NURSES SPECIALIZED IN WOUND, OSTOMY AND CONTINENCE CANADA

INFIRMIÈRES SPÉCIALISÉES EN PLAIES, STOMIES ET CONTINENCE CANADA

PREOPERATIVE STOMA SITE MARKING FOR FECAL DIVERSIONS – ILEOSTOMY & COLOSTOMY

POSITION STATEMENT OF THE CANADIAN SOCIETY OF COLON AND RECTAL SURGEONS AND NURSES SPECIALIZED IN WOUND, OSTOMY AND CONTINENCE CANADA

MARCH 2020

TASK FORCE MEMBERS

This position statement marks a collaborative project between the Canadian Society of Colon and Rectal Surgeons (CSCRS) and the Nurses Specialized in Wound, Ostomy and Continence Canada (NSWOCC).

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ACKNOWLEDGMENTS

This position statement is made possible by educational grants.
Gold – B.Braun, Coloplast & Hollister. Bronze – Marlen/Nightingale Medical.

Medical writer, John Gregory IIWCC, Opencity Inc. Special thanks to Véronique Synnett, a librarian at Institut du Savoir Montfort, Ottawa. Photo credit Bonita Yarjau and Rosemary Hill with patient consent.

HOW TO CITE

To reference this position statement, use the following citation: Preoperative Stoma Site Marking for Fecal Diversions – Ileostomy & Colostomy: Position Statement of The Canadian Society of Colon and Rectal Surgeons and Nurses Specialized in Wound, Ostomy and Continence Canada. 1st Ed. Ottawa; The Canadian Society of Colon and Rectal Surgeons and Nurses Specialized in Wound, Ostomy and Continence Canada; 2020.

INTRODUCTION

"Marking the site for a stoma preoperatively provides an opportunity to select the optimal site, which can reduce postoperative problems."[1]

Each year a projected 10,000 Canadians have colorectal surgery to create an ostomy. Widely adopted complication rates in the literature suggest that 21-70% of these will result in complications.[2] Obesity, emergency surgery, diabetes and preoperative stoma site marking have been demonstrated to have the most significant impact on complication rates. Stoma site marking has a preventative role.

The Canadian Society of Colon and Rectal Surgeons (CSCRS) encourages the highest professional and educational standards among surgeons to provide the best possible care for all individuals affected by colorectal disease. The CSCRS mission is to promote optimal management of colorectal diseases through education and research. https://cscrs.ca.

Nurses Specializing in Wound, Ostomy and Continence Canada (NSWOCC) is a not-for-profit association of over 550 nurses specializing in the nursing care of patients with challenges in wound, ostomy and continence. NSWOCC provides national leadership in wound, ostomy and continence promoting high standards for practice, education, research and administration to achieve quality specialized nursing care. http://nswoc.ca.

A task force convened comprising 20 health professionals from the Canadian Society of Colon and Rectal Surgeons and Nurses Specialized in Wound, Ostomy and Continence Canada. Search terms with inclusion and exclusion criteria were agreed with the task force. The search conducted in March 2019, was limited to studies published in English between January 2009 and April 2019. A senior librarian performed the literature search at Institut du Savoir Montfort in Ottawa. From the initial search, 272 papers were identified. The review of the title and abstracts for relevancy reduced these to 58 articles for which full manuscripts were obtained. Peer reviewers were recruited from the two associations. Their feedback was submitted by completing an online survey. A summary was reviewed by the task force, which modifications incorporated. We wish to acknowledge all the individuals who contributed to the review process.

Consistent with other position statements, the evidence was not graded. The Registered Nurses' Association of Ontario (RNAO) Best Practice Guideline on Supporting Adults Who Anticipate or Live with an Ostomy second edition April 2019, provides a robust appraisal of the certainty of evidence and confidence in the evidence.[3] These Best Practice

Guidelines provide a strength of recommendation as strong for the following steps; Performing preoperative stoma site marking. Providing perioperative education and counselling. Providing ongoing follow-up consultation and management. Involving persons who anticipate or live with an ostomy and their support network in all steps of care, as appropriate.

Due to the fact this position statement was developed in Canada, we refer to stoma nursing professionals as Nurses Specialized in Wound, Ostomy and Continence (NSWOC) throughout the document. The original studies from other countries refer to stoma care nurses, stoma therapists, ostomy nurses, Wound, Ostomy and Continence (WOC) nurses or enterostomal nurses, who have comparable knowledge, skills and experience. Similarly, when referring to the patient, in almost all instances, the inclusion of relatives and family caregivers is implied.

THE RATIONALE FOR THE POSITION STATEMENT

The purpose of this position statement is to guide surgeons and NSWOCs in the effective placement of fecal stomas for patients undergoing ostomy surgery and to improve patient outcomes through reduced postoperative complications. The location of the stoma is a crucial factor in preventing problems. Stoma complications often result in an extended hospital stay and longer recovery for the patient, at an already stressful time.

The evidence is clear; preoperative marking of the patient by qualified personnel for ideal stoma site placement reduces the risk of early complications and leads to higher health-related quality of life. A more informed patient involved in comprehending the impact of the stoma and its care will lead to a better quality of life after discharge.

The body of literature is emphatic that preoperative site marking should be mandatory in elective cases. This position statement reinforces the necessity to have NSWOC and surgeons available at all times for emergency case interventions for stoma site marking.

The robust work by Miller et al. in Toronto provides clear Best Practice Guidelines for the care of patients with a fecal diversion and perioperative care of patients with an ostomy.[4] The authors of this position statement recognize the groups' guidance on preoperative care, with detailed descriptions of stoma site marking and preoperative education.

PURPOSE OF STOMA SITE SELECTION

A thorough assessment identifies the most appropriate place on the abdomen for a stoma placement to reduce the risk of leakage. Included is the patient's ability to see the stoma, thereby enhancing the capability to care for their stoma. Both factors will reduce the risk of early complications. This, in turn, improves their rehabilitation and has been linked to higher psycho-emotional acceptance.

Prerequisites for stoma site selection:

- Stoma site selection and marking must only be undertaken by qualified practitioners within their scope of practice and who possess the knowledge, skill and judgment to perform stoma site marking – a surgeon or NSWOC are recommended.
- The planned surgical procedure must be identified as this impacts the most appropriate place on the patients' abdomen for stoma site marking.

Avoid the following locations for marking a stoma site:[5]

- Umbilicus;
- Bony prominences (hip bone, rib cage, and symphysis pubis);
- Natural waistline;
- Previous scars (dense scar tissue);
- Deep creases and fatty folds;
- Groin flexure;
- Pendulous breasts;
- Beltline.

The chosen site should be visible to the patient, though there may be instances where the flat plane may not be in a location that the patient can see it. Eyesight, dexterity, BMI, body habitus, occupation, use of wheelchairs or other aids must be included in the assessment for stoma site placement.

BENEFITS OF STOMA SITE SELECTION TO PATIENTS AND FAMILY

"Discharge starts at admission."[6]

Stoma site marking and education emerge as protective factors in the development of complications. There is overwhelming anecdotal evidence of the benefits of preoperative stoma education. More informed patients are better able to monitor and care for their stoma. Complications are less likely to occur when patients can self-identify the causes of complications. Waiting for the postoperative period to begin stoma education places the patient and providers at a disadvantage. "The stoma will undoubtedly have the largest impact on the patient's QoL in the long term," notes Dr. Alia Whitehead.[7]

The possibility of a stoma creates fear, anxiety and impacts quality of life. A study by Roveron 2016 demonstrated that a group that received both counselling and stoma site marking showed better results.[8] Stoma site marking complemented by education builds a close relationship between the patient and the NSWOC.

IDENTIFYING THE OPTIMAL STOMA SITE

Much of the work synthesizing the best practice steps in preoperative stoma site marking comes from Rutledge 2003, and Rust 2009.[9,10] Subsequent authors such as Cobos-Serrano et al. 2016 and Leyk et al. 2018 have adjusted the steps.[11-12] In this position statement, we have refined the vocabulary to ensure that each step is patient-centred, starts with a verb and reflects the literature. An hour should be planned for the stoma site marking procedure based on the following 17 steps. Ideally, consider marking all four quadrants. Colostomy sites are predominantly marked on the left side of the abdomen and ileostomy on the right side of the abdomen.

"The stoma creation procedure is the most important factor that affects patients' lives for 3 months after the surgery."[13]

PREOPERATIVE STOMA MARKING PROCEDURE

1. Stoma site selection and marking must only be undertaken by qualified practitioners within their scope of practice and who possess the knowledge, skill and judgment to perform stoma site marking – a surgeon or NSWOC are recommended.
2. Invite the preoperative patient to a private area to explain the process.
3. Provide patient education and counselling on living with an ostomy.
4. Obtain patient verbal consent for the assessment and stoma site marking.
5. Learn from the patient their typical range of movements related to their mobility, occupation, lifestyle and cultural practices.
6. Identify the patient's usual beltline in addition to the waistline of the patient in normal clothing in sitting and standing positions.
7. Ask the patient to remove enough clothes to allow access to the abdomen while maintaining privacy.
8. Assess the abdomen to observe scars, skin folds, hernias, skin mounds, creases, wrinkles, bony protuberances/iliac crest, radiation sites, pendulous breasts, and the location of the umbilicus.
9. Ask the patient to lie on their back and have the patient raise their head to see their feet to identify the edge of the rectus abdominis muscle.
10. Identify the halfway point on the imaginary diagonal line between bony protuberances/iliac crest and the umbilicus.
11. Ask the patient to sit, stand, bend, twist and lie down to identify any creases or concerns with the proposed site.
12. Consider the patient's BMI/body habitus and eyesight to confirm that the suggested stoma site is within their visual field, if possible.
13. Mark the abdomen on the flattest possible place in the appropriate quadrant for the planned surgery within the borders of the rectus abdominis muscle, 5cm away from considerations identified in step 8 with a regular pen.
14. Seek a second opinion in the complex abdomen from another NSWOC or surgeon, which may involve sharing a photograph with the patient's consent.
15. Remark with a permanent skin marker on the patient's abdomen, the site agreed by the patient and the NSWOC.
16. Cover the mark with a transparent film dressing. Explain to the patient the importance of maintaining the mark and give supplies to reinforce marking, if required. Remove all other marks with an alcohol swab.
17. Document details in the patient's health record.

A range of practices was noted on what is used to mark the patient. These include using a long-lasting pre-surgical skin marker to ensure that the mark does not come off with multiple cleansing and prep solutions used preoperatively. The covering of the mark with a dressing will be influenced by local policy and formulary. Consider providing the marker pen to the patient with the advice that they should keep the site mark(s) visible or remark as needed.

PICTORIAL ILLUSTRATION SUPPORTING STOMA SITE MARKING

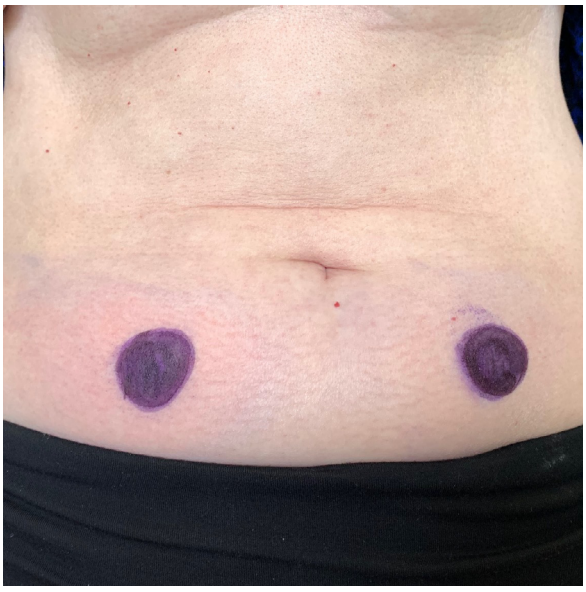

Figure 1 - An excellent example of a marking in the two lower quadrants in a patient with a flatter abdomen.

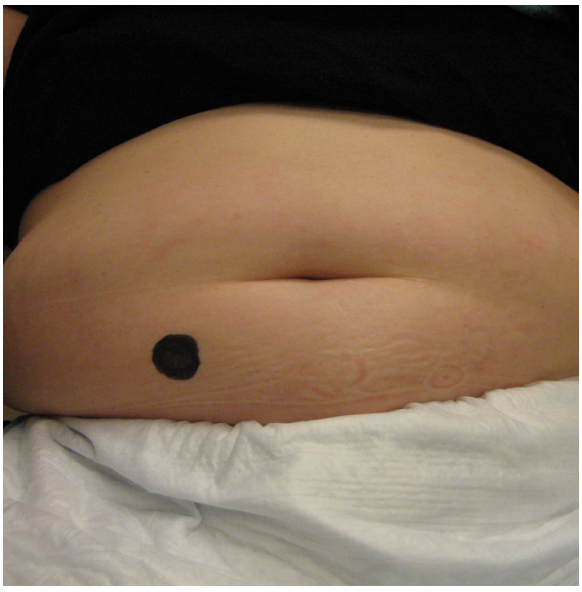

Figure 2 - This mark is an optimal site for an ileostomy in the right lower quadrant. The mark is away from creases and is within the patient's line of vision.

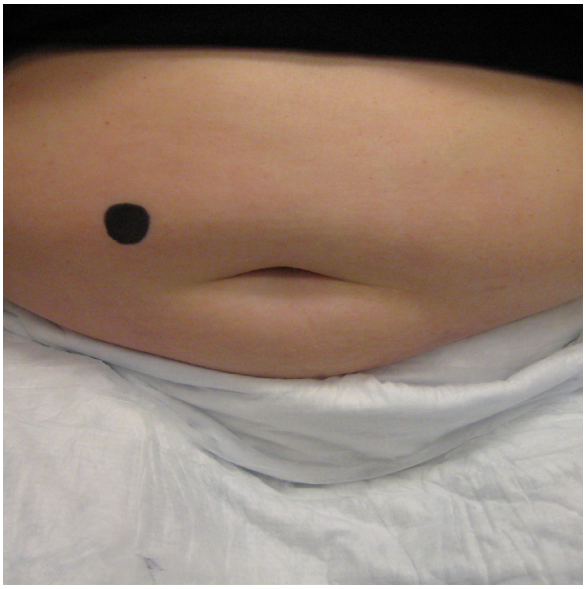

Figure 3 - This mark in the upper right quadrant is an optional site for an ileostomy in an obese abdomen. This is preferable as the patient would be unable to see the stoma if placed in the lower quadrant.

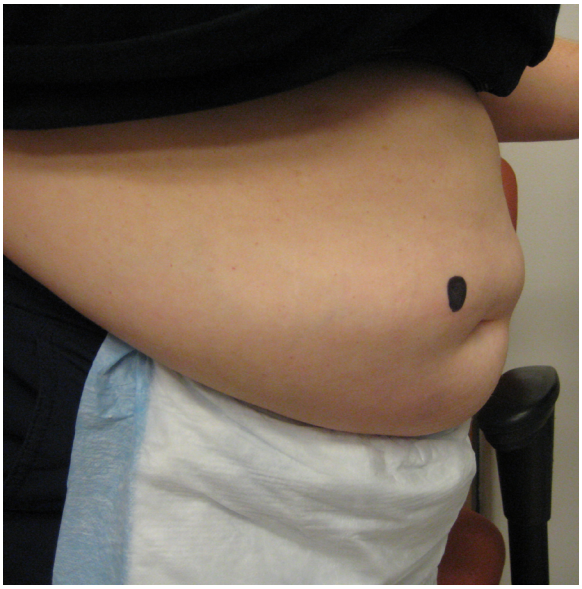

Figure 4 - The preferred stoma site markings can be the upper quadrant when the adipose tissue is thicker in the lower quadrants/abdomen. The patient would be unable to see the stoma if placed on the lower abdominal quadrant.

PICTORIAL ILLUSTRATION SUPPORTING STOMA SITE MARKING CONT'D

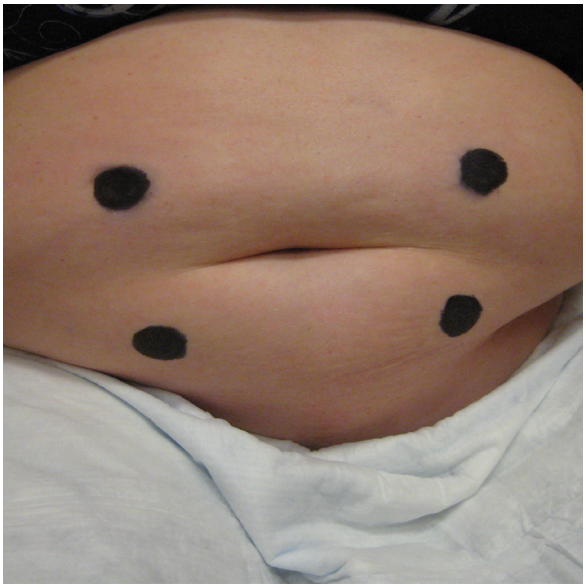

Figure 5 - This photograph is an example of the four quadrants marked in a sitting position. The marks in the upper quadrant are more within the patient's line of vision. This illustrates where to mark the stoma in four quadrants when the surgeon is not sure where they will need to put the stoma due to the complexity of the abdomen or surgical procedure.

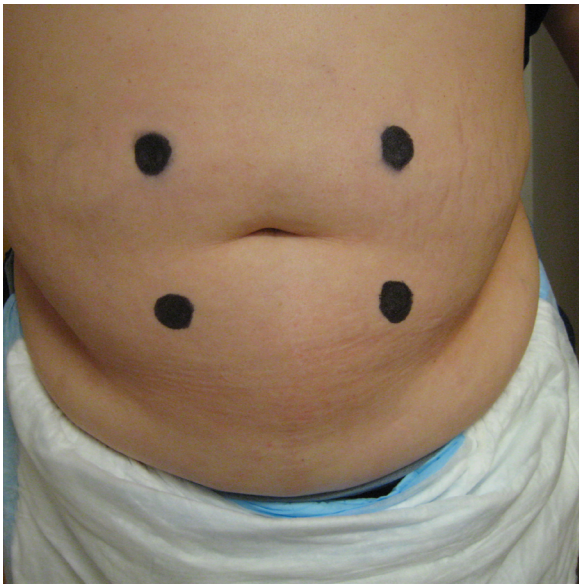

Figure 6 - This illustration shows how the marked location in the same patient from figure 5 changes when the patient is standing.

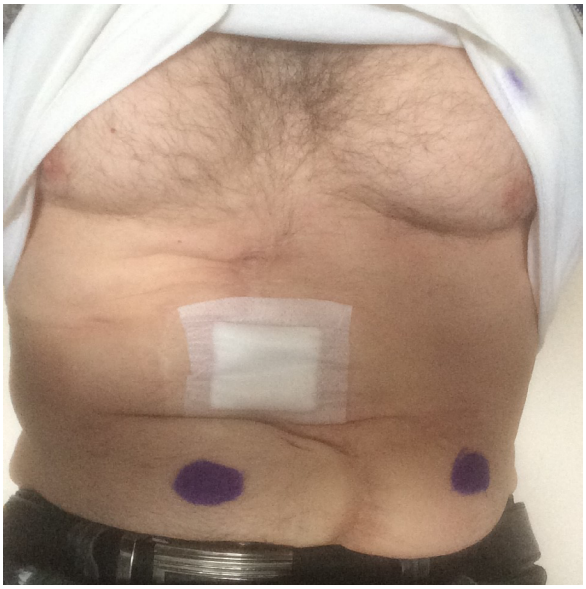

Figure 7 - The stoma site mark is away from the mid-abdominal indentation and scar. It is within the patient's line of vision and an example of marking on both sides of a scarred abdomen.

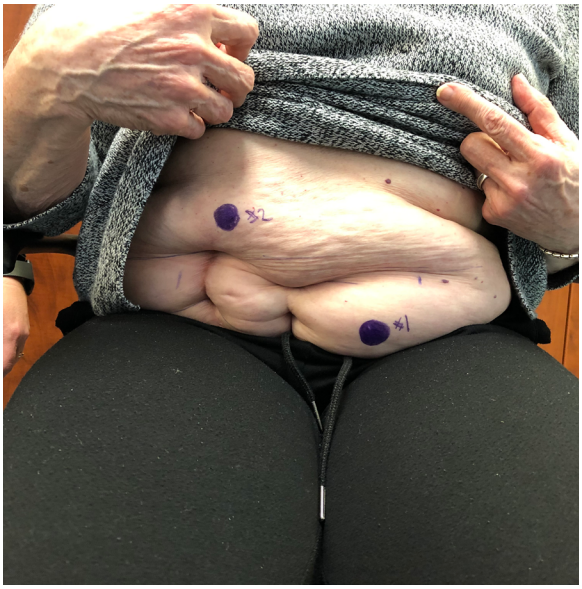

Figure 8 - This illustrates complex marking identifying the first and second choice for the surgeon. The markings are away from creases, skin folds, the umbilicus and scarring from previous surgery. The markings are not too close to the midline of the abdomen. They are within the patient's line of vision.

COMPLEX CASES AND EMERGENCY SURGERY

Patients presenting with rigid, distended abdomens or those patients that are not able to move through the positions for proper assessment due to pain, for example, require special consideration. Among complicating factors are those patients in wheelchairs, those with spinal cord injury or requiring other adaptations. Seek a second opinion in the complex abdomen from another NSWOC or notify the (colorectal) surgeon. The protuberant abdomen can be marked at the apex of the infraumbilical bulge. In the case of multiple stoma sites, consider marking on different horizontal planes if an ostomy belt is required.

According to Quinn et al. 2011, "It was an emergency, is no longer an excuse for poor stoma formation."[14] Emergency patients should be informed of the risk that surgery could result in a stoma. The literature notes that in 30% of cases, these could be permanent. Peristomal skin complications are more prevalent in patients who have undergone emergency surgery. Parastomal hernia is a common post-operative late complication of abdominal surgery. Several specific factors increase the predictive risk of hernia, including emergency surgery, a higher BMI, end colostomy, and not having the stoma site preoperatively marked.[15]

This task force advises the preoperative marking of emergency surgery patients before anesthesia is administered, with the cooperation of the patient to help guide the nurse and surgeon towards optimal locations. Abdominal contours are different once the patient is anesthetized. There may still be more complex cases where the preoperative marking with a conscious patient outside the operating room is not feasible.

COUNTERARGUMENTS

A 2013 Cochrane Review examined 761 patients from nine retrospective cohort studies to assess differences regarding the incidence of parastomal herniation and other stomal complications in lateral pararectal versus transrectal stoma placement in people undergoing elective or emergency abdominal wall enterostomy.[16] They concluded that the "poor quality of the included evidence does not allow a robust conclusion regarding the objectives of the review." The majority of the papers in our search and the expert opinion of the group lean towards stoma creation through the rectus abdominis sheath muscle. Roveron 2016 state that "The creation of a stoma within the rectus muscle prevents some complications such as peristomal hernia, prolapse, and retraction."[8] This is consistent with the opinion of several other authors. The Wound, Ostomy and Continence Nurse (WOCN) Society and American Society of Colon & Rectal Surgeons (ASCRS) position statement stated unambiguously in their list of recommendations that the stoma site should be located within the rectus abdominis muscle.[1]

COLLABORATION BETWEEN THE SURGEON AND THE NSWOC

The literature emphasizes that the specialist nurse conducts the majority of preoperative stoma site marking. In Canada, these are Nurses Specialized in Wound, Ostomy and Continence. Notify the surgeon if the marking was difficult or placed in an unusual area. Surgeons do appreciate advance notice before they see the mark on the OR table. The literature notes that colorectal surgeons determine stoma sites better than other surgeons.

The adoption of the multimodal program Enhanced Recovery After Surgery (ERAS) across many Canadian centres aims to decrease postoperative complications, improve patient safety and satisfaction, and promote early discharge. The Enhanced Recovery After Surgery (ERAS) program for fecal diversion necessitates coordination of services between the interprofessional team.

PRINCIPLES

1. Stoma site selection and marking must only be undertaken by qualified practitioners within their scope of practice and who possess the knowledge, skill and judgment to perform stoma site marking – a surgeon or NSWOC are recommended.
2. Discuss stoma creation and marking in detail with the patient.
3. Involve caregivers/relatives in the education process, as the patient allows.
4. Engage the patient's opinion where the stoma may be located.
5. Give special consideration to preoperative stoma marking in patients with a BMI > 30.[17]
6. Allow the patient to experiment with a stoma training kit and, and if they choose, facilitate meeting a person with an ostomy.
7. The Nurse Specialized in Wound, Ostomy and Continence should discuss the complex patient case directly with the surgeon.
8. The authors of this position statement do not advocate the use of tattooing as a means of marking the patient.
9. Mark emergency surgery patients prior to the administration of anesthesia.
10. The patient should be seen by an NSWOC post operatively as an outpatient for follow-up to support postoperative education and counselling to help promote health-related quality of life and earlier detection of complications.
11. Postoperative patients should see their NSWOC as an outpatient follow-up within the first 2-3 weeks from discharge. A consecutive follow-up six weeks ensures proper adjustment of appliance and adaptation. Based on expert opinion of the task force.

"Marking of the stoma site is undertaken when the patient is awake and can be involved. Preoperative stoma siting has many benefits. The ideal stoma site takes into consideration various factors, such as abdominal creases, and using a position that the patient can see and reach. Siting the stoma preoperatively results in fewer postoperative stoma-related complications, such as siting the stoma in a skin crease, which might result in leakage from the stoma appliance."[18]

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This position statement is accompanied with an enabler for practice and this video.

This position statement is made possible through educational grants. Gold – B. Braun, Coloplast & Hollister. Bronze – Marlen/Nightingale Medical.