conducted by the stoma care nursing team to monitor the stoma site, assess wound healing progress, and reinforce patient and caregiver competence in self-care. These visits also provided emotional support and practical guidance on managing the ostomy pouch and preventing skin complications. In addition, the patient attended scheduled weekly surgical outpatient reviews at Komfo Anokye Teaching Hospital (KATH) during the first month, followed by bi-weekly follow-ups as healing progressed. The combined hospital and home-based follow-up approach facilitated early detection of complications and ensured a smooth transition from hospital to home care (Figure 7).

Final outcome: Four months post-management

After four months of care, the patient's wound had healed completely. The stoma was well-adhered to the peri-wound skin and functioning normally. A drainable ostomy appliance was now being used to manage the ileostomy. The patient and family demonstrated independent competence in stoma and wound care, with no signs of infection or skin complications. The successful outcome reflected the combined effect of multidisciplinary management, application of fistula principles, and family engagement, resulting in restored patient health and quality of life (Figures 8 and 9).



Figure 7. The status of the wound on discharge

DISCUSSION

The management of complex abdominal wounds and high-output stomas in low-resource healthcare systems presents significant challenges due to limited access to advanced wound care materials, negative pressure systems, and specialised stoma appliances.^{10,17} In such contexts, clinicians often rely on clinical ingenuity, locally available resources, and multidisciplinary collaboration to achieve favorable outcomes.^{8,10,17} This case highlights how evidence-based principles of wound and fistula management were adapted successfully within a resource-limited setting to promote healing and restore anatomical function. Focusing on elements of SNAP²¹ (sepsis control, nutritional support, anatomy definition, and procedure planning) assisted the multidisciplinary team to review the patient holistically and collectively determine the initial clinical priorities, goals of care and management strategies to reduce sepsis, provide nutritional support appropriate to surgical recovery, adaptation of diet due to the ileostomy and phases of wound healing and structural changes within the abdomen.

A critical decision in this case was the choice of autolytic and mechanical debridement over surgical sharp debridement. Although surgical debridement allows rapid removal of devitalised tissue, it was considered inappropriate given the



Figure 8. Status of the healed wound and restored retracted stoma



Figure 9. Pouched ileostomy stoma

patient's recent multiple abdominal surgeries, high anesthetic risk, and fragile tissue condition. Evidence supports the use of autolytic and mechanical debridement in such high-risk or low-resource contexts, particularly when infection control and moisture balance can be maintained using hydrocolloid or hydrogel dressings.¹³ These methods promote gentle tissue removal and preserve viable structures, aligning with global wound care standards that emphasise moist wound healing environments to facilitate granulation and epithelialisation.²³

The management of the high-output ileostomy and protection of peristomal skin were major challenges. The stoma produced approximately 2.5 litres of semi-liquid faecal fluid daily, leading to frequent leakage and skin maceration. Studies identify faecal leakage as a major contributor to peristomal contact dermatitis, infection and delayed wound healing.^{4,5,6} In this case, the principles of fistula management were applied, particularly containment of faecal fluid, wound isolation and protection of surrounding skin as discussed above. The use of an improvised fistula containment technique, similar in concept to negative pressure or suction-based wound management, minimised wound contamination and allowed progressive healing. This aligns with evidence supporting containment and NPWT-based approaches in the management of enterocutaneous fistulas and complex abdominal wounds.^{15,19}

The success of this case was also underpinned by effective multidisciplinary collaboration among surgeons, stoma and wound nurses, psychologists and nutritionists. Such integrated teamwork has been shown to improve wound healing outcomes, reduce infection rates, and enhance stoma adaptation.^{8,9,21,24} Despite resource limitations, coordination between clinical teams and the involvement of the pharmacy unit for parenteral nutrition and antimotility therapy ensured optimal hydration, electrolyte balance and reduced stoma output.

Importantly, family engagement was central to the care plan. Caregiver participation particularly in low-resource settings, is known to enhance treatment adherence, provide emotional support, and promote continuity of wound care.¹⁰ Training relatives to assist with pouching and effluent-control fostered a sustainable model for community-based care post-discharge.

Although flap closure was considered to accelerate wound closure, the decision to defer surgical reconstruction until full granulation occurred reflected sound clinical judgment. Evidence cautions that premature flap coverage of unstable or infected wounds increases the risk of recurrence and flap failure.^{15,16,22} Conservative management focusing on infection control, nutritional optimisation, and gradual granulation is consistent with best-practice recommendations for abdominal wound reconstruction.^{17,22} Ultimately, the wound achieved complete healing without the need for further surgery, an outcome demonstrating the efficacy of resource-appropriate, multidisciplinary wound management in a low-income setting.

RECOMMENDATIONS

- 1. Promote evidence-based, resource-conscious wound care:**
In low-resource settings, autolytic and mechanical debridement using hydrocolloid or hydrogel dressings should be prioritised as safe, cost-effective alternatives to sharp debridement when infection control and moisture balance can be maintained.
- 2. Strengthen multidisciplinary collaboration:**
Coordinated care among surgical, stoma, wound, nutritional and pharmacy teams is essential to improve wound outcomes, optimise nutritional status, and prevent infection.
- 3. Empower caregivers through training:**
Active involvement and education of family members in stoma and wound care should be integrated into discharge planning to ensure continuity of care and reduce readmission risk.
- 4. Enhance access to advanced wound management technologies:**
Health systems with low resources should explore cost-sharing, local innovation, or donor partnerships to expand access to Negative Pressure Wound Therapy (NPWT) and other evidence-based wound management tools.

CONCLUSION

This case underscores the importance of innovation, adaptability, and teamwork in the management of complex surgical wounds within resource-limited settings. The successful outcome achieved without access to advanced wound care technologies, demonstrates that evidence-based principles, such as maintaining a moist wound environment, infection control, and multidisciplinary collaboration can yield optimal healing outcomes. The incorporation of the SNAP principles of fistula management, as advised by the colorectal nurse specialist and stomatherapist, along with patient and family engagement, proved transformative in ensuring both stoma and wound containment and psychosocial stability.

Ultimately, this experience highlights that sustainable wound and stoma care requires not only clinical expertise but also contextual creativity, effective interprofessional communication and empowerment of patients and caregivers. Strengthening such holistic, collaborative models can bridge the gap between ideal and feasible practice, improving outcomes for patients with complex postoperative wounds in low-resource environments.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

ETHICS STATEMENT

The authors affirm that this case study followed institutional ethical standards for clinical documentation and education at Komfo Anokye Teaching Hospital, Ghana. Written informed consent was obtained from the patient for the use of anonymised clinical information and images. All identifying details have been omitted to maintain confidentiality and privacy.

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