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## **Evolving stoma appliances to improve patient outcomes and increase stoma acceptance**

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# Evolving stoma appliances to improve patient outcomes and increase stoma acceptance

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## ABSTRACT

Adjusting to life with a stoma can be difficult physically and emotionally. Preoperative counselling, where possible in cases of elective surgery, is fundamental to preparing those facing stoma formation, and a lack of support can be detrimental and can increase the risk of stoma patients experiencing complications. The stoma care nurse specialist (SCN) uses a range of clinical skills and specialist knowledge to support a patient through their surgical pathway; this is important for helping patients gain the skills and confidence to care for their stoma and reduce the risk of stoma-related complications. Complications are common and can reduce patient wellbeing and quality of life. As well as patient education and SCN support, using the appropriate stoma care appliances is important in achieving positive outcomes and preventing complications. Furthermore, the correct appliance for an individual patient can help to improve their confidence and wellbeing, leading to better stoma acceptance by meeting their needs and allowing them to carry out everyday life without feeling obstructed by having a stoma pouch. This article discusses the Aura Plus stoma pouch range, and highlights the features designed to prevent common complications and improve patient outcomes and confidence. A case study demonstrates how Aura Plus led to positive outcomes for a patient who had been experiencing significant leakage and peristomal skin complications when using a multitude of different pouches. The change to Aura Plus resolved these complications and led to improved wellbeing and quality of life.

**Key words:** Stoma care ■ Leakage ■ Peristomal skin ■ Quality-of-life  
■ Patient outcomes ■ Aura Plus

**M**ore than 200 000 people in the UK have a stoma (Burch, 2021). The NHS spends over £400 million a year on stoma care products (Hodges, 2022). The management of stoma-related complications, such as leakage and peristomal skin complications, also accounts for a substantial burden to the healthcare system (Kurger et al, 2021). It is therefore essential that specialist nurses, educating and advocating for patients, act promptly to optimise the care given

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to this patient group so they can achieve the best outcome regarding quality of life (QOL).

A stoma is formed during surgery to divert the passage of urine or faeces from its normal route. Stomas are formed for many reasons including malignancy, inflammatory bowel disease and trauma. A stoma is created through an incision in the abdominal wall; then part of the bowel is pulled through this incision and is sutured onto the abdominal wall. This allows the output from the stoma to be collected in a stoma pouch/appliance (Hill, 2020). Stomas can be permanent or temporary and can be formed after emergency surgery or elective surgery. The formation of a stoma can be a challenging experience for many patients, affecting their physical and psychological wellbeing. Stoma formation can also be a challenge for a patient's partner, family or carer.

One of the many complications experienced by ostomates is leakage from the stoma pouch. A study by Claessens (2015) suggests that 91% of ostomates are worried about leakage to some degree. The fear of leakage has a negative impact on an ostomate's physical health, social wellbeing and sleep, as well as on the resources of stoma care nurses (SCNs) (Claessens, 2015).

There are many causes of skin problems and leakage. Significant complications affecting patient morbidity can occur early (within 30 days of surgery) or later (after 30 days) (Ambe, 2018; Krishnamurty et al, 2022). These complications include peristomal skin conditions and parastomal hernia formation.

A recent webinar by Burch and Hodges (2022) explained that there are currently no standardised pathways for stoma care, nor guidance from the National Institute of Health and Care Excellence (NICE).

NHS services generally accept that pathways in stoma care have the aim of prompting patients to be independent and confident in managing stoma care. However, more guidance is needed so these pathways can be rolled out across all trusts. This guidance should be standardised across all nations and could help to ensure adequate patient care and reduce health inequality within stoma care.

The start of the stoma patient's pathway mainly occurs in the initial surgical clinic at diagnosis (unless an emergency) and will be followed up with support calls then preoperative stoma counselling and siting. At this appointment, patients should be provided with information about the surgery and the stoma.

The SCN will identify optimal sites on the patient's abdomen where the surgeon can form a stoma as well as discuss stoma-related anxieties, demonstrate stoma appliances and advise on returning to work, as well as on sexual and social interactions (Burch, 2017).

Optimal siting preoperatively reduces ostomy-related problems, including leakage, sore skin and readmission into hospital (Vonk-Klaassen, 2015; Kim et al, 2021). It also reduces the risk of complications and makes it easier for the patient to adapt and manage their stoma, thereby improving their outcomes and their quality of life. Kim et al (2021) found that with preoperative stoma siting, the incidence of complication was reduced by 53% and the occurrence of skin damage was 59% lower.

The SCN will assess the factors that influence choice and limitations regarding where the stoma site is to be marked for each individual patient, avoiding scars, wrinkles, creases, bony prominences, the umbilicus, belt and waistline and also taking into account radiation sites or pendulous breasts (Association of Stoma Care Nurses, 2021).

Following the stoma pathway can be more challenging in the case of emergency stoma surgery. It is not always possible to follow the usual best practice stoma siting process due to the urgent nature of surgery, and this can increase the risk of the stoma being formed in an area that would later prove problematic. In addition, the patient may receive insufficient counselling and preparation to help them adjust to life with a stoma. Emergency surgery usually results in prolonged hospital stays (Burch, 2022). In an emergency, the patient will be sited by the surgeon while in a supine position, which may result in the stoma being formed in a crease, folds or near the surgical incision (Cruz et al, 2021).

Postoperatively, the SCN will support and provide stoma teaching sessions on the ward, reconfirming the information given in the preoperative stoma clinic where this is possible. The SCN will provide support and education which will allow the patient to become independent, discuss potential complications that could occur, and will reiterate the importance of reporting back to them so they can help manage problems from the outset.

### Role of a stoma care nurse

The SCN role encompasses a range of skills and knowledge to support patients with stomas, including support before and after surgery and a smooth transition back into the community. For the purpose of this article, the SCN role will mainly be discussed relating to stoma care and factors surrounding this.

The author and members of the SCN team's daily practice involves a multitude of tasks, including dealing with newly formed and established stomas, as well as patients' concerns and frequent requests for support and advice around stoma complications and solving issues with product choice. The experienced SCN will have an extensive knowledge of the probable causes and complications and will be able to recommend solutions.

Keeping up to date with new products is key to providing the best support for ostomates. SCNs should keep up with the

latest evidence and information and should ensure that any decisions are based on this latest evidence and information, including those relating to the use of any healthcare product (Nursing and Midwifery Council (NMC), 2018).

There is a wide and varied choice of stoma products on the market, and appliances have advanced and evolved over the years. Improvements in stoma pouches include features that may reduce the risk of complications. Leakage and sore peristomal skin are among the most common complications and can have the most detrimental impact on patients, affecting their confidence and ability to continue with everyday activities. These complications are also the most likely to contribute to the burden on the healthcare system, potentially leading to more stoma pouches and accessories being used as well as increased clinical intervention.

The latest stoma pouches can also help patients to accept their stoma better and adjust to life with it. As well as wanting a pouch that performs the function of collecting stoma output effectively, patients desire one that is comfortable, aesthetically acceptable and that does not interfere with their daily life, for example by preventing odour and maintaining security and integrity when it is being used in different scenarios. The technology and manufacturing of the latest pouches has improved to better meet the needs of all stoma patients.

This article focuses on Aura Plus (CliniMed Ltd, UK). It discusses the Aura Plus range and its features that may help to improve patient outcomes and confidence. A case study shows how Aura Plus has helped manage an individual's overwhelming issues with constant leakage and improved their QOL.

### Aura Plus

Aura Plus is one of the latest stoma pouch ranges to be introduced. Aura Plus has an innovative design with functional benefits to efficiently collect output from the stoma while providing security and promoting healthy peristomal skin. It also has a number of features intended to help patients feel more comfortable and confident while wearing a pouch, helping them to adapt to life with a stoma. These features were developed with patient feedback and needs in mind.

A plus-shaped flange (*Figure 1*) is designed to reduce the risk of leaks. The flange conforms to the body and provides security, especially when patients are on the move and putting extra pressures on their pouch. The plus-shaped flange also reduces the risk of creases developing on the flange, which further lowers the risk of leaks. Leakage can be detrimental to patients' quality of life (Aibibula et al, 2022) causing anxiety and embarrassment. If leakage occurs regularly without early intervention, it can lead to complications such as peristomal skin problems which are a further concern for the patient.

The all-natural hydrocolloid adhesive flange contains medical grade Manuka honey, as well as further food grade-only ingredients with no additives or preservatives for a formulation designed specifically for ostomates and their skin. Manuka honey is known for its therapeutic and skin-healing properties, and is widely used in wound management (Gethin and Cowman, 2005; Minden-Birkenmaier and Bowlin, 2018). Manuka honey has high levels of methylglyoxal, an antibacterial compound which



Figure 1. Plus-shaped flange



Figure 2. Aura Plus range

contributes to its healing properties (Minden-Birkenmaier and Bowlin, 2018). The inclusion of Manuka honey in an adhesive flange may help to promote healthy skin around the stoma.

White and Evans (2019) found that patients with peristomal skin complications who started to use a stoma pouch with a Manuka honey flange saw improvements to the condition of the skin around their stoma, and reported increased levels of comfort, security and confidence which ultimately led to a resumption of daily activity. They reported that 94% of patients saw an improvement to their peristomal skin within 7 days.

Aura Plus is available in a range of colours—black, sand and clear—so patients can choose a shade that suits them the most.

With a range of modern, aesthetically acceptable pouches, patients can be confident they will have a pouch they can match to an outfit or occasion, and this can help to promote stoma acceptance by helping patients feel more comfortable with their stoma pouch (Figure 2). Aura Plus is available in various pouch and flange sizes, including mini, midi and maxi pouches.

Developed to maximise comfort and convenience, Aura Plus has features designed to improve the patient experience. The outer pouch cover has been improved with a new material formulation, which offers improved levels of water repellence (Figure 3) and comfort while being strengthened to be resistant to sagging and misshaping.

Aura Plus Closed and Aura Plus Drainable have Dual-Carb filters. These have carbon structures with large surface areas to allow gas to be released from the pouch, reducing the risk of ballooning. Improved deodorisation reduces odour.

Individual products in the range have seen continued improvements and innovations to improve patient outcomes and experiences. Aura Plus Drainable has the updated hook-to-hook fastening system, which provides physical feedback to patients to indicate when their outlet has been secured. This pouch also has a modesty strip, a section of opaque material by the outlet which obscures the view of output in the pouch, a feature introduced in response after users said they would prefer not to be able to see their output in the pouch.

### Case study

The author aims to discuss the positive impact and improvement to a patient's QOL with the use of the Aura Plus appliance. As stated by the NMC (2018), confidentiality should be maintained so details are anonymised and a pseudonym used to protect the patient's identity. The patient has given consent to use her anonymised details and imaging to help improve other ostomates' outcomes.

Mrs Green (not her real name) is a 49-year-old ostomate whose first stoma surgery was formed in a tertiary hospital. The stoma was formed in 2019 secondary to ovarian cancer. She informed the author that she did not undergo any formal stoma counselling as she had been told that there was only a small chance of stoma formation. Mrs Green's understanding of a stoma was limited, although in her job role as a carer she had some experience of caring for others with a stoma. She is of small stature and has a large soft abdomen.

Her initial post-surgery support on day two was provided by an SCN. Following surgery, Mrs Green was dealing with the shock and mental impact of having a stoma formed. She had been supported by a healthcare assistant who was able to provide support throughout the weekend, but who had not undergone specialist stoma training so was unable to provide the necessary advice and support that would have reassured Mrs Green. During this weekend, Mrs Green was experiencing leakage and this caused her training and education to feel traumatic. Following her discharge from the tertiary centre, she was self-caring with her stoma, but still struggled to accept life with a stoma. It was not long before Mrs Green developed a parastomal hernia, causing complications and impacting considerably on her mental health. Parastomal hernias are a

common stoma-related complication and are described as a protrusion around/under the stoma developing in size over time. This can lead to problems with stoma function and appliance security. This is a common complication affecting up to 70% of ostomates (Colostomy UK, 2017).

In 2021, Mrs Green had multiple emergency admissions to her local hospital because of small bowel obstruction of two loops of bowel entering the parastomal hernia. On her final emergency admission, she presented to the surgical team with a 4-day history of swelling around the stoma and vomiting. She also reported a reduced intake of fluids and a reduced output from the stoma. She was taken to surgery for a laparotomy, adhesiolysis and small bowel resection. She was admitted into the intensive care unit (ICU) and within 2 days had a re-look laparotomy and repair of her parastomal hernia.

During Mrs Green's lengthy admission to ICU, she was regularly reviewed by the SCNs. Stoma care was difficult from the outset. The stoma was formed in a large crease and the colostomy was recessed below the skin surface. She also had a wound adjacent to the stoma. Because of her body habitus and mid adiposity and the stoma position within skin folds, it was difficult for her to have a clear view to undertake her own care. During her admission, the complications had been discussed with the surgical team, and refashioning the stoma was not an option, meaning that Mrs Green would have continue to struggle with a recessed stoma positioned around creases and skin folds. It is well documented that quality of life can deteriorate following stoma formation causing individuals to experience various physiological, social and psychological issues (Herlufsen et al, 2006).

Mrs Green tried a multitude of stoma pouches and accessories for many months without finding the product to solve all the leaking. She informed the author that she was previously changing her stoma pouches up to 11 times in 24 hours and was becoming increasingly self-conscious and depressed. This impacted on her ability to work and she was unable to return to her job. Her husband became the main carer regarding stoma care because Mrs Green could not face her own care and struggled to look at the stoma herself. She was unable to go out socially for fear of leaks and social embarrassment. All this affected her financially, emotionally and socially. Baykara et al (2022) suggest that most ostomates and their spouses experience social isolation following surgery because of the fear of leaks. The most important aspect of a product is that it provides a secure and reliable seal. Historically, a poorly sited stoma, for example in creases and folds, is associated with the use of seals, pastes and belts. The importance of determining the complications experienced by an individual stoma patient is fundamental during hospital admission and following discharge to help reduce further anxiety and improve patient outcomes. As identified by Payne (2015), a patient being comfortable and confident with a stoma pouch can have a positive effect, supporting the ostomate to leave the house, return to work, socialise and improve family life, all aspects of life that Mrs Green was struggling with. Communication between the hospital and the community stoma team was seamless, but finding the solution was difficult for all involved. Mrs Green's



Figure 3. Aura Plus water repellence

past experiences had been negative when trying difficult products and this led to poor outcomes, and this meant Mrs Green had low confidence in any new product selection which impacted her compliance. Mrs Green had tried a number of different stoma pouches in different styles, and had tried different accessories, including seals, flange extenders and stoma paste with the aim of enabling a secure seal around the folds in the skin around the stoma.

Mrs Green was reviewed in the author's nurse-led stoma clinic. She was very low in mood and distressed with this ongoing problem. Her husband also attended, was attentive and took on all suggested ideas for stoma care. The author's aim was to enable stoma care to be less time consuming and without too many added accessories, and to promote the patient's independence and confidence in her own stoma care.

An inspection of the stoma and peristomal skin revealed extensive excoriated skin. This was caused by the ongoing regular leakage of stoma effluent. White and Evans (2019) describe how the balance of the skin's natural acid mantle is disrupted when in contact with stoma effluent, and how in turn this can impact the integrity of the peristomal skin. Mrs Green expressed how the pain and discomfort caused by the leakage had a major impact on her daily life. This resulted in low mood and an inability to enjoy her normal daily activities. Mr Green was very supportive and assisting with Mrs Green's stoma care, however, he also felt the impact and strain that his wife was experiencing and this impacted his own personal life too. This affected their social life and they felt their personal life revolved around caring for Mrs Green, and they were struggling to find the right solutions. Mr Green would often have to come home from work to help support his wife with her stoma care.

The author suggested trying the Aura Plus range because of its unique design with a shape for greater security and a hydrocolloid formation containing medical-grade Manuka honey; in addition, stoma paste was moulded into the creases adjacent to either side of the stoma. The change to Aura Plus led



Figure 4. Mrs Green's stoma before Aura Plus use



Figure 5. Mrs Green's stoma after Aura Plus use

to improvement in Mrs Green's skin as the plus-shape of the flange conformed to the skin around the stoma, working well with Mrs Green's body shape and providing a secure seal, and the use of stoma paste provided additional security and reassurance by filling in the deep creases and folds. Stoma paste had been used with other pouches without improvement. *Figure 4* shows the condition of Mrs Green's skin when she presented to the author with peristomal skin complications. *Figure 5* shows the improvement to the condition of the skin following the use of Aura Plus for a few weeks.

Mrs Green's preference was for a drainable rather than a closed pouch. She was advised to carry out twice-daily pouch changes and a follow-up review was arranged for the following week.

At follow-up after a week, the obvious improvement to the peristomal area and the reduction in pain from the excoriated skin were noted. The patient had not had any leaks during the week by following and adhering to the regime, and she expressed this had made her life much easier. She continued to use this pouch under monitoring.

Mrs Green gained confidence in her new stoma appliance, which enabled her to return to her place of work and resulted in an improved quality of life. The pain from the excoriated skin improved rapidly with the aid of Aura Plus. The plus-shaped flange suited Mrs Green's body profile and prevented leakage, and the inclusion of medical grade Manuka honey helped to contribute to a healthy skin environment, which led to improvements in Mrs Green's peristomal skin.

Mrs Green has now undergone professional counselling to help with her psychological wellbeing and continues to seek advice and support if required. Aura Plus has resulted in a significant positive outcome, overall preventing leaks, and improving skin integrity and reducing pain associated with this. Although her husband continues to support her, she feels more in control and being back at work has given her that feeling of 'self-worth' and she no longer feels a 'burden', the use of Aura Plus has been a huge contributing factor in enabling Mrs Green

to regain a sense of control and confidence in her life.

## Conclusion

Most stoma patients will experience complications at some point relating to their care. As well as putting pressures on the healthcare system, these complications can have a detrimental impact to a person's wellbeing and QOL.

Leakage from a stoma appliance and damage to peristomal skin are two of the most common complications, and are often the most detrimental to patients. These complications are usually linked, as leakage can cause moisture-associated skin damage and can disrupt the surface pH of the skin, which can lead to irritation; damaged skin can lead to difficulties in achieving sufficient adhesion with a stoma pouch, which can further increase the risk of leaks.

It is important to avoid these complications and the role of the SCN is a key part of this. The SCN can educate patients and provide them with the skills and knowledge to be independent with their stoma care, perform the correct routines and use appropriate products to minimise the risk of problems. If problems do occur, patients should be encouraged to seek early clinical intervention so the SCN can identify the root cause and take the necessary action to solve these problems and prevent them from happening again.

Using the appropriate stoma appliances is an important aspect of improving outcomes, reducing the risk of complications, and also promoting patient confidence and wellbeing. SCNs should stay up to date on products available and on the evidence and information that can indicate where these products can lead to positive patient outcomes.

Stoma pouches with new features are constantly being introduced to support patients with their stoma care. These appliances can help to prevent leaks and promote healthy skin, and also have features to promote confidence and stoma acceptance, for example by being available in a variety of colours or by having features that help patients feel secure and comfortable

while performing activities that are important to them, such as exercising or swimming.

This article discussed the Aura Plus stoma pouch range, which has a conformable, plus-shaped flange, designed to improve patient comfort and reduce the risk of leaks. This pouch range has a hydrocolloid flange with medical-grade Manuka honey, widely known for its therapeutic properties; studies (White and Evans, 2019) show that the hydrocolloid flange with Manuka honey can lead to improvements to peristomal skin and patient comfort and confidence. The choice of colours promotes patient confidence.

The case study illustrates how a stoma patient was experiencing significant problems with leakage that were not solved despite trying a multitude of stoma pouches and accessories. This was having a huge negative impact on her wellbeing and quality of life, causing social embarrassment and a fear of socialising, affecting her ability to go to work, as well as causing peristomal skin complications and pain. The use of Aura Plus improved the patient's outcomes, solving her leakage problems, improving the condition of the peristomal skin and increasing confidence and wellbeing, allowing her to adjust to life with a stoma and return to doing everyday things without having to deal with stoma complications. **BJN**

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### KEY POINTS

- Stoma-related complications, such as leakage and skin damage, are common and can reduce patient wellbeing and quality of life
- The role of the stoma care nurse (SCN) is key in supporting patients with advice, education, problem solving and product recommendation which can lead to improved outcomes
- Stoma care pathways have the aim of enabling patients to be independent and confident with their stoma care, the SCN can support patients' in achieving this and finding the right product for each individual patient is a key part of this
- Pre-operative stoma counselling, where possible, can be fundamental in improving patient outcomes post-surgery by increasing patient confidence and engagement in their stoma care
- SCNs should keep up to date with the latest products, evidence and information which can support their decision making and ensure patients can be supported with the most appropriate products

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### CPD reflective questions

- How would you examine the stoma site to determine the root cause of leakage from the stoma pouch?
- What impact can stoma effluent have on the peristomal skin?
- How would you assess patient needs to determine the most appropriate stoma appliance?
- How can a stoma appliance support patients in their confidence and stoma acceptance?
- How can you maximise the benefit of preoperative stoma counselling for each individual patient?

