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Results of an audit of the Peristomal Body Profile Assessment Tool

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ABSTRACT

Background: Leakage is the number one concern for people with an ostomy. The 2019 Ostomy Life Study, a global study of more than 5000 ostomates, showed that 92% of people living with a stoma worry about leakage. Getting the right stoma appliance for each patient is key to increasing patient quality of life. **Aim:** The study was designed to assess the use of the Peristomal Body Profile Assessment Tool in helping choose the most appropriate stoma products for a given patient, decreasing incidents of leakage and peristomal skin complications. **Methods:** A multi-centre (33 sites, 147 patients) low-interventional clinical investigation was conducted in which the use of the Peristomal Body Profile Assessment Tool was evaluated as a tool to reduce incidents of leakage, increase peristomal skin health and increase patient quality of life. A focus group of randomised participating clinicians ($n=16$) was held to explore the audit results. **Results:** The assessment tool most often took between 2 and 5 minutes to complete. It supported clinicians in selecting the right appliance for each patient, avoiding leakages and preventing associated peristomal skin complications. The assessment tool helped improve the accuracy and quality of documentation in the patients' medical/nursing notes, increasing the quality and continuity of care. Participants reported that using the assessment tool helped reduce care costs by reducing the need for product changes, supporting product usage and return patient visits. **Conclusion:** Use of the Peristomal Body Profile Assessment Tool helped clinicians choose the most appropriate stoma appliance the first time, resulting in patients having healthier peristomal skin, fewer leakages, more confidence in their stoma appliance and a higher quality of life.

Key words: Ostomy ■ Stoma ■ Peristomal skin complications
■ Peristomal body profile ■ Stoma leakage

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Leakage is a big concern for individuals with a stoma and has severe consequences, including increased peristomal skin complications and reduced patient quality of life (Erwin-Toth et al, 2012). In the Ostomy Life Study 2019 a global survey ($n=5187$), 32% of respondents experienced leakage of effluent once a week and 27% experienced leakage onto their clothes every month (Voegeli et al, 2020; Fellows et al, 2021). Leakage can lead to peristomal skin complications and individuals with a stoma who experience such complications are more likely to be readmitted to hospital and have an increased length of stay in hospital after readmission (Martins et al, 2012; Meisner et al, 2012; Taneja et al, 2017; 2019). In a 2019 survey of stoma care nurses, 96% reported that two or more patient consultations are generally needed to close the case of a stoma patient with leakage issues. The nurses also reported that to alleviate the issues of leakage they 'always' or 'most of the time' (59%) advise patients to use supporting products, such as seals, paste and belts (Down et al, 2021). All of this leads to higher total healthcare costs and decreased quality of life for ostomates.

The Peristomal Body Profile Assessment Tool was created in 2019, through an international consensus process, involving over 2000 ostomy care professionals, to help better understand what products to use for individual peristomal body profiles (James-Reid et al, 2019). Individuals with a stoma each have very different peristomal body profiles that require stoma products designed to create and maintain a secure seal around their stoma and prevent leakage (Herlufsen et al, 2006; Nybaek et al, 2009; Erwin-Toth, 2012; Maydick-Youngberg, 2017). The Peristomal Body Profile Assessment Tool is a six-step assessment tool designed for stoma care nurses to assess and document an individual patient's peristomal body profile. The purpose of the tool is to determine the best stoma product for each patient to ensure a secure seal and offer confidence for the patient in their stoma appliance (Colwell et al, 2019).

The consensus-based assessment tool was designed to support nurses to choose stoma products based on an evidence-based assessment protocol (Colwell et al, 2019). The Peristomal Body Profile Assessment Tool provides nurses with a structured critical thinking pathway for choosing stoma products. This helps them to choose the best appliance first time, rather than using a

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Box 1. DET and OLI scores**DET score**

The Ostomy Skin Tool is a validated instrument that assesses peristomal skin across three domains to obtain a DET score – discolouration (D), erosion (E), and tissue overgrowth (T). A score of 0 indicates normal skin, a score of 9 indicates severely injured skin

OLI score

The Ostomy Leakage Impact (OLI) tool is a validated assessment tool designed to assess the subjective impact of leakage on ostomates' quality of life. A score of 80 indicates the highest quality of life and a score of 20 indicates the lowest quality of life

Source: Nafees et al, 2018; Martins, 2022

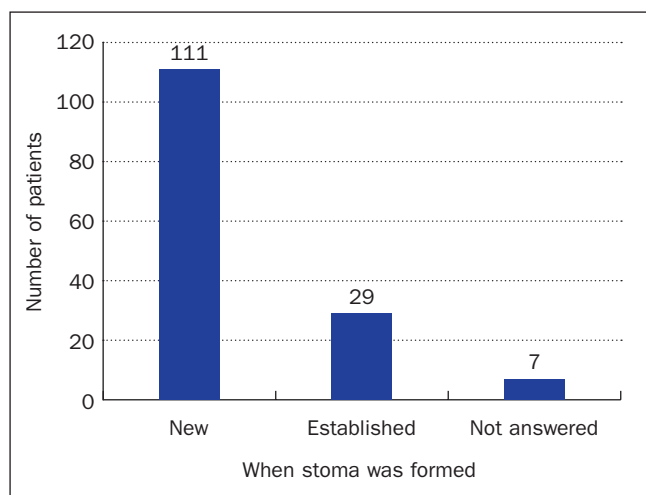


Figure 1. Stoma formation

trial-and-error approach, which can lead to leakage, peristomal skin complications, reduced quality of life and increased costs.

This consensus audit study was designed to assess if the Peristomal Body Profile Assessment Tool is being effectively used to determine the most appropriate stoma appliance type for each patient and how its usage affected peristomal skin health (as assessed by their Discolouration, Erosion and Tissue overgrowth (DET) score) and patient quality of life (as assessed by their Ostomy Leakage Impact (OLI) score) (Box 1). The goal of the audit was to assess if use of the assessment tool can aid in 'getting it right first time' and maintaining or improving individuals with a stoma's peristomal skin health and quality of life.

Methods

The audit was a 1-sequential, non-randomised, non-blinded, multi-centre (33 sites and 147 patients) low-interventional clinical investigation, in which the usage of the Peristomal Body Profile Assessment Tool was evaluated to explore if its use can reduce incidents of leakage, improve peristomal skin health and increase patient quality of life.

The audit project parameters and processes were reviewed by NHS Research Ethics who determined that it was 'not

considered to be research' and that the 'project does not require Health Research Authority (HRA) and Health and Care Research Wales (HCRW) Approval or NHS/HSC (Health and Social Care) R&D Permissions' (personal correspondence dated March 28, 2022).

Hospitals were approached to participate in the study across the UK and the Republic of Ireland. Thirty-three hospitals agreed to participate and were assigned randomised audit codes that were used throughout the documentation. Between one and three stoma care nurses were provided with audit documentation booklets at each site. The booklets were used to record patient information and included a tear-away information pamphlet and consent form for patients to complete. Patient data were recorded only where consent was given. Neither the hospitals, the clinicians nor the patients were compensated for their time or participation.

The audit included one visit at the clinic or before hospital discharge and at least one follow-up visit with the patient. A maximum of three visits per patient were recorded in the audit file. Clinicians recorded the patient's peristomal body profile, information about leakage, peristomal skin health and patient-reported quality of life at each visit. Each patient's peristomal body profile was assessed using the Peristomal Body Profile Assessment Tool (Colwell, 2019). The six-step assessment tool was used in this study to determine the best ostomy appliance solution for each patient, which was recorded at each visit. Patient-reported incidents of leakage were also recorded at each visit. Peristomal skin health was assessed using DET scores (Martins et al, 2022). A DET score of zero indicates no peristomal skin injury (Box 1). Patient quality of life was assessed using the OLI score instrument, a validated tool designed to assess the subjective impact of leakage on ostomates' quality of life (Nafees et al, 2018). The higher the OLI score, the better the quality of life as reported by patients (Box 1).

After all patients at a given site had either been discharged or completed their third visit, the anonymised data were sent to Coloplast for analysis (Coloplast UK sponsored the audit review and facilitated the analysis). Anonymised patient data were then input into Excel pivot tables and the data were analysed across sites, and against body profile data.

A focus group was held with a randomised group of clinicians who had participated in the audit. The focus group engaged with a series of polling questions and in small group dialogues that were all documented by facilitators. Anonymous polling responses were documented and quantified and dialogue discussions were thematically categorised and reported as aggregate data.

Results

Thirty-three audit centres participated in the project and 147 unique patients completed the study and were included in the analysis. Of the 147 patients, 111 were new stoma patients and 29 were established stoma patients (Figure 1).

All 147 patients were seen at a first and second visit and 74 patients were seen at a third visit. Thirty-three per cent of the audit centres (11) recorded three visits for all patients. Six audit centres (18.2%) recorded no third patient visits (Figure 2).

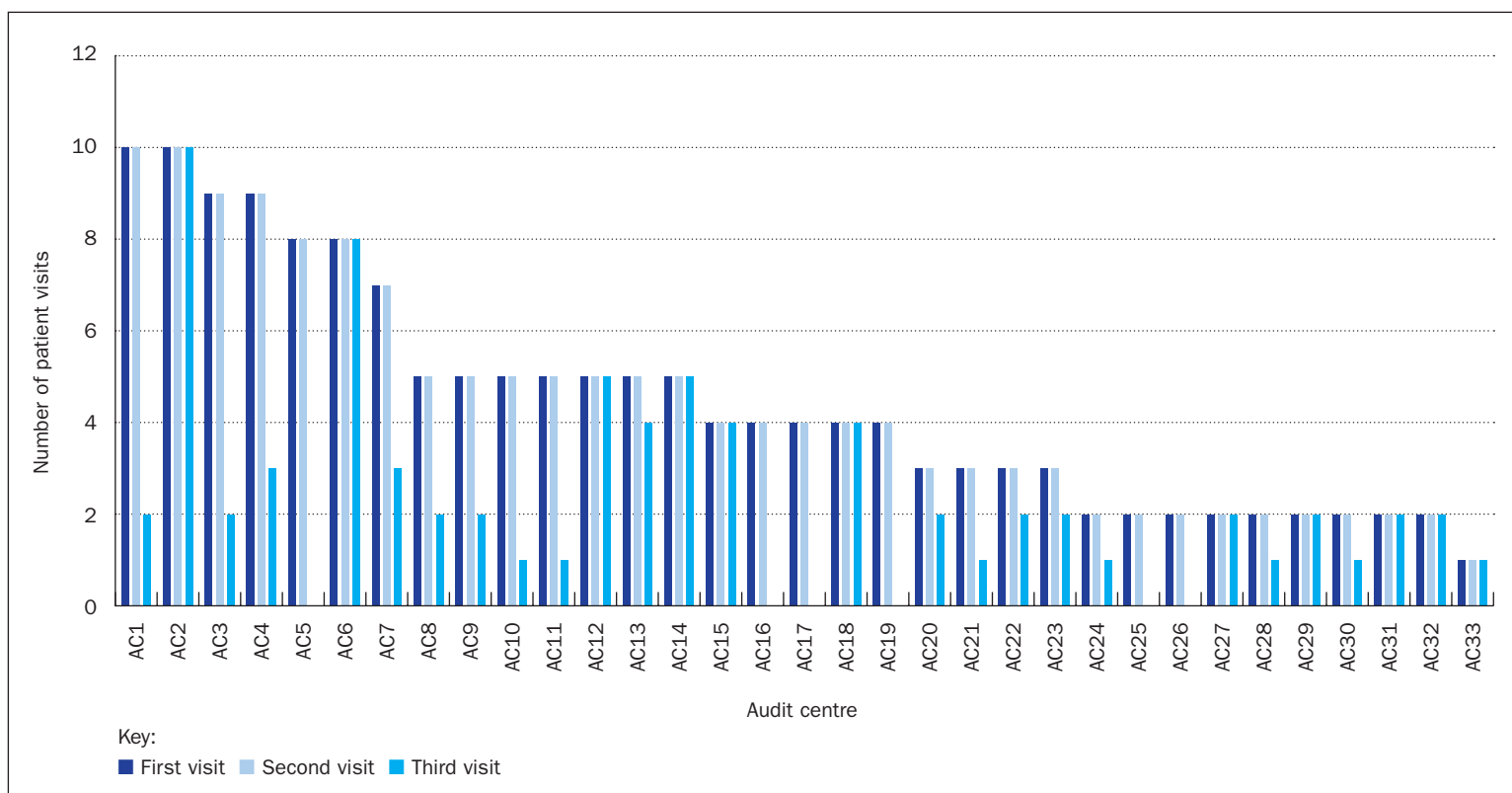


Figure 2. Number of patient visits by audit centre

Of the 73 patients who were not seen at a third visit, 78% had favourable DET (≤ 3) and OLI (>40) scores. There is no data indicating why the 16 patients who had poor DET or OLI scores at their second visit were not seen at a third visit.

At the initial visit, the majority of patients were assessed as having:

- A regular peristomal body profile (54.4%)
- A uniform and soft area around the stoma (50.3%)
- Superficial creases or folds (72.8%)
- A stoma situated below the bending line (65.9%)
- A stoma opening protruding above the skin (59.1%) (Figures 3a and 3b).

At the initial visit, 50% of patients were prescribed a flat appliance, 37% were prescribed a convex appliance and 12% were prescribed a concave appliance (Figure 4).

Patients with a DET score of 3 or less (meaning they had healthy peristomal skin) and an ostomy leakage impact score of greater than 40 (meaning they had few leaks and reported a high quality of life) were most often prescribed a flat appliance (46 patients) (Figure 5).

There was a high level of variability in DET scores between audit centres. Whether a patient had deep folds or superficial creases in the peristomal skin had a significant impact on both DET and OLI scores. Similarly, the position of the stoma above, in line with or below the skin also affected DET and OLI scores. Patients with stoma openings below the skin had more peristomal complications and leakages than patients with stoma openings in line with or above the skin. Patients with liquid output also had more leakages and peristomal skin complications

than patients with thicker output (Table 1). As expected, audit centres with low average DET scores also showed high average ostomy leakage impact scores.

Thirteen patients (8.8%) had a recorded change in peristomal body profile between the first and second visit. Twelve of the 13 patients had new stomas. One of the 13 patients had an established stoma but also had a series of recorded comorbidities and complications.

Focus group results

A focus group, consisting of a randomised sample of clinicians who were part of the patient file audit ($n=16$), was held to examine the audit results and assess the implications for clinical practice and the quality of patient care. The participants were all clinicians who had taken part in the audit and represented 39.4% of participating audit centres.

All focus group members (100%) agreed that DET and OLI scores are an effective measure of peristomal skin health and patient quality of life. In addition, 100% of participants indicated that the Peristomal Body Profile Tool was very easy (33.33%) or easy (66.67%) to use (Figure 6). When asked how long the assessment took to complete, the majority of focus group members said that it took 2 to 5 minutes (Figure 7).

All focus group participants (100%) agreed that the Peristomal Body Profile Assessment Tool supports getting it right first time (the goal of the audit) and 93.75% said that they always aim for zero leakages with their patients (one respondent indicated that 1–2 leakages per month was considered acceptable).

When asked whether using the tool saves time in their

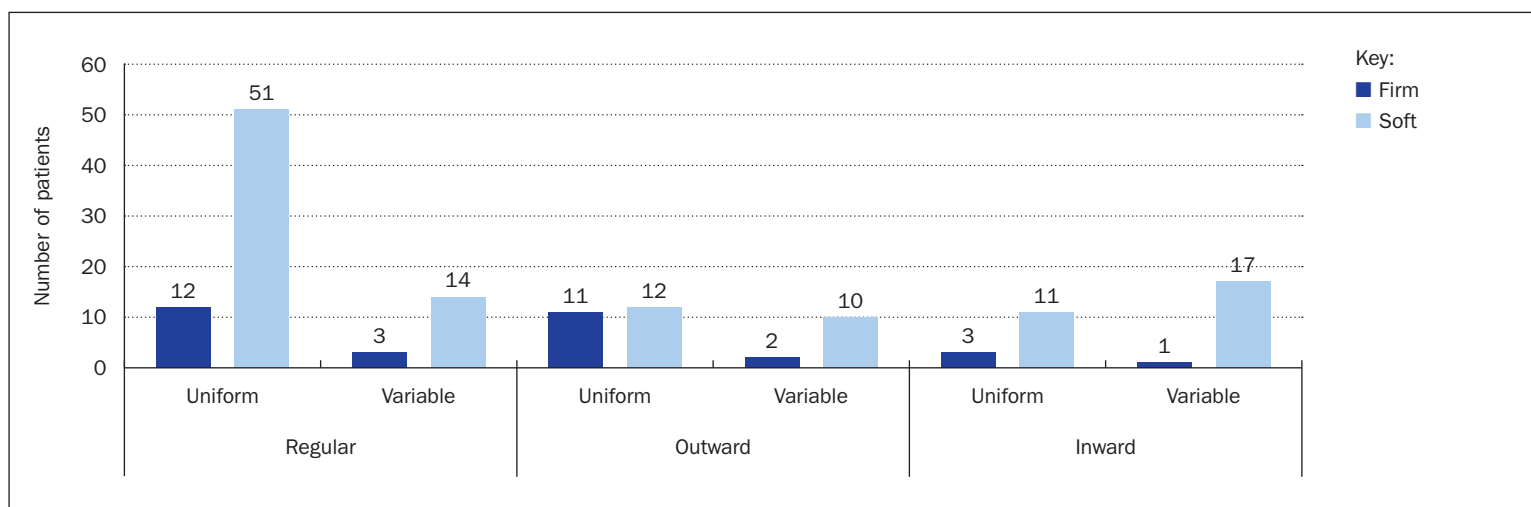


Figure 3a. Peristomal body profile assessment at first visit

clinical assessment, 46.67% of participants indicated that the tool saves time, while 53.33% indicated that it adds time to the assessment but reduces patient return visits by improving patient outcomes and assisting clinicians in appropriate product selection (one participant was unable to answer this question).

Focus group participants estimated that approximately 28% of their stoma patients have a ‘regular’ and ‘uniform’ peristomal body profile.

The focus group participants indicated that the Peristomal Body Profile Assessment Tool:

- Is easy to use
- Helps in ensuring the right stoma appliance is chosen for each patient
- Provides a clear critical thinking tool with helpful visual images to support clinician decision-making and patient understanding
- Increases clinical confidence and professionalism
- Helps speed up and ensure accurate and comprehensive documentation, leading to better inter-team communication and continuity of patient care
- Is useful in providing a clear evidence base for decision

making that assists in communications with physicians and other team members

- Helps save time and money, by decreasing supporting product requirements, decreasing product changes, decreasing return patient visits due to complications and increasing patient confidence, allowing them to actively engage in normal activities.

Limitations

The COVID-19 pandemic impacted the project. Healthcare providers were understandably focused on their pandemic response, often being redeployed, and therefore were unable to complete the audit booklet within the original intended 6-week timeline. Also, patient appointments were often rearranged with timelines being shortened or expanded, based on pandemic requirements. Similarly, non-urgent stoma surgeries were cancelled for the duration of the lockdowns in many audit centres, resulting in fewer patients being included in the audit results. Finally, the length of time between the start of the audit and audit files being submitted for analysis was a maximum of 16 months.

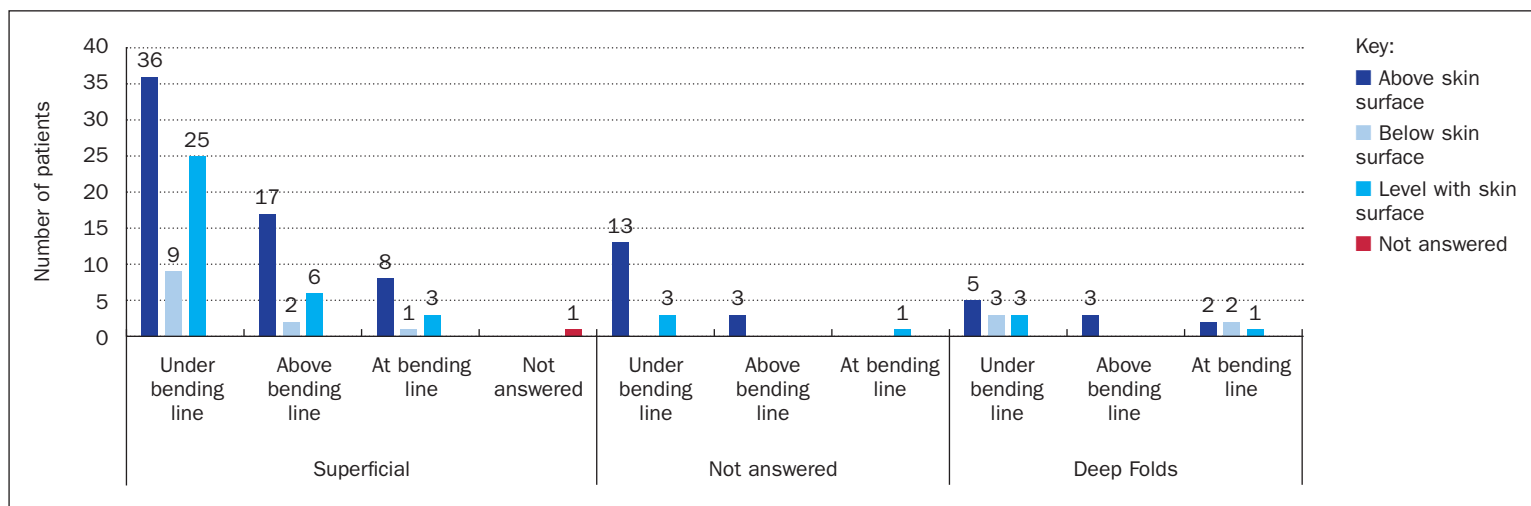


Figure 3b. Position of stoma at first visit

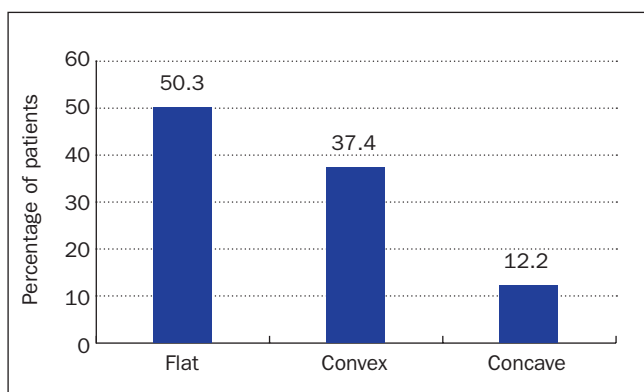


Figure 4. Pouching type recommended at first visit

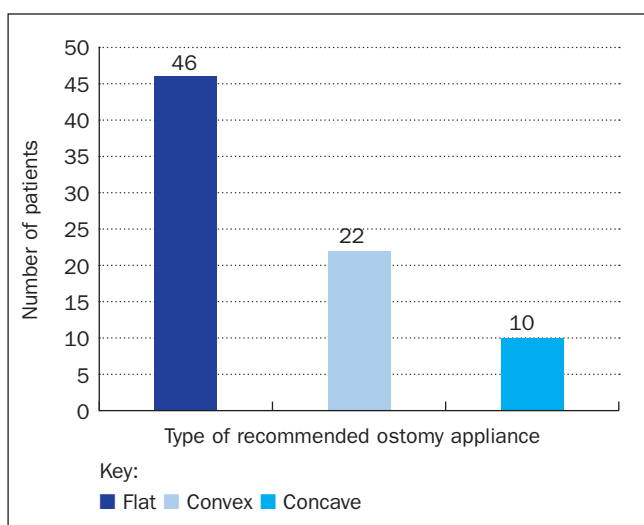


Figure 5. Patients with a DET score of 3 or less and a leakage score greater than 40 at first visit

Another limitation of the data is the number of patient files included. The original target was 400 patient files; however, 147 were completed and included in the audit study. This was due to the low number of stoma surgeries during the time period, a reallocation of resources during the pandemic and the high volume of workload at many audit centres. Eighty audit centres originally indicated an interest in participating in the project, 33 audit centres completed the file audit requirements. Although these numbers are lower than what was anticipated during the planning of the audit, the results, in the opinion of the authors, are still relevant and robust and the conclusions valid.

Discussion

The audit results support literature and anecdotal evidence that every patient is unique and stoma appliances need to be prescribed to meet the needs of each individual patient. The audit and the focus group results suggest that using the Peristomal Body Profile Assessment Tool supports clinicians getting it right first time and eliminates the trial-and-error approach to finding the right ostomy solution for each patient, which often results in leakages, peristomal skin complications and decreased confidence in a patient's stoma appliance.

Table 1. Average DET and OLI scores at first visit by Peristomal Body Profile

Peristomal Body Profile	DET	OLI
Regular area around stoma	1.39	44
Inward area around stoma	3.68	42
Outward area around stoma	2.31	40
Uniform area around stoma	1.69	44
Variable area around stoma	3.00	41
Soft abdomen	2.15	42
Firm abdomen	1.94	46
Superficial creases	2.08	44
Deep folds	3.94	30
Stoma above bending line	2.10	39
Stoma at bending line	2.94	38
Stoma under bending line	1.97	45
Stoma opening above skin surface	1.62	42
Stoma opening level with the skin	1.85	45
Stoma opening below skin surface	5.50	39
Thick stool output	1.48	49
Liquid stool output	2.33	40
Urine output	3.60	36

Key: = poor score: >3 DET score or <40 OLI score
 DET score=0 (normal); 9 (severe injury)
 OLI score=80 (highest quality of life); 20 (lowest quality of life)

The audit results also support earlier assumptions that peristomal body profiles change over time and between patient populations. Pre- and postoperative body changes occur frequently due to comorbidities, pre-operative weight gains or losses, postoperative swelling and postoperative lifestyle changes. Audit results also highlighted how differences in patient populations and demographics between audit centres affected the peristomal body profiles of their patient populations.

Although the high percentage of regular peristomal body profiles recorded during the audit was surprising, it was agreed among the researchers, and confirmed during the focus group discussions, that this was an anomaly mainly due to the fact that the audit was conducted at the same time as the first and second COVID-19 pandemic lockdowns. During this time, many stoma surgeries were postponed and therefore patients with complicated comorbidities may not have been part of the patient population included in the audit. In addition, fewer established stoma patients were seen than anticipated. It was presumed by the researchers, and confirmed by the focus group, that during the pandemic many patients were reluctant to enter a clinic due to concerns over

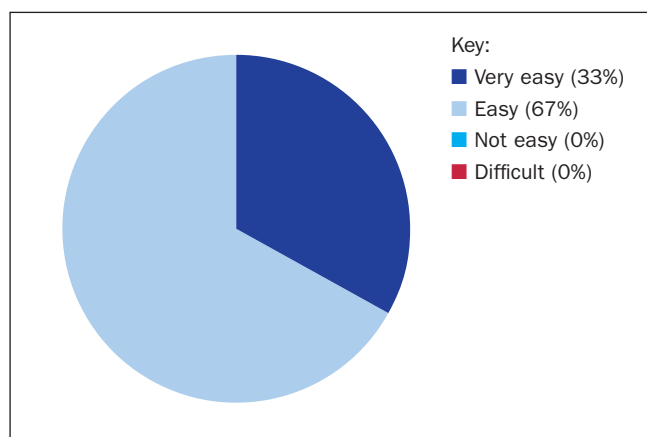


Figure 6. Peristomal Body Profile Tool ease of use

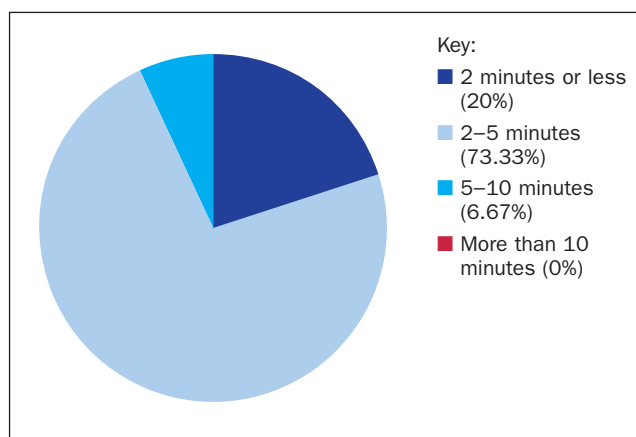


Figure 7. Average time to complete assessment

COVID-19 and therefore did not see a nurse even if they were experiencing leakage, peristomal skin complications or a change in peristomal body profile.

Similarly, it was assumed by the researchers, and supported by the 16 focus group participants, that many of the 73 patients who were not seen at a third visit, did not attend the visit due to pandemic-related issues. For those audit centres that saw no third visit patients, it is assumed that pandemic protocols or closures were the main reason.

Conclusion

The results of the audit demonstrated that the use of the body profile tool supported clinicians in choosing the most appropriate stoma appliance the first time, resulting in patients having healthier peristomal skin, fewer leakages and more confidence in their stoma appliance. The results support the premise that patients' peristomal body profiles need to be assessed at each appointment, as the peristomal body shape often changes over time, possibly requiring a different appliance to ensure a secure seal and to eliminate leakages. It was further concluded that the use of the Peristomal Body Profile Assessment Tool helps:

- Improve patient quality of life
- Improve patient outcomes
- Increase clinician confidence
- Improve multidisciplinary team communications
- Improve continuity and quality of care
- Decrease healthcare costs
- Enhance the professionalism of clinical users.

Further research on the health economics of using the Peristomal Body Profile Assessment Tool is warranted to confirm the qualitative evidence that the tool reduces healthcare costs. **BJN**

Declaration of interest: Coloplast UK conducted the file audit. One of the authors is a Coloplast employee. All authors have worked with Coloplast in the past on projects and publications. The authors wrote the article, with no oversight by Coloplast. The conclusions in the article are those of the authors and not Coloplast

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KEY POINTS

- The file audit confirmed that the Peristomal Body Profile Assessment Tool helps clinicians get it right the first time, ensuring that patients are fitted with the right stoma appliance that will stop leakages and maintain healthy peristomal skin
- The Peristomal Body Profile Assessment Tool helps increase clinical confidence by providing an evidence-based critical thinking pathway for clinicians
- Use of the Peristomal Body Profile Assessment Tool helps improve communications among members of the integrated care team
- The audit confirmed that the patient's peristomal body profile needs to be assessed at every visit, as the peristomal body shape often changes over time, possibly requiring a different appliance to ensure a secure seal and to eliminate leakages

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CPD reflective questions

- How could the Peristomal Body Profile Assessment Tool improve communications among members of the integrated care team and increase continuity of care for stoma patients in your clinic or institution?
- Why is prescribing the right stoma appliance (also known as getting it right the first time) so critical for stoma care and what can all of us do to ensure this happens?
- File audits are an excellent continuous learning and improvement tool to improve and expand best practices. Could you introduce a similar file audit in your practice?

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