

Gastrointestinal Nursing

Using validated assessment tools in stoma care: a case study of an ileostomate with an inward body profile

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Abstract

The impact of having a stoma on an individual's quality of life (QoL) can be significantly worsened by leakage and consequent peristomal skin complications. Therefore, ostomates require individualised, person-centred and evidence-based care. Stoma care nurses can facilitate this using stoma-specific validated assessment tools, including the Body Profile Assessment Tool, Stoma Quality of Life Tool, Ostomy Skin Tool and Ostomy Leakage Impact Tool. These provide precise, repeatable quantitative data, which avoids reliance on vague language and allows for baseline comparisons to measure progression. This case study describes a female ileostomate who faced a number of stoma-related complications, including body image and confidence. Initial trial-and-error attempts to find an effective combination of products were fragmentary and failed to provide an effective long-term solution. During the COVID-19 pandemic, the patient underwent a remote telephone consultation, aided by digital photography. The stoma care nurse used validated assessment tools to determine the patient's needs. Based on this, she was recommended a new pouching routine suited to her inward body profile, and her progress was measured using the assessment tools. These showed sustained and considerable improvements in peristomal skin health, mental wellbeing and overall QoL. The patient's prescription costs were also dramatically reduced.

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Although around one in every 500 people in the UK is living with a stoma (Colostomy UK, 2019), no two of those stomas and their surrounding abdomens are the same. Complications such as leakage, sore skin and altered body image are common and can have a significant negative impact on quality of life (Porrett et al, 2011; Hueso-Montoro et al, 2016; Vonk-Klaassen et al, 2016). The specific nature of an ostomate's stoma and abdominal body profile can determine what potential stoma-related challenges and complications they might face and how these can be managed.

Validated assessment tools

In order to facilitate individualised, person-centred and evidence-based care, stoma care nurses (SCNs) can make use of a few key validated

assessment tools (Association of Stoma Care Nurses (ASCN) UK, 2019). These tools help avoid the kind of vague, fragmentary and/or ambiguous language that can leave nursing documentation open to misinterpretation (Jefferies et al, 2011). Using a validated assessment tool can instead provide quantitative (numerical) data for precise, reliable and vigorous documentation (Russell-Roberts, 2020). As these tools are repeatable, the data then provides a baseline from which improvement (or deterioration) can be mapped.

This article explores three validated assessment tools relevant to stoma care—the Body Profile Assessment Tool, the Ostomy Skin Tool and the Stoma Quality of Life Tool—and presents a case study using these tools in the assessment and management of an ileostomate during the 2020 COVID-19 outbreak.

Assessing peristomal skin health

The Ostomy Skin Tool (Jemec and Nybaek, 2008) assesses for the presence and extent of peristomal skin complications (PSCs), according to the area and severity of three signs of skin damage: discolouration, erosion and tissue overgrowth (DET). Each of these domains is scored 0–3 for area and 0–2 for severity, giving a total domain score of 0–5, and the individual domain scores










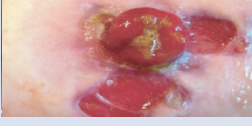





are combined to give a total DET score of 0–15 (Figure 1). Higher scores indicate worse peristomal skin health.

Effective assessment of PSCs is particularly valuable to ostomates and SCNs. PSCs account for a third of patient visits to an SCN (Jemec and Nybaek, 2008). According to Martins et al (2012), earlier identification and treatment of PSCs could save the NHS £28.1 million per year.

Key words

- Ileostomy
- Body Profile Assessment Tool
- Ostomy Leakage Impact Tool
- Ostomy Skin Tool
- Stoma Quality of Life Tool

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Discolouration	Area	(0) None, healthy peristomal skin			
	Severity	(0) None, healthy peristomal skin			
Erosion	Area	(0) None, healthy peristomal skin			
	Severity	(0) None, healthy peristomal skin			
Tissue overgrowth	Area	(0) None, healthy peristomal skin			
	Severity	(0) None, healthy peristomal skin			

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Figure 1. Ostomy Skin Tool

The Ostomy Skin Tool was validated in 2011 (Martins et al, 2011). This was part of the larger Dialogue Study (Anderson et al, 2011), which involved over 500 SCNs in 18 different countries assessing the skin health and quality of life of more than 3000 ostomates.

Assessing quality of life

The Stoma Quality of Life Tool assesses the holistic impact of having a stoma on an ostomate’s quality of life (QoL) (Porrett et al, 2011). QoL is defined by the World Health Organization (1995) as:

‘An individual’s perceptions of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns.’

The tool comprises 20 quantitative questions—each scored 1 (always) to 4 (not at all)—on markers of poor psychological wellbeing, such as anxiety, depression, impaired body image and social isolation (Box 1). Higher scores indicate better QoL. The implications of the results rely heavily on the interpretive skills of the SCN, and this could potentially result in variations in

solution management or safe signposting.

As with the Ostomy Skin Tool, the Stoma Quality of Life Tool was created and validated in 2010 and 2011 (Martins et al, 2011), as part of the larger Dialogue Study (Anderson et al, 2011). It was validated a second time by Canova et al (2013). Of the two stoma-specific validated QoL tools available, it is the one recommended by ASCN UK (2019).

The only other validated stoma-specific QoL assessment tool is the Ostomy Leakage Impact Tool (Nafees et al, 2018). It is divided into two parts, the first comprising quantitative questions and the second section qualitative multiple-choice questions. This more rounded approach to assessing QoL in ostomates could reduce the potential for variations in interpretation. The Ostomy Leakage Impact Tool was developed and validated in 2018 (Nafees et al, 2018). Whether ASCN UK will incorporate this tool into its recommendations remains to be seen.

Assessing body profile

The Body Profile Assessment Tool (Buckle, 2013) classifies the shape of the abdomen around the stoma as one of three body profiles: regular, inward or outward (RIO) (Figure 2). The body

Box 1. Stoma Quality of Life Tool

No	Question	1	2	3	4
1.	I become anxious when the pouch is full				
2.	I worry that the pouch will loosen				
3.	I feel the need to know where the nearest toilet is				
4.	I worry that the pouch may smell				
5.	I worry about noises from the stoma				
6.	I need to rest during the day				
7.	My stoma pouch limits the choice of clothes that I can wear				
8.	I feel tired during the day				
9.	My stoma makes me feel sexually unattractive				
10.	I sleep badly during the night				
11.	I worry that the pouch rustles				
12.	I feel embarrassed about my body because of my stoma				
13.	It would be difficult for me to stay away from home overnight				
14.	It is difficult to hide the fact that I wear a pouch				
15.	I worry that my condition is a burden to people close to me				
16.	I avoid close physical contact with my friends				
17.	My stoma makes it difficult for me to be with other people				
18.	I am afraid of meeting new people				
19.	I feel lonely even when I am with other people				
20.	I worry that my family feels awkward around me				

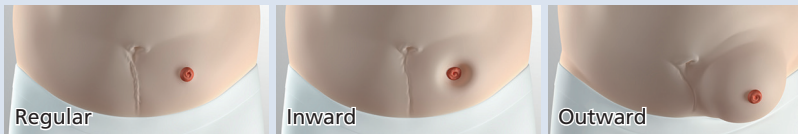
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1. Form of the area around the stoma

Form may change when sitting, lying down or moving

- Regular** Area more or less level with abdomen, although skin surface may be uneven
- Inward** Sinks into the abdomen creating a hollow
- Outward** Rises from the abdomen creating a peak



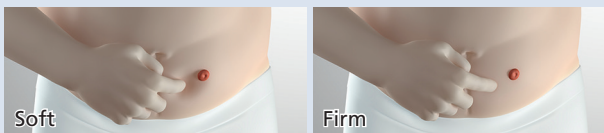
2. Selected form being uniform or variable

- Uniform** The form is consistent across the stoma area
- Variable** The form is not consistent across the stoma area



3. Soft or firm abdomen

- Soft** The area yields to pressure (like when pressing a water mattress)
- Firm** The area resists pressure (like when pressing under your heel)



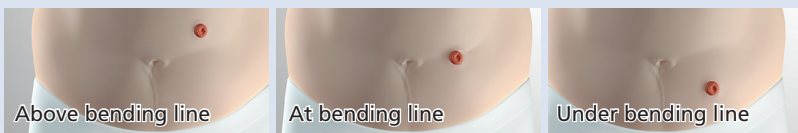
4. Superficial creases or deep folds

- Superficial** The skin is lined, furrowed or wrinkled
- Deep folds** The area has deep folds of loose skin or excess fat



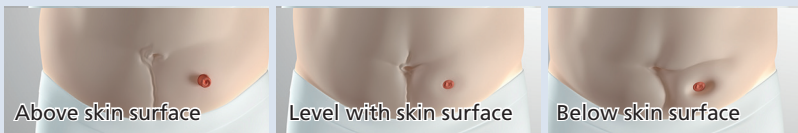
5. Location of stoma

- Above bending line** The stoma is located near the ribs
- At bending line** The stoma is located where abdomen folds
- Under bending line** The stoma is located below the bending line



6. Position of the stoma opening relative to the skin surface

- Above skin surface** The stoma rises over the skin surface
- Level with skin surface** The stoma is level with the skin
- Below skin surface** The stoma is retracted from the skin



7. Type of output

- Thick stool
- Liquid stool
- Urine

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Figure 2. Body Profile Assessment Tool

profile assessment is made based on seven characteristics, six relating to the peristomal area and one to the type of stomal output.

This information is primarily used by SCNs to aid their clinical judgement in determining whether an ostomate should use an ostomy appliance with a flat, convex or concave baseplate (also known as a flange or skin barrier). The 2018/19 Coloplast Ostomy Life Study Review (Colostomy UK, 2019) used this tool to study ostomates around the world and determined that 50% have a regular body profile, 15% have an inward body profile and 35% have an outward body profile. These proportions may vary based on regional demographic differences.

The Body Profile Assessment Tool was validated in 2019, using a modified Delphi process and with the participation of over 2000 SCNs from different countries (James-Reid et al, 2019). The authors of the validation study recommended that:

‘Product type recommendations should be based on the patient’s body profile and skin assessment, preferably using validated tools. Product type should not be made based on provider preference, a set order of product usage (i.e. start with a flat product and, if that doesn’t work, move to a convex) or through trial and error’ (James-Reid et al, 2019).

Case study

This case study demonstrates the value of using validated assessment tools in stoma care. When presenting this case study, consent was obtained

to use and record photographic evidence, and patient confidentiality has been maintained in accordance with Nursing and Midwifery Council (2019) Code.

First admission

Jane was a 43-year-old woman at 32 weeks’ gestation of pregnancy. She presented to the hospital with abdominal pain and was admitted as an emergency directly to a surgical ward. Following investigations, she underwent an emergency Caesarean section and formation of loop ileostomy secondary to perforation of the small bowel due to adhesions of the uterus, bladder and small bowel.

Following surgery, Jane developed a high stomal output. This high output was initially managed with a high-output appliance with a flat baseplate, as well as loperamide and dietary advice and support. However, she experienced multiple leaks. To stop these leaks, various combinations of stoma appliances and supporting products were tried (*Table 1*), based on trial and error and patient preference. The documentation showed no evidence of any validated tools being used, and it relied instead on fragmentary descriptive language, which made the rationale behind the products selected difficult to identify. It also provided no data to obtain a baseline for measuring improvement or deterioration.

Over time, Jane’s general condition improved. Her output reduced to a healthier consistency for an ileostomy, and she became independent with her stoma management. However, this was complicated by the fact that she also had an abdominal vacuum dressing in situ. She was discharged from the ward 16 days after her surgery. She stayed on the hospital premises to help care for her newborn son, with daily visits to the ward for her abdominal dressings to be changed.

Second admission

Around 2 weeks after discharge, Jane presented with a general feeling of unwellness and vomiting. She was exhausted, in pain and unable to cope with managing her stoma. Her stomal output had become much looser, which was likely a result of limited intake of food and not taking loperamide. Loperamide was re-prescribed, and she was given diet and fluid advice to both manage her output and assist with her production of breast milk.

Table 1. Stoma product combinations (case study)

No	Appliance	Supporting products
First admission		
1	Flat, high-output	None
2	Soft convex, drainable	Stoma paste
3	Oval convex, drainable	None
4	Flat, drainable	Stoma seal
5	Firm convex, drainable	Stoma paste
6	Oval convex, drainable	Stoma paste and belt
Second admission		
7	Oval convex, drainable	Stoma paste, adhesive remover and belt
Telephone consultation		
8	Deep convex, drainable	Stoma powder*, adhesive remover and belt

Note: *Used only until skin condition improved

Jane was readmitted to the surgical ward, and a computer tomography (CT) scan showed three abscesses within the abdomen: two in a cavity between loops of small bowel and one anterior to the uterus. There were adhesions in left iliac fossa but normal bowel proximal and distal to the perforation of diverticular site. She underwent a repeat laparotomy, and, given the findings, a sigmoid colectomy was performed.

Jane's loop ileostomy remained to function as before, while a defunctioning colostomy was formed and treated as a mucous fistula. She continued to have a negative pressure dressing, which, although it did not affect her appliance adhesion, did have a significant negative psychological impact. She continued using the combination of stoma products that had so far provided her with the best results: an oval convex drainable appliance, stoma paste and a support belt. She was discharged home 10 days after her second operation.

In the community

After her second discharge, Jane continued to experience occasional leakage under her baseplate and attended community reviews. At one of these reviews, her stoma routine was changed, and she was commenced on a seal, as well as her usual stoma paste and support belt. Again, the documentation of this change used descriptive language and gave no rationale for product selection or any assessment scores. This made it difficult to obtain a baseline of care and monitor the impact of subsequent alterations.

At 4 weeks after second discharge, a second community referral was received from Jane, who was reporting sore skin around her stoma. She had been searching the internet to self-manage and had tried to order samples of barrier creams to try to combat soreness. It was then that she was advised to contact a stoma care nurse for review. At that point she was changing her appliance two or three times a day.

At this time, social distancing measures were in place due to the COVID-19 pandemic, and so patients needed to undergo a full assessment over the phone before a home visit could be scheduled. To provide visual evidence to underpin this remote assessment, ostomates were asked to provide digital photographs of their stoma. This was explained to Jane, and she agreed to this approach.

The next day, Jane's photographs were received and reviewed by a community SCN. These indicated that it would be possible to perform an assessment and discuss, recommend and initiate treatment remotely over the telephone. During her telephone review, Jane reported that her appliance had leaked three times in the previous night, she was tired and she was in pain from sore skin. The SCN assessed Jane and her photographs using three validated assessment tools:

- The Ostomy Skin Tool gave a DET score of 8 (3+2+2+1+0)
- The Stoma Quality of Life Tool gave a total score of 45, with particularly high scores for questions on anxiety, stoma management and body image
- The Body Profile Assessment Tool showed that an inward body profile; the peristomal area that was soft and variable with superficial creases; the opening was below skin level; and the stoma was situated below the bend line.

The SCN then used the outcomes of this assessment to inform a new combination of products for Jane's stoma care routine. To treat her wet sore skin, she was recommended to apply stoma powder (Brava, Coloplast). To fit her inward body profile, her appliance was altered to one with a deep convex baseplate (SenSura Mio Deep Convex, Coloplast), with an aperture cut to her usual template of 35x25 mm. To give extra support, she was also provided with a support belt (Brava, Coloplast). These products were delivered to her home address on the same day and without any physical contact.

A week later, Jane underwent a follow-up telephone review and assessment, with supporting photographs. She reported that her appliance remained intact for three full days, and there had been no baseplate soiling or leakage. Her DET score had improved to 4 (1+1+1+1+0). The QoL score had increased to 59, with marked improvement in her anxiety. She reported that this was because a simplified stoma management routine made her feel more confident that her appliance would not leak. She was advised to continue with this routine until her skin healed and then to stop using the stoma powder.

Jane underwent further telephone reviews, which confirmed continued improvement. After 2 weeks, she had DET score of 0 and a QoL score of 70. Although she continued to score high on questions related to body image, she felt that this would improve over time, when her wound had

Table 2. Cost of stoma care, before and after telephone consultation (case study)

Cost per	Before	After	Saving
Appliance	£8.86	£5.05	£3.81
Week	£88.60	£10.10	£78.50
Month	£265.80	£151.50	£114.30
Year	£3189.60	£1818.00	£1371.60

Note: Prices from Drug Tariff and correct at time of reporting (April 2020), based on changing three times a day before and changing every three days, twice a week or 10 times a month after

CPD reflective questions

- Which validated tools would be most valuable to incorporate into your patient assessment, and why?
- Consider the challenges presented by an inward body profile and how these can best be overcome
- What are the relative advantages and disadvantages of the Ostomy Skin Tool and the Ostomy Leakage Impact Tool?

fully healed, and she could get back to her normal exercise routine. However, her anxiety levels over potential pouch leakages had significantly improved. She reported that her stoma was far easier to manage; she could incorporate it into her new life as a busy first-time parent; and was able to continue shielding against COVID-19.

Since instituting a simpler and more appropriate stoma care routine, Jane's appliance usage decreased from 10 or more to two pouches per week. This led to a subsequent reduction in prescription costs (Table 2).

Conclusions

An inward body profile can make a stoma particularly challenging to manage. Stoma care has also been complicated considerably by the COVID-19 pandemic, which has meant that face-to-face consultations with an SCN are usually not possible. However, Jane's case shows that digital photography, telephone reviews and validated assessment tools, along with expert clinical knowledge, can allow SCNs to overcome these challenges and maintain or improve their patients' confidence, QoL and ability to self-care.

The case study also demonstrates how using validated assessment tools can aid in removing local clinical variations. With widespread usage, this should help standardise clinical practice, resulting in improved patient care.

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Declaration of interest Paul Russell-Roberts and Diane Kay are employees of Coloplast

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