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REVIEW

Best Evidence Summary of Preoperative Management for Patients Undergoing Intestinal Stoma Surgery

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Purpose: To retrieve, evaluate, and synthesize the best evidence on preoperative management for patients with intestinal stomas, and to provide a foundation for clinical nursing practice.

Methods: This study was an evidence summary followed by the evidence summary reporting standard of Fudan University Center for Evidence-based Nursing. The PIPOST framework was used to establish the clinical question. A systematic search was performed according to the 6S evidence hierarchy across international and Chinese databases and guideline repositories from inception to July 31, 2025. Eligible evidence included clinical decision support documents, clinical practice guidelines, systematic reviews, expert consensus statements, position statements, organizational standards, and evidence summaries published in Chinese or English. Methodological quality was appraised using appropriate tools based on evidence type, and evidence was extracted, synthesized, and graded according to established evidence-based criteria.

Results: A total of 46 evidence sources were included, comprising 5 clinical decision support documents, 10 clinical practice guidelines, 14 evidence summaries, 9 systematic reviews, 4 expert consensus statements, 3 position statements, and 1 organizational standard. Based on evidence synthesis and consultation with clinical professionals, 22 pieces of evidence were summarized across four domains: organizational preparation, comprehensive assessment, counselling and education, and stoma site marking.

Conclusion: This evidence summary provides an evidence-based framework to guide standardized and individualized preoperative care, aiming to improve surgical preparedness and postoperative outcomes. Further research is needed to update the evidence base and evaluate the feasibility and effectiveness of these recommendations in clinical practice.

Keywords: intestinal stoma, preoperative management, evidence summary, nursing care, stoma site marking

Introduction

An intestinal stoma is a temporary or permanent surgically created opening on the abdominal surface that diverts intestinal contents to the exterior of the body.[1] It is estimated that more than 700,000 individuals in Europe and 800,000 individuals in the United States are currently living with a stoma.[2] In China, approximately one million patients have a permanent intestinal stoma, with an estimated annual increase of about 100,000 new cases, showing a rapidly growing trend.[3] Intestinal stoma surgery can be life-saving and may significantly improve patients' quality of life.[4] However, it is an invasive procedure that alters normal intestinal function and defecation patterns.[5] Moreover, nearly one-third of stomas develop complications within three weeks after surgery, with an overall incidence of stoma-related complications reported to be 26.5%.[2] Living with a stoma is also associated with multiple psychological challenges, including concerns related to body image, psychosocial adjustment, sexual health and function, and self-esteem, all of which can substantially impair patients' psychosocial adaptation and overall quality of life.[6–8]

Across the continuum of stoma care, preoperative management has received relatively limited attention.[9] A growing body of clinical practice and research evidence indicates that management and preparation during the preoperative phase

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are critical determinants of postoperative adaptation outcomes.[2,10,11] Appropriate preoperative interventions can help patients and their families develop a rational understanding of stoma surgery, alleviate anticipatory anxiety, and acquire basic self-care skills. These measures may enhance patients' confidence and coping capacity after surgery, significantly reduce the incidence of complications, shorten hospital stays, and ultimately improve long-term quality of life. Conversely, insufficient or inconsistent preoperative preparation may leave patients inadequately equipped to cope with postoperative changes, potentially contributing to increased psychological distress, reduced self-care competence, and variability in clinical outcomes.[12–15]

Although existing clinical guidelines, expert consensus statements, and related literature have described various interventions for the preoperative management of patients undergoing stoma surgery, the evidence remains fragmented and broad in scope. To date, a systematic and targeted synthesis of best evidence and practical recommendations for preoperative stoma management is lacking. Therefore, the aim of this study is to summarize the best available evidence on preoperative management for patients with an intestinal stoma, thereby providing clear, scientific, and feasible guidance for clinical nursing practice. This evidence summary is intended to standardize preoperative interventions and improve the overall quality of care and health outcomes for patients undergoing stoma surgery.

Methods

This evidence summary was conducted in accordance with the standardized evidence summary reporting framework developed by the Fudan University Evidence-based Nursing Center. The process comprised problem establishment, evidence retrieval, literature screening, quality evaluation, and evidence summary and grading. The protocol for this evidence summary was registered with the Fudan University Evidence-based Nursing Center (registration number: ES20244309). Although this registry is not publicly accessible internationally, it serves as a nationally recognized evidence-based nursing database in China.

Problem Establishment

Although the traditional PICO model (Population, Intervention, Comparison, Outcome) is widely used to evaluate the effectiveness of therapeutic interventions, it does not adequately define key elements required for evidence translation into clinical practice. Therefore, this study adopted the PIPOST framework proposed by the Fudan University Evidence-based Nursing Center.[16] The components were defined as follows: P (Population – target population): adult patients undergoing intestinal stoma surgery, including both permanent and temporary stomas; I (Intervention – preoperative management for patients with an intestinal stoma): psychological assessment and support, health education, and stoma site marking; P (Professional – healthcare providers): medical and nursing professionals involved in the application of evidence-based rehabilitation strategies; O (Outcome – clinical outcomes): incidence of stoma-related postoperative complications, postoperative self-care ability, and quality of life; S (Setting – clinical environment): colorectal surgery wards; and T (Type of evidence – sources of evidence): clinical decision support tools, clinical practice guidelines, best practice manuals, evidence summaries, systematic reviews, and expert consensus statements.

Evidence Retrieval

A systematic evidence search was conducted according to the 6S evidence hierarchy, with priority given to higher-level evidence sources such as clinical practice guidelines and systematic reviews. The databases and websites searched included BMJ Best Practice, UpToDate, the Cochrane Library, the World Health Organization (WHO), the Guidelines International Network (GIN), the National Institute for Health and Care Excellence (NICE), the National Guideline Clearinghouse (NGC), the Registered Nurses' Association of Ontario (RNAO), the Scottish Intercollegiate Guidelines Network (SIGN), the Wound, Ostomy and Continence Nurses Society (WOCN), the World Council of Enterostomal Therapists (WCET), the American Society of Colon and Rectal Surgeons (ASCRS), EBSCO CINAHL, the Joanna Briggs Institute (JBI) Evidence-Based Healthcare Library, PubMed, Embase, Web of Science, the Chinese Nursing Association (CNA), Wanfang Data, the Chinese Biomedical Literature Database (SinoMed), China National Knowledge Infrastructure (CNKI), and VIP.

The search terms included combinations of "enterostomy OR colostomy OR ileostomy OR stoma OR ostom* OR fecal diversion", "preoperati*", "care OR tattooing OR marking OR mark OR siting OR site OR education OR assessment OR management". Both subject headings and free-text terms were used, and search strategies were tailored to the indexing rules of each database. The search period covered from database inception to 31 July 2025. The detailed search strategy for PubMed is presented in Table 1 and was adapted as appropriate for the other databases.

Inclusion and Exclusion Criteria of Evidences

The inclusion criteria were as follows: (1) studies involving adult patients scheduled to undergo intestinal stoma surgery; (2) studies addressing preoperative management for patients with an intestinal stoma; (3) evidence types including clinical decision support tools, clinical practice guidelines, expert consensus statements, best practice recommendations, evidence summaries, and systematic reviews; and (4) publications available in either Chinese or English.

The exclusion criteria were: (1) duplicate publications; (2) studies for which the full text could not be retrieved; and (3) studies that had been updated or superseded by more recent publications from the same research group.

Literature Screening

The literature screening process was independently conducted by two researchers who had received formal training in evidence-based medicine. The results were cross-checked to ensure accuracy, and any disagreements were resolved through consultation with a third researcher. Initially, all retrieved records were imported into EndNote software, and duplicate records were removed. Subsequently, titles were screened to exclude studies that were clearly irrelevant to the research topic. Finally, the abstracts and full texts of the remaining articles were comprehensively reviewed and screened according to the predefined inclusion and exclusion criteria.

Quality Evaluation of the Literature

Appropriate methodological quality appraisal tools were selected based on the type of evidence. The methodological quality of clinical practice guidelines was assessed using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) instrument.[17] The AGREE II comprises six domains and 23 items, each rated on a 7-point scale, with higher scores indicating greater conformity with the appraisal criteria. The standardized score for each domain was calculated as follows: [(obtained score − minimum possible score)/(maximum possible score − minimum possible score)] × 100%. Based on domain scores, overall recommendation levels were determined: guidelines with scores ≥60% across all six domains were classified as Grade A (strongly recommended); those with scores ≥30% in at least three domains were classified as Grade B (moderately recommended); and those with scores <30% in at least three domains were classified as Grade C (not recommended).[18]

Systematic reviews were appraised using the AMSTAR 2 (A Measurement Tool to Assess Systematic Reviews 2) instrument.[19] AMSTAR 2 consists of 16 items, of which items 2, 4, 7, 9, 11, 13, and 15 are considered critical domains,

Table 1 Search Strategy for the PubMed Database

Query	Search Term
#1	"Enterostomy"[Mesh] OR "Colostomy"[Mesh] OR "Ileostomy"[Mesh] OR "Surgical Stomas"[Mesh]
#2	Enterostomy[Title/Abstract] OR colostomy[Title/Abstract] OR ileostomy[Title/Abstract] OR stoma[Title/Abstract] OR ostom*[Title/Abstract] OR fecal diversion[Title/Abstract]
#3	#1 OR #2
#4	"Preoperative Period"[Mesh] OR preoperati*[Title/Abstract]
#5	"Preoperative Care"[Mesh] OR "Preoperative Exercise"[Mesh] OR "Tattooing"[Mesh] OR "Education"[Mesh] OR "Nursing Assessment"[Mesh] OR "Disease Management"[Mesh] OR "Pain Management"[Mesh] OR "Patient Care Management"[Mesh]
#6	Care[Title/Abstract] OR tattooing[Title/Abstract] OR marking[Title/Abstract] OR mark[Title/Abstract] OR siting[Title/Abstract] OR site[Title/Abstract] OR education[Title/Abstract] OR assessment[Title/Abstract] OR management[Title/Abstract]
#7	#5 OR #6
#8	#3 AND #4 AND #7

while the remaining items are non-critical. Each item is rated as "yes," "partial yes," or "no." Based on the presence of critical and non-critical weaknesses, the overall methodological quality of systematic reviews was classified into four levels: critically low, low, intermediate, and high quality.

The JBI critical appraisal checklist for expert opinion and text (2016) was used to assess expert consensus statements, position statements, and group standards. This checklist includes six items, each rated as "yes," "no," "unclear," or "not applicable".[20]

For clinical decision support documents and evidence summaries, no specific critical appraisal tool was applied. Instead, the original evidence types on which these documents were based were traced, and the corresponding quality appraisal criteria were used for evaluation.

All methodological quality appraisals were independently conducted by two researchers trained in evidence-based practice. Discrepancies were resolved through discussion with a third researcher trained in evidence-based medicine. Four researchers collaboratively appraised clinical practice guidelines to enhance consistency and validity.

Evidences Extraction and Summary

Two researchers trained in evidence-based medicine independently extracted the evidence and synthesized it according to the following principles: (1) when evidence was consistent, statements that were both professionally accurate and easily understandable were selected; (2) when evidence was complementary, findings were integrated based on logical coherence; and (3) when discrepancies existed among evidence sources, priority was given to evidence with higher methodological quality, stronger levels of evidence, and more recent publication dates.[18,21] The included evidence was graded using the 2014 version of the JBI Levels of Evidence and Grades of Recommendation system. According to this system, evidence from different sources is ranked from Level 1 to Level 5, with more rigorous study designs corresponding to higher levels of evidence.[22]

Results

Search Results

A total of 21,432 records were initially retrieved. After removing 6,333 duplicates, the remaining records were screened by title and abstract, followed by full-text review, and 46 publications were ultimately included. The literature selection process is presented in the PRISMA flow diagram (Figure 1).

Among the 46 included publications, there were 5 clinical decision support documents, 10 clinical practice guidelines, 9 systematic reviews, 4 expert consensus statements, 3 position statements, 1 organizational standard, and 14 evidence summaries. The basic characteristics of the included evidence sources are summarized in Table 2.

Quality Evaluation Results of the Included Literature

Quality Evaluation Results of Guidelines

Ten clinical practice guidelines were included, and the appraisal results are presented in Table 3. Seven guidelines were rated as Grade A and three as Grade B, indicating overall high quality.

Quality Evaluation Results of Systematic Reviews

Nine systematic reviews were included. In the reviews by Hsu et al,[38] Liu et al,[39] and Yang et al,[45] AMSTAR 2 Item 2 (ie., whether the review methods were established prior to conducting the review, and whether deviations from the protocol were justified) was rated as "no." In the review by Korkmaz et al,[44] Item 7 (ie., whether the authors provided a list of excluded studies and justified the exclusions) was rated as "no." In the review by Clark et al,[8] Item 15 (ie., for meta-analyses, whether publication bias/small-study effects were adequately investigated and its potential impact on the results was discussed) was rated as "no". All other items across the included systematic reviews were rated as "yes".

Quality Evaluation Results of Expert Consensus Statements, Position Statements, and Organizational Standards

Four expert consensus statements, three position statements, and one organizational standard were included. All items on the JBI appraisal checklist were rated as "yes."

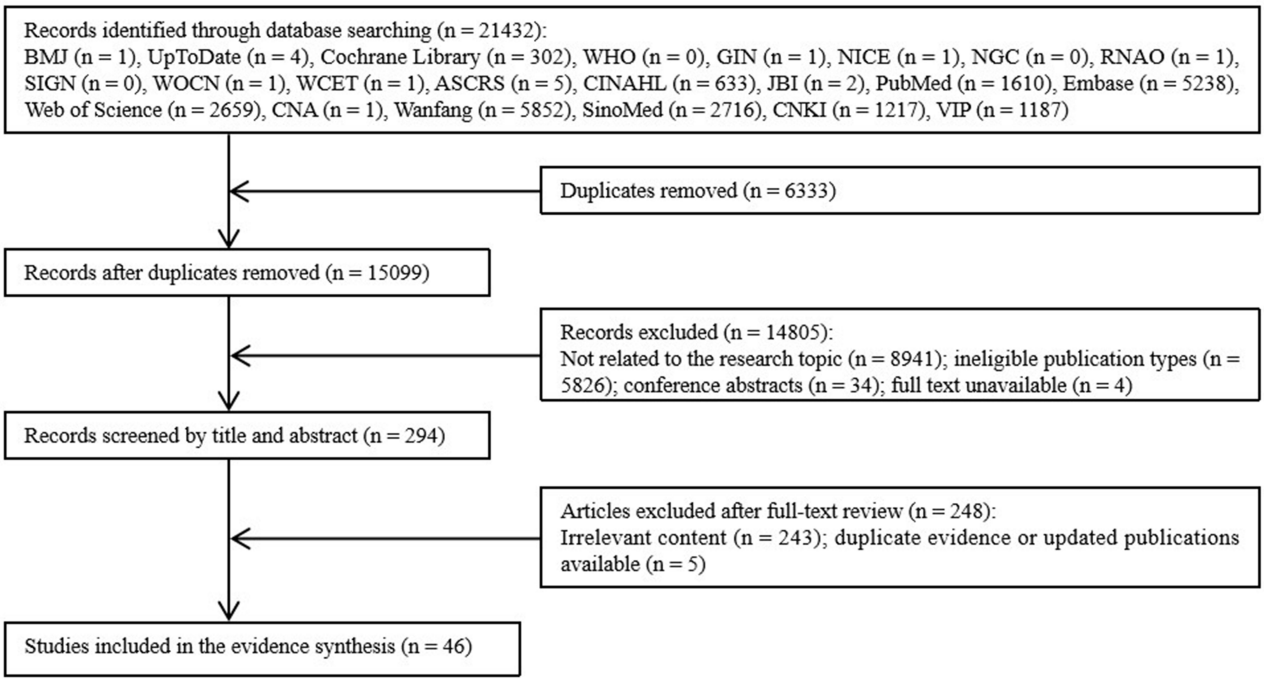

Figure 1 Flow chart of literature screening.
Abbreviations: AGREE II, Appraisal of Guidelines for Research and Evaluation; ASCRS, American Society of Colon and Rectal Surgeons; CNA, Chinese Nursing Association; CNKI, China National Knowledge Infrastructure; GIN, Guidelines International Network; JBI, Joanna Briggs Institute; NICE, National Institute for Health and Clinical Excellence; NGC, National Guideline Clearinghouse; RNAO, Registered Nurses' Association of Ontario; SIGN, Scottish Intercollegiate Guidelines Network; SinoMed, Chinese Biomedical Literature Database; WCET, World Council of Enterostomal Therapists; WOCN, Wound, Ostomy and Continence Nurses Society.

Clinical Decision Support Documents and Evidence Summaries

Five clinical decision support documents were included, all sourced from UpToDate. Fourteen evidence summaries were included, and relevant evidence was extracted directly from these sources. For both clinical decision support documents and evidence summaries, the original underlying evidence types were traced and appraised using the corresponding methodological quality criteria.

Table 2 General Characteristics of the Included Literatures (N = 46)

Included Literature	Year	Source	Type of Literature	Literature Theme
Francone[23]	2023	UpToDate	Clinical decision	Overview of fecal diversion stomas
Landmann et al[24]	2024	UpToDate	Clinical decision	Care and complications of ileostomy or colostomy
Raghavendran[25]	2024	UpToDate	Clinical decision	Surgical management of acute diverticulitis
Fleshner[26]	2025	UpToDate	Clinical decision	Surgical treatment of ulcerative colitis
Otterson[27]	2025	UpToDate	Clinical decision	Surgical management of radiation enteritis
New Zealand Guideline Group[28]	2011	PubMed	Guideline	Management of early bowel cancer
Ontario ERAS Stoma Nurse Network[29]	2017	WOCN	Guideline	Enhanced recovery care for fecal diversion
Wound, Ostomy and Continence Nurses Society[30]	2018	WOCN	Guideline	Management of adult fecal or urinary stomas
Registered Nurses' Association of Ontario[31]	2019	RNAO	Guideline	Pre- and postoperative support for adult stoma patients
Italian Multidisciplinary Stoma Study Group[32]	2019	PubMed	Guideline	Surgical management of adult intestinal stomas
World Council of Enterostomal Therapists[33]	2020	WCET	Guideline	International stoma guidelines

(*Continued*)

Table 2 (Continued).

Included Literature	Year	Source	Type of Literature	Literature Theme
American Society of Colon and Rectal Surgeons[34]	2020	ASCRS	Guideline	Treatment of rectal cancer
American Society of Colon and Rectal Surgeons[35]	2022	ASCRS	Guideline	Stoma surgery
American Society of Colon and Rectal Surgeons et al[36]	2023	PubMed	Guideline	Enhanced recovery after colorectal surgery
French National Society of Coloproctology et al[37]	2023	PubMed	Guideline	Management of adult intestinal stomas
Hsu et al[38]	2020	PubMed	Systematic review	Effect of preoperative stoma site marking
Liu et al[39]	2020	CNKI	Systematic review	Risk factors for peristomal skin complications
Kim et al[40]	2021	PubMed	Systematic review	Outcomes of preoperative stoma site marking
Nizum et al[41]	2022	PubMed	Systematic review	Stoma care pathways
Niu et al[42]	2022	PubMed	Systematic review	Risk factors for parastomal hernia
Ambe et al[43]	2022	PubMed	Systematic review	Stoma site marking and complication risk
Clark et al[8]	2023	PubMed	Systematic review	Preoperative psychological preparation
Korkmaz et al[44]	2023	PubMed	Systematic review	Preoperative preparation and symptom management
Yang et al[45]	2024	CNKI	Systematic review	Stoma site marking and complication rates
Wound, Ostomy and Continence Nurses Society[46]	2013	PubMed	Expert consensus	Peristomal moisture-associated skin damage
ERAS China Expert Committee[47]	2018	Wanfang	Expert consensus	ERAS guidelines for colorectal surgery
Chinese Society of Colorectal Surgeons et al[48]	2022	Wanfang	Expert consensus	Preventive stoma for low rectal cancer
Chinese Society of Colorectal Surgery et al[49]	2025	Wanfang	Expert consensus	Permanent intestinal stomas in colorectal surgery
Italian Society of Surgeons et al[50]	2016	PubMed	Position statement	Preoperative stoma site marking
Wound, Ostomy and Continence Nurses Society et al[51]	2021	PubMed	Position statement	Preoperative stoma site marking
Canadian Association of General Surgeons et al[52]	2022	PubMed	Position statement	Preoperative stoma site marking for fecal diversion
Chinese Nursing Association WOC Committee[53]	2020	CNA	Organizational standard	Adult intestinal stoma care
Tang et al[54]	2020	CNKI	Evidence summary	Health education recommendations for stoma patients
Si et al[55]	2021	CNKI	Evidence summary	Perioperative health education for stoma patients
Wang et al[56]	2022	Wanfang	Evidence summary	Continuum care for adult stoma patients
Che[57]	2023	CNKI	Evidence summary	Prevention of common stoma complications
Chen et al[58]	2023	Wanfang	Evidence summary	Preoperative stoma site marking
Guo et al[59]	2023	Wanfang	Evidence summary	Prevention of peristomal dermatitis
Magtoto[60]	2023	JBI	Evidence summary	Preoperative assessment and education for stoma patients
Cai et al[61]	2023	Wanfang	Evidence summary	Prevention and care of stoma necrosis
Zhao et al[62]	2024	Wanfang	Evidence summary	Prevention and management of stoma prolapse
Chen et al[63]	2024	CNKI	Evidence summary	Self-management strategies for stoma patients
Liu et al[64]	2024	CNKI	Evidence summary	Perioperative nursing interventions for stoma patients
Li et al[65]	2024	CNKI	Evidence summary	Health education for temporary stoma patients
Overall[66]	2024	JBI	Evidence summary	Preoperative stoma site marking
Yu et al[67]	2025	CNKI	Evidence summary	Prevention and management of appliance leakage

Table 3 Quality Assessment Results of Guidelines (n=10)

Guideline	Standardized Scores in Various Domains (%)						≥60%	≥30%	Quality Evaluation
	Scope and Purpose	Stakeholder Involvement	Rigour of Development	Clarity of Presentation	Applicability	Editorial Independence			
New Zealand Guideline Group[28]	85.7	81.0	48.2	90.5	60.7	100	5	6	B
Ontario ERAS Stoma Nurse Network[29]	84.2	100	68.8	100	37.5	100	5	6	B
Wound, Ostomy and Continence Nurses Society[30]	94.4	88.9	91.7	100	87.5	100	6	6	A
Registered Nurses' Association of Ontario[31]	95.2	100	92.9	95.2	82.1	100	6	6	A
Italian Multidisciplinary Stoma Study Group[32]	94.4	100	37.5	95.8	68.8	37.5	5	6	B
World Council of Enterostomal Therapists[33]	95.2	95.2	87.5	95.2	82.1	100	6	6	A
American Society of Colon and Rectal Surgeons[34]	95.2	76.2	91.1	100	60.7	100	6	6	A
American Society of Colon and Rectal Surgeons[35]	100	100	88.9	100	91.8	100	6	6	A
American Society of Colon and Rectal Surgeons et al[36]	95.2	76.2	91.1	100	60.7	100	6	6	A
French National Society of Coloproctology et al[37]	100	100	95.8	100	95.8	100	6	6	A

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Summary and Description of Evidences

Evidence was extracted from the 46 included sources and categorized into four domains: organizational preparation, comprehensive assessment, counselling and education, and stoma site marking. In total, 22 evidence statements were synthesized, as presented in Table 4.

Table 4 Summary of Best Evidence for Preoperative Management of Patients Undergoing Intestinal Stoma Surgery

Evidence Dimension		Evidence Content	Evidence Level
Organizational preparation	Multidisciplinary team	1. Multidisciplinary team care should be provided for all patients undergoing stoma surgery, with the stoma therapist as a core member[31,53]	1b
	Training requirements	2. Competency-based professional training, including theory, skills assessment, and continuous professional development, is required to support stoma patients and families[33]	2c
Comprehensive assessment	Language communication	3. Patients' preferred communication language should be identified, and medical interpreters used when necessary[68]	5b
	Holistic assessment	4. Conduct a comprehensive, multifactorial assessment of the individual and family. This assessment should respect the patient's individual differences, values, and information needs related to health literacy, while also taking into account cultural and religious beliefs. Assess the patient's quality of life and encourage the patient and family to participate in discussions throughout the process[33,48,51,52,67,68]	4b
	Psychological support	5. Psychological distress and self-identity should be assessed, with targeted counselling and peer support provided[8,31,33,48,49,53]	3c
	Weight management	6. Body mass index and waist circumference should be assessed, with weight management advice provided when indicated to prevent parastomal hernia[31]	1b
Counselling and education	Target population	7. All patients potentially undergoing stoma surgery and their caregivers should receive individualized preoperative counselling and education[23,24,28–32,34,35,37,41,44,46–48,51,68]	1b
	Delivery format	8. Information should be delivered in multiple formats (verbal, written, digital), with multilingual resources for non-native speakers[29]	2b
	Educational content	9. Education should include gastrointestinal anatomy and physiology, surgical procedures, stoma types and function, lifestyle adjustment, pouch options and use, self-care, stoma reversal expectations, dehydration prevention for ileostomy, and available support programs[29–31,33,36,60]	2b
Stoma site marking	Target population	10. All patients scheduled for stoma surgery, including temporary or permanent stomas, should undergo preoperative stoma site marking[31,32,34,37–40,42–45,66,68]	1b
	Personnel	11. Stoma site marking should be performed one day preoperatively by a stoma therapist or experienced surgeon, with patient and family participation when possible[23–26,29,30,33,35,37,46,51,53,66–68]	1b
	Patient preparation	12. The procedure should be explained, consent obtained, privacy ensured, and body exposure minimized[51,52,68]	5b
	Multisite assessment	13. Abdominal contour should be assessed in supine, sitting, standing, and bending positions to ensure visibility and avoid skin folds[23,37,49,51–53,67,68]	5b
	Site selection	14. The stoma should be located within the rectus abdominis muscle, avoiding scars, skin folds, bony prominences, and belt lines, with a minimum distance of 5 cm[23,33,37,51,52,67,68]	5b
		15. (1) Ileostomy should preferably be located in the right lower quadrant, at the junction of the middle and upper one-third of the line connecting the umbilicus and the anterior superior iliac spine, or at the intersection of the medians of the triangle formed by the umbilicus, anterior superior iliac spine, and pubic symphysis. (2) Sigmoid colostomy is recommended to be positioned in the left lower quadrant using the same anatomical landmarks and principles. (3) Transverse colostomy should preferably be sited in the upper abdomen, approximately 5–7 cm lateral to the abdominal midline along the horizontal line between the umbilicus and the costal margin[48,49,51–53]	5b

(*Continued*)

Table 4 (Continued).

Evidence Dimension		Evidence Content	Evidence Level
		16. In patients with obesity (body mass index ≥30 kg/m^2), the stoma should be placed at the highest abdominal prominence above the umbilicus[23,51–53]	5b
		17. Bilateral site marking is recommended, with additional sites marked when necessary[37,48,52]	5b
	Marking technique	18. A solid circle approximately 20 mm in diameter should be marked using a permanent or surgical marker and protected with a transparent dressing[37,49,51–53]	5b
	Special situations	19. When multiple stomas are planned, sites should not be on the same horizontal line and should be spaced 5–7 cm apart[53]	5b
		20. In complex cases, consultation with another stoma therapist or surgeon is recommended[51]	5b
		21. If radiotherapy is planned, the stoma site should be located outside the permanently marked radiation field. If the radiation field has not been permanently marked, potential stoma sites should be indicated with metallic markers before barium studies or computed tomography imaging[27]	5b
	Documentation	22. Detailed stoma site marking information should be recorded in the patient's health record[51]	5b

Discussion

Organizational Preparation

Organizational preparation is the foundation for effective preoperative management. In this evidence summary, organizational preparation encompasses the establishment of multidisciplinary teams, and competency-based training for healthcare professionals. Unlike patient-directed interventions, organizational preparation operates at the managerial and structural level to ensure that subsequent assessment, counselling, education, and stoma site marking are implemented consistently and effectively. Evidence statements 1–2 highlight the central role of multidisciplinary teams (MDTs) and the indispensable value of specialized training. This finding suggests that high-quality preoperative care for adults scheduled for intestinal stoma surgery requires coordinated involvement from surgeons, enterostomal therapy (ET) nurses/stoma therapists, ward nurses, dietitians, and mental health professionals. An MDT approach may help reduce fragmentation across departments and facilitate more integrated and effective patient-care strategies.[69] Establishing the stoma therapist as a core MDT member and ensuring ongoing competence through continuous professional development are prerequisites for maintaining the quality and fidelity of subsequent interventions.

However, the shortage of stoma therapists, heavy workloads, and limited time available for stoma care remain barriers to meeting patients' needs.[70,71] In China, specialist stoma nursing services are primarily concentrated in large hospitals, particularly tertiary hospitals, whereas coverage in primary care facilities and community health service centers is relatively limited.[72] A national survey conducted in 2024 across 417 hospitals in China reported that only 139 hospitals (33.3%) had established an MDT for stoma care management.[73] Collectively, these findings underscore the need for hospital administrators to optimize workforce allocation and strengthen team-based care structures. Although expanding the pipeline of qualified stoma therapists will require time and enhanced curriculum provision within nursing education, healthcare organizations should, in parallel, actively promote interdisciplinary collaboration and accelerate the development of MDT-based stoma management models.

Comprehensive Assessment

Comprehensive assessment enhances patient readiness. Evidence statements 3–6 indicate that, beyond routine physiological assessment, healthcare professionals should comprehensively consider patients' linguistic and cultural backgrounds, psychosocial status, and health literacy. At least one multidisciplinary consultation is recommended during the preoperative period to develop an individualized management plan. Such comprehensive and personalized assessment forms

the foundation of precision nursing, facilitates the establishment of a therapeutic nurse–patient relationship, and improves patient engagement and adherence to care plans.[10]

In particular, Evidence Statements 5 and 6 emphasize psychological support and weight management, respectively, by shifting the timing of interventions to the preoperative phase. This proactive approach aims to prevent common postoperative psychological disorders, such as anxiety and depression, as well as physical complications, including parastomal hernia.[8,31,33,48,49,53] Although many stoma-related complications can be addressed through timely and comprehensive postoperative interventions, preoperative planning remains irreplaceable.[74] Psychosocial support should therefore be integrated throughout the entire preoperative management process. In this context, psychological support primarily refers to the identification and initial management of emotional distress through communication and systematic evaluation, forming part of the comprehensive assessment process rather than a structured educational intervention.

Given the substantial impact of stoma surgery on body image and social functioning, preoperative psychological interventions are particularly critical. Priority should be given to assessing and addressing anxiety and depressive symptoms, as well as patients' perceptions of sexuality and body image. Patients should be encouraged to express their feelings, with healthcare professionals providing attentive and empathetic listening.[31,53] Family involvement should also be encouraged during the educational process to provide both emotional and practical support, thereby fostering a positive patient–family–healthcare support system. Early engagement of family members and healthcare professionals may help promote optimal coping from the earliest stages of care.[10]

Weight management is recommended as part of preoperative care across a range of surgical conditions.[75–77] However, for patients undergoing intestinal stoma surgery, the interval between hospital admission and surgery is often short, which may limit the feasibility of in-hospital weight management interventions.[78] In many Asian countries, including China, primary healthcare systems remain underdeveloped, and the role of stoma therapists is largely confined to inpatient settings.[79] Mackenzie et al,[80] in the context of obesity management before gynecological surgery, highlighted the role of preoperative assessment clinics, recommending that all patients with obesity attend such clinics prior to surgery for comprehensive history taking, clinical examination, and body mass index (BMI). Drawing on this model, the focus of weight management for patients awaiting stoma surgery could be shifted from the inpatient period to the outpatient waiting phase, through close collaboration with community healthcare institutions and the use of digital platforms to enable remote preoperative weight management.

Counselling and Education

Counselling and education as the critical link between assessment and action. Evidence statements 7–9 clearly define the universality, diversity, and core content of preoperative education. Educational interventions should encompass fundamental knowledge of stoma surgery, self-care skills, lifestyle adjustments, and recognition of potential complications, and should be delivered using multiple formats, such as written materials, videos, and anatomical models. Previous studies have demonstrated that preoperative education can shorten hospital length of stay and improve patients' stoma self-care abilities.[55]

Notably, a substantial body of high-quality clinical guidelines and systematic reviews strongly recommend preoperative education, indicating broad consensus regarding its importance. However, translating this evidence into routine practice remains challenged by the gap between knowledge and behaviors. Patients preparing for stoma surgery are often confronted with a large volume of complex information that may be difficult to comprehend.[81] Key issues for clinical practice include how to translate professional concepts, such as intestinal anatomy and physiology, into information that is accessible and meaningful to patients; how to leverage digital tools (eg., mobile applications and educational videos) to enhance educational efficiency and alleviate nursing workload; and how to evaluate educational effectiveness beyond task completion, ensuring that patients truly understand and can apply the information provided.

The use of multilingual educational resources, as highlighted in Evidence Statement 8, is particularly relevant in the context of increasing globalization and cultural diversity. In addition, healthcare professionals should exercise precision and caution in their wording during counselling and education. For example, as up to one-third of temporary stomas are ultimately not reversed, it is advisable to adopt the term "planned temporary stoma" when counselling patients, in order to provide accurate expectations and support informed decision-making.[2]

Stoma Site Marking

Stoma site marking as a key component of preoperative management. Stoma site marking constituted the most extensively addressed and most detailed theme in this evidence summary (Evidence Statements 10–22), underscoring its central importance in preoperative management. Compared with intraoperative stoma site selection, preoperative marking is not constrained by factors such as anesthesia, patient positioning, or time pressure, thereby maximizing the likelihood of achieving an optimal stoma location. A substantial body of evidence has demonstrated that preoperative stoma site marking can effectively reduce overall self-care deficits, significantly decrease the incidence of stoma-related complications, and directly improve patients' quality of life.[40]

Despite this strong evidence base, preoperative stoma site marking has not been universally implemented in clinical practice. Barriers include shortages of qualified stoma therapists, insufficient awareness of the importance of stoma site marking, and skepticism among some surgeons regarding the role of stoma care teams.[11,70] To facilitate the implementation of preoperative stoma site marking, priority should be given to strengthening the training and expansion of the stoma therapist workforce to address current staffing shortages. Building on this foundation, it is essential to enhance consensus among surgeons and stoma care teams regarding the clinical value of preoperative site marking, while concurrently reinforcing technical training and competency assessment for nursing staff. Specialist nurses should take a leading role in mentoring ward nurses, thereby improving overall professional competence and systematically promoting the standardized practice of preoperative stoma site marking.

The included evidence provides detailed guidance on the personnel responsible for stoma site marking, procedural steps, criteria for site selection, and management of special circumstances, collectively forming a standardized operational framework. In particular, Evidence Statement 13 (assessment in multiple positions) and Evidence Statement 16 (site marking in patients with obesity) are critical for preventing positioning errors related to postural changes or atypical abdominal contours. Regarding documentation, although hospital information systems are now integral to routine clinical management, stoma-specific information systems remain underdeveloped.[82] This limitation may hinder the delivery of subsequent health education and impede continuity of care across the patient journey.

It is also noteworthy that most evidence within this theme was graded at Level 5b, primarily derived from expert consensus statements and position papers. This highlights the need for future high-quality primary studies, such as randomized controlled trials, to further validate and strengthen the recommendations related to preoperative stoma site marking.

In summary, we recommend that healthcare institutions establish or strengthen multidisciplinary teams centered on stoma therapists, develop structured preoperative assessment tools and standardized education checklists, and unify and standardize procedures for stoma site marking. These measures will help ensure that all patients benefit from care grounded in the best available evidence, thereby facilitating the translation of evidence into routine clinical practice.

Limitations

This study has several limitations. First, to ensure the authority and accessibility of the evidence, only publications in Chinese and English were included, which may have resulted in the omission of high-quality evidence published in other languages. Second, during evidence synthesis, high-level evidence was relatively scarce for certain topics (eg., procedures and site-selection criteria for stoma site marking), and recommendations in these areas relied more heavily on expert opinion. Future multicenter studies with large samples are needed to provide more robust empirical data and further strengthen the evidence base. Finally, some themes lacked sufficiently detailed operational guidance—for example, how to implement effective preoperative weight management—highlighting the need for further exploration and refinement.

Conclusion

This evidence summary systematically synthesized the best available evidence on preoperative management for patients undergoing intestinal stoma surgery. An evidence set comprising 22 recommendations across four domains was developed, providing an evidence-based foundation for designing preoperative management protocols in clinical practice. Healthcare professionals are encouraged to select and apply recommendations in a targeted manner according to

individual patient characteristics, thereby standardizing preoperative interventions, improving patients' preparedness for surgery, and ultimately enhancing postoperative recovery and long-term quality of life. Future research is needed to update the existing evidence, evaluate the feasibility and effectiveness of these recommendations in clinical practice, and provide stronger primary evidence for domains that currently rely largely on expert opinion.

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