

## Medical Colostomy: A New Resource

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### ABSTRACT

**Introduction:** colostomy comes from the Latin and Greek root: colum which means part of the large intestine as well stomatos "mouth or orifice". **Objective:** To describe the patients' experience of the use of medical colostomy with the respective indications for emergencies and scheduled surgical interventions.

**Method:** retrospective, longitudinal, observational and descriptive multicenter study regarding the use of medical colostomy in patients with well-established indications for urgent/scheduled surgeries. **Results:** of 176 patients with 85 (48.29%) men and 91 women (51.70%), with an average age of 34, bimodal value of 20 and 44 years, the medical colostomy methodology was applied in scheduled surgery 87% and the rest in emergency. **Discussion:** in the first 3 months after ostomy creation, the diameter and height of the ostomy typically decrease, and changes in body weight or other modifications regarding the shape of the ostomy can alter the peristomal area, resulting in deep folds and wrinkles, bulging, and inward/outward body profiles. **Conclusions:** the medical colostomy, with its well-described indications, becomes a new watershed as an option in terms of being an innovative, effective, economical, safe and even preferential therapeutic resource; minimizing morbidity and mortality, with a better prognosis for the patient.

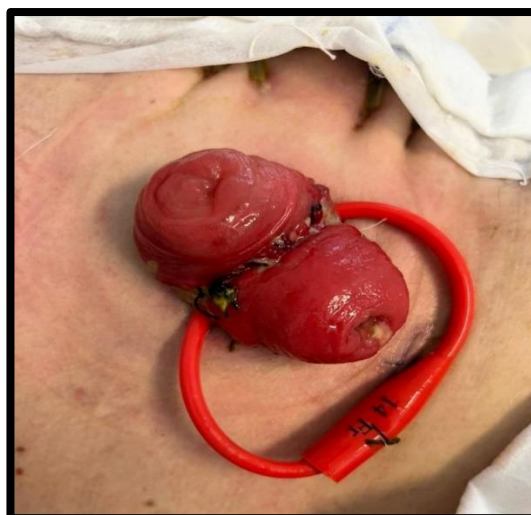
**Keywords:** Colostomy, Ostomy, Ileostomy, Large intestine, Surgery, Medical colostomy.

## INTRODUCTION

The word colostomy comes from the Latin and Greek roots: colum which means part of the large intestine as well as stomatos which means "mouth or orifice". It is defined as the outward opening of the large intestine surgically with the intention of partially or totally diverting intestinal transit. [1]

The history of colostomy as a surgical technique that has been performed in multiple ways, which was perhaps one of the first surgeries performed on the bowel, the technique exposed in this manuscript is different. The first report was in 350 BC by Praxágoras of Kos in ancient times, who performed the first colostomy with percutaneous puncture through a hot iron. [2] After this, no reference is documented until the sixteenth century where Paracelsus describes the benefit of "artificial years". In 1793 Duret performed the first left inguinal colostomy. [3] In 1797 Fine performed the first transverse colostomy. [4] However, without specific standards, Callisen published in 1839 the technique of opening the sigmoid colon in the left lumbar region and later Amussat continued this legacy in more than 250 patients giving this technique its name. [5] It was not until the beginning of the twentieth century in 1908 that Ernests Miles, Witzel, Madel among others, performed the colostomy through the abdominal wall that is done today. [6, 7]

Colostomies are performed for therapeutic purposes, it is the most widely used surgical procedure in digestive surgery, which demands a refined technique in its performance, emergency or elective. Its indication is reserved when there is no other therapeutic option, or it is the tool to resolve in a relatively simple way clinical situations that placed the lives of patients at serious risk. [8] For example, in rectal cancer, performing a colonic-anal anastomosis in two stages without requiring a protective ileostomy minimizes stoma-associated morbidity. [9] See figure 1.



**Figure 1: Lateral "protective" ileostomy in handle with stake**

The tendency is to avoid performing a colostomy or ileostomy, managing to skip a second surgical time (another surgery) and its respective morbidity. However, there are situations of extreme pathologies that do not allow it. [10] On the other hand, the management of low-grade traumatic colon injuries (American Association for Trauma Surgery grades I and II) has been documented to have evolved. Recent data suggest that primary repair or resection rather than colostomy decreases morbidity and mortality. [11]

Colostomies are classified with the possibility of re-establishing colonic transit as transient or definitive and by their surgical construction they are determined in a terminal mouth or loop, in two terminal mouths together, in two separate terminal mouths, in a mouth that is ileostomy or the combination of ileostomy with colostomy. [8, 12] The goal of creating a colostomy/ileostomy is to decompress and disfunction by completely excluding the colonic and/or rectal segment distal from intestinal transit.

Protective colostomy after reconstructive plastic surgery in people with spinal cord injury and neurological bowel disease, are patients who present with pressure injuries are some serious complications. [13] Strangely, protective colostomy can prevent local complications after surgery, reducing long-term hospitalization and health care costs. It can also improve people's quality of life to some extent. [14] There are rare cases of colonic intussusception that simulates strangulated rectal prolapse in a woman with a prolapsed sigmoid colon, resulting in total mesorectal excision and terminal colostomy due to poor sphincter tone. Allowing the ingestion of defecation and subsequent reconstruction. [15]

The most frequent sites of colostomies are in the left lower quadrant and in the epigastrium-mesogastrum called Wangenstein's transversestomy, its main indication is acute obstruction of the left colon and secondly the protection of anastomosis in low or ultra-low anterior resections, closure with sutures made in trauma in distal portions, as well as, less frequently for prevention of infections, sphincteric repairs, complicated fistulas, inflammatory or infectious processes of the perineum. [8, 16, 17] However, there are factors that can deciding the use or abuse of the colostomy or ileostomy, and it is the so-called medical colostomy, which some colorectal surgeons have used with excellent results. With the combination of diet, opioid

and alkaloids. These are in the last five indications prevention of infections, sphincteric repair, complicated fistula, inflammatory or infectious process of the perineum; the anatomical colostomy/ileostomy with a normal degree of continence of the patient is not considered necessary. [18, 19]

There are two ways to perform the approach to the abdominal wall of the colon, the so-called colostomy/ileostomy, terminal and lateral or loop colostomy. Each one has its indications, its limitations and/or advantages. [8, 20] And despite a high technology/or resources with complicated diverticular disease fistulizing; with colovesical and colovaginal fistulas: not so complex from the robotic point of view, terminal colostomies are performed in 14 patients of and in 8 cases of 58 patients in total. [21]

### OBJECTIVE

To describe the experience of patients using medical colostomy in the hospitals of the Ministry of Health and the Mexican Institute of Social Security in Mexico City, with the respective indications for emergency and scheduled surgical interventions.

### METHOD

This is a multicenter study with a retrospective, longitudinal, observational and descriptive design of the Surgery and Coloproctology Service: referring to the use of medical colostomy in patients with well-established indications for emergencies and scheduled surgical interventions; with legally required informed consent. The research is carried out in four tertiary health care hospitals in Mexico City:

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2. High Specialty Medical Unit "La Raza" Hospital National Medical Center. Infectious Diseases Hospital. "Dr. Daniel Méndez Hernández" of the Mexican Institute of Social Security. Mexico City. Country: Mexico. 3rd Level.
3. Hospital High Specialty Medical Unit National Medical Center for Infectious Diseases. "Dr. Daniel Méndez Hernández" of the Mexican Institute of Social Security. Mexico City. Country: Mexico. 3rd Level.
4. Metropolitan Hospital of Mexico City. Grupo Ángeles. Mexico City. Country: Mexico. 3rd level.

In a study period that spanned from January 2015 to January 2024. The following were analyzed: age, sex, associated factors/comorbidities, etiological surgical diagnosis, days without evacuation, continence; effectiveness and failures, follow-up, morbidity and mortality.

### MEDICAL COLOSTOMY METHODOLOGY (MCM)

**Enclosed and Created by Dr. Morelos Adolfo García Sánchez.**

Detailed description of the medical colostomy:

1. Prior colon/rectal preparation in the scheduled surgery
2. Total fasting for 3 to 5 days with intravenous fluid support/caloric intake therapy, after surgery.
3. With intravenous support, initiation of liquid diet 3 to 5 days after surgery plus caloric intake with dairy and/or residue-free diet/or the use of special parenteral nutrition from day 10 of surgery.

4. Use of loperamide from day 5 after surgery, tablets 2 mg, 6 to 8 mg daily depending on weight/constitution for 7 to 15 days.
5. Use of butylhioscin from day 5 after surgery, tablets 10 mg, 30 to 40 mg per day depending on weight/constitution for 7 to 15 days.

#### Remarks:

- With the strategic combination of all the above, a total absence of evacuation of 12 to 20 days is achieved without sequelae or complications.
- With the use of special parenteral nutrition from day 10 after surgery and with only oral fluids, up to 30 days of absence of evacuation is achieved.
- In-hospital surveillance by treating physician.
- Continuous evaluation of the healing process or success of the surgery performed.
- To make the patient and paramedical staff aware of the purpose of MCM

#### Limiting:

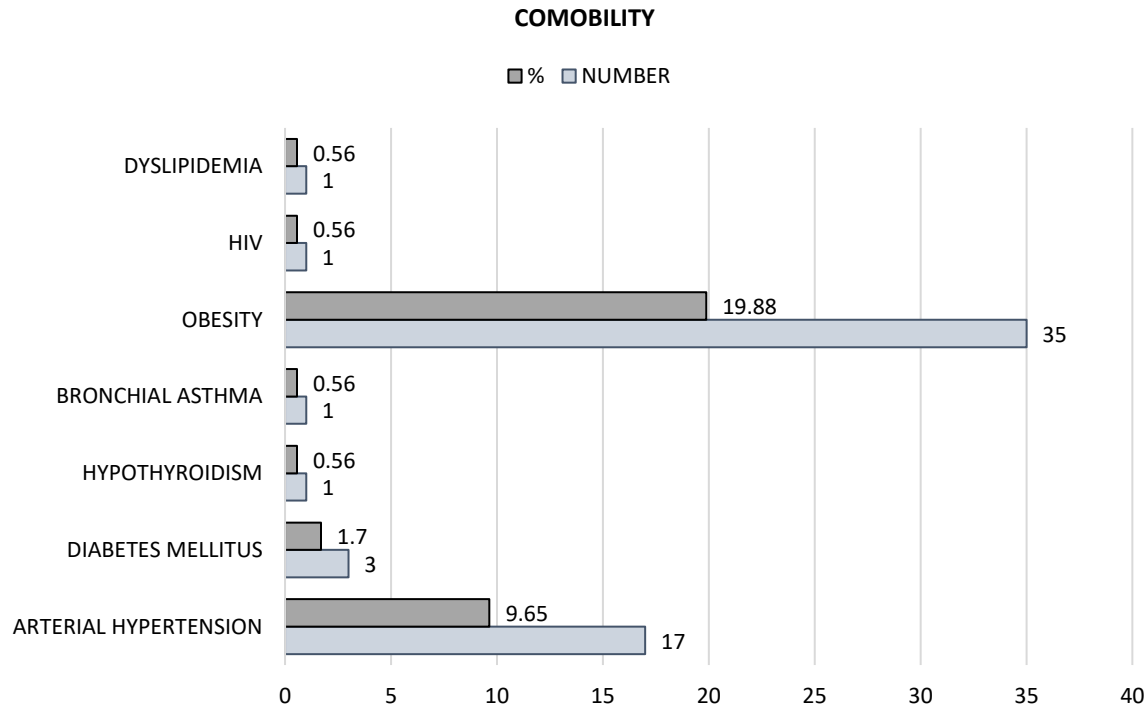
- Risk of mild acute malnutrition
- Risk of symptomatic intestinal subocclusion.
- Risk of evacuation and failure of the purpose of surgery
- MCM is not used to improve the patient's nutritional conditions, much less for a second elective reoperation
- MCM should be indicated only in specific cases.

### RESULTS

There was a total of 176 patients, of which 85 patients (48.29%) were men and 91 women (51.70%), with an average age of 34 years with a bimodal value of 20 and 44 years. The following comorbidities were detected: firstly, overweight in 35 patients, representing 19.88%, secondly, arterial hypertension in 17 cases and 9.65%, and thirdly, type 2 diabetes mellitus, in 2 individuals and type 1 in another, representing 1.70%, other comorbidities detected were in 4 cases, which are 2.27%. See table 1.

**Table 1: Factors and/or Comorbidities in Surgical Patients with MCM Multicenter Study from 2015 To 2024**

Comobility	Number	%
Arterial Hypertension	17	09.65
Diabetes Mellitus	3	01.70
Hypothyroidism	1	0.56
Bronchial Asthma	1	0.56
Obesity	35	19.88
HIV	1	0.56
Dyslipidemia	1	0.56
Total	59	33.52



59 comorbidities were detected, representing 33.52% of the group under study of 176 patients. Some may present 2 to 3 different types in patients. Older age, malnutrition, and diseases such as heart disease, lung disease, or uncontrolled immunosuppression were not candidates and were excluded from MCM.

Regarding the etiological surgical diagnosis where MCM was used, it was mostly in scheduled surgery, reaching 87% in a total of 153 patients and in 23 it was carried out in emergency surgical pathology. See table 2.

**Table 2: Characteristics of The Etiological Surgical Diagnosis in Patients with The Use of MCM Multicenter Study from 2015 To 2024**

Diagnosis	Type of Surgery	Days Without Evacuation	Morbidity	Evolution	2nd Action
Thrombose Hemorrhoids	No	8 - 10	Chronic Anemia	Satisfactory	Hemorrhoidectomy
Fistula Recto - Vaginal	Elective	10 - 16	Malnutrition	Cicatrization	Vaginal Reconstruction
Fournier's Disease	Urgent	10 - 15	Acute Renal Failure	Satisfactory	Testicular Reconstruction Sediluvia
Sacra Ulcer Iv	Urgent	7 - 10	Anemia/Malnutrition	Repeated Reoperation	Use of Special Dressings
Anal Trauma Complex Anal Fistula	Elective Elective	9 -12 5 - 8	Fecal Incontinence Acute Urine Retention	Adequate Satisfactory	Reconstruction of Sphincters Chronic Antibiotherapy

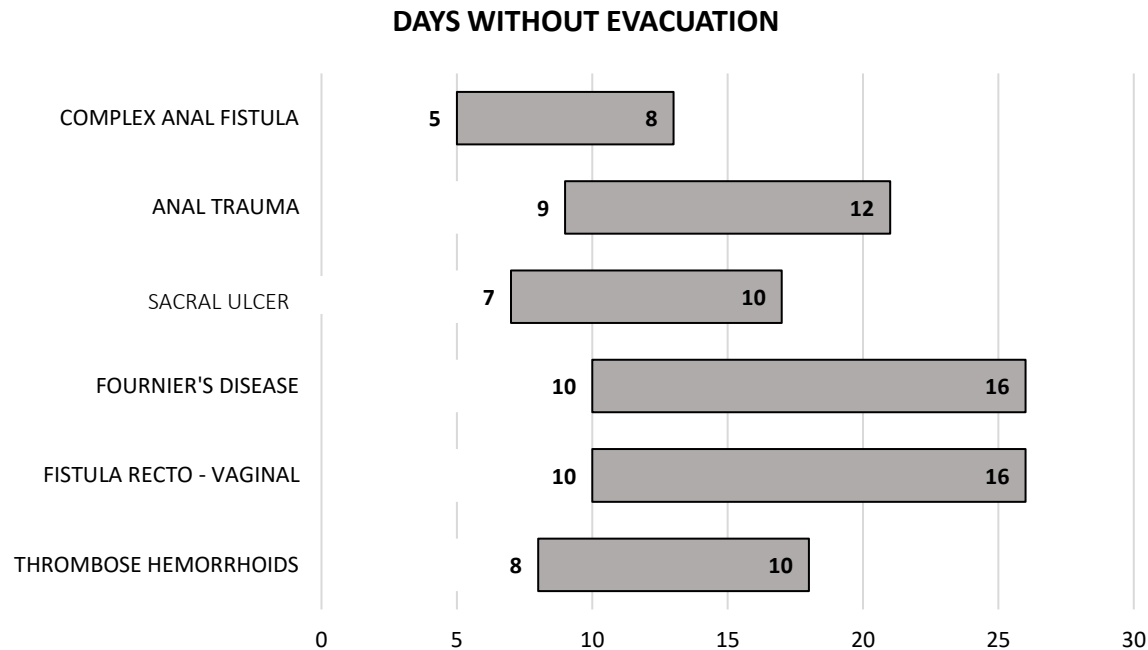
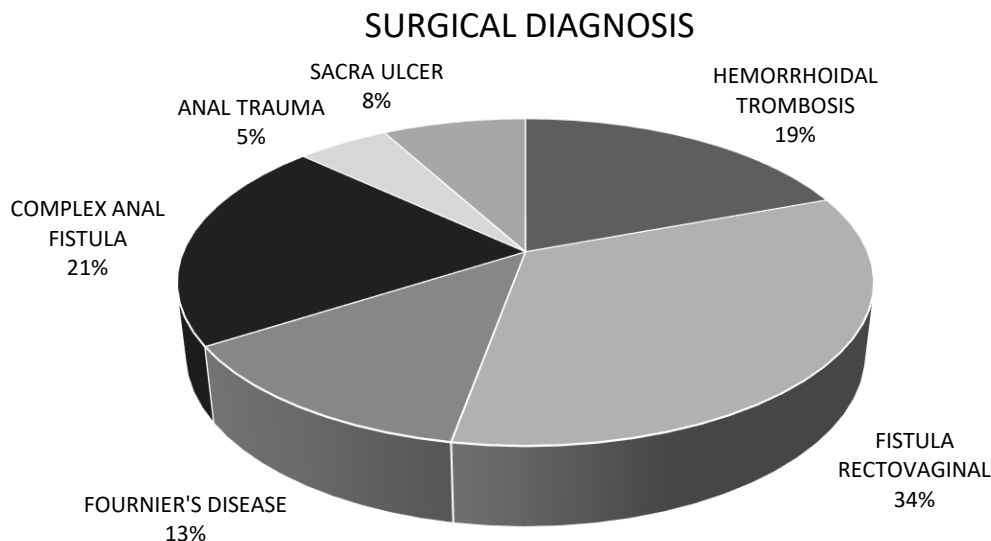


Table 2 is the main etiological diagnoses, where complex anal fistula, rectum-vaginal fistula, and hemorrhoidal disease are the most frequent elective pathologies with minimal morbidity and very satisfactory cure goals. Unlike emergency surgery, what dominates is the disease due to Fournier's syndrome and sacral ulcer. Anal trauma with sphincter destruction and/or active bleeding was the least documented, partial or full thickness rectal lesions/perforations were excluded. The average number of days was 11 without evacuation, with ranges from 7 to 16. A complete cure is achieved in all patients without impacting sequelae, resolving the underlying problem. Primary surgeries such as elective hemorrhoidectomies and sphincter reconstruction were performed with the basic principle of disbursing for the benefit of the patient. The frequency in number and percentage of the etiological diagnosis where MCM was used is specified below. See table 3.

**Table 3: Etiological surgical diagnosis in patients expressed in number and percentage, using MCM multicenter study from 2015 to 2024**

Surgical Diagnosis	Number	%
Hemorrhoidal Trombosis	34	19.31
Fistula Rectovaginal	59	33.52
Fournier's Disease	23	13.06
Complex Anal Fistula	37	21.02
Anal Trauma	9	05.11
Sacra Ulcer	14	07.95
Total	176	100



Regarding the most frequent etiological diagnosis is rectovaginal fistula in 33.52%, it should be noted that all fistulas were classified with a Daniel I, II and sometimes even III. Complex vaginal cloaca or recto-fistulas, if the colostomy was performed in the loop of the sigmoid colon. The second most frequent pathology is complex anal fistula where conservative surgery is performed or, failing that, wide resections with chronic management with antibiotic therapy and deluges are performed, as was performed in three patients with hidradenitis suppurativa. Thrombosed hemorrhoidal disease is the third most frequent diagnosis, where the treatment guide is conservative management at the beginning, avoiding thrombectomy or emergency surgery (since it is not an emergency), and hemorrhoidal resection is planned electively, with satisfactory results. Finally, it is clarified that MCM is not used for distal sigmoid colon or rectal trauma, due to the fact that the rectum handles a pressure that is too great, with values greater than 221 mm Hg and because it lacks parietal and visceral peritoneum, the only option is a colostomy in a derivative loop, contrary to distal lesions such as in the anus and in the first 3 centimeters of the anal canal. Where the main objective is to reduce pressure, not so much fecal matter, and a loop colostomy meets the objective and avoids shunt proctitis, a disease acquired in terminal colostomies/ileostomies with distal closure or Hartmann surgery. Likewise, this reasoning is applied in patients who have giant recto-vaginal fistulas or rectovaginal cloacae, where the reduction of pressure is essential.

Continence was assessed with the Jorge/Wexner scale. See table 4.

**Table 4: Wexner scale**

Variable	Never	<1 once a month	>1 time a month <1 time a week	>1 time a week < 1 time a day	>1 time a day
Solid stool incontinence	0	1	2	3	4
Liquid stool incontinence	0	1	2	3	4
Incontinence to gas	0	1	2	3	4
Diaper use	0	1	2	3	4
Disruption of social life	0	1	2	3	4



Patients with moderate incontinence exclusively, those with mild or severe incontinence were excluded if they are involved in MCM due to the fact that they have normal or complete control of the sphincteric complex, and those with severe or completely incontinent incontinence have a much higher response to the use of drugs, due to greater tolerance both for rest, abdominal distension (in paraplegia or quadriplegia) that allows better medical control contrary to what is established. It is decisive to make the patient aware of the fact of not having a bowel movement and/or their cooperation must be extremely convincing.

In the cases where MCM is applied, the result was completely as expected, no failure was reported in terms of surgical therapy, allowing a high quality of life and without submission to a new reoperation or risk in the closure of the stoma either ileostomy/colostomy.

Follow-up was carried out according to the pathology treated at one week of discharge, one month, three months and up to 6 months. Morbidity only occurred with 4 cases with urinary tract infection, two patients with pneumonia associated with health care, and 5 patients with acute urinary retention, with a total of 11 individuals representing 06.43%, who were given specific treatment with an adequate response to therapy. No mortality was reported.

## DISCUSSION

You should know the differences, limitations, advantages and surgical indications of each stoma of the digestive tract:

1. Esophagostoma
2. Gastrostomy
3. Jejunostomy
4. Ileostomy
5. Cecostomy
6. Colostomy

In addition, it is imperative to know the various or variants of the techniques in their creation, the way to use them, the care, the management of local and/or systemic complications, which therefore their rehabilitation, remission or withdrawal. [22, 23]

In this manuscript the priority is to delve into the colostomies, with the only substitution with the MCM in its precise indications, that at the end of the day the main objective is the total absence of evacuation, but it is not possible to reduce the pressure, this is a frank limitation, therefore its name of medical colostomy, which in the national and international medical literature is not mentioned, with the exception of what was published by the authors in previous years and already establishing its formality in this manuscript. [18, 19]

In regards to injuries including shrapnel wounds affecting the penile urethra, bladder, rectum, anal canal, and upper and lower extremities, as well as multiple pelvic fractures. In the initial surgery, a lateral colostomy was performed for rectal lesion with a satisfactory evolution and subsequent reconnection. [24] In surgery for trauma to the colon or rectum, the case should be evaluated individually and unnecessary colostomy (overtreatment) or non-colostomy (non-optimal treatment) should be avoided with the discretion; therefore, it should be evaluated with the surgeon's expertise in each patient: [25]

1. Shock Statu

2. Etiology of shock
3. Degree or level of local abdominal infection.
4. Vascularity and integrity of aggrieved intestinal tissues [26]
5. Affected anatomical site of the colon or rectum.

Generalizing or trying to regulate a behavior equally to all individuals, such as clinical practice guidelines; the generalized error in the praxis of medicine in 2025, and which is endorsed/accredited by only "medical empiricism". [27]

In neoplasms of the colon, rectum or anal region, the lateral or loop or terminal colostomy becomes a very effective and frequent resource, which allows a certain quality of life, with adequate caloric intake and/or as rescue for intestinal obstruction in an emergency surgery. [28, 29] In one anal melanoma neoplasm, he underwent a laparoscopic sigmoid colostomy and wide local excision, followed by reconstructive procedures involving multidisciplinary surgical teams. [30] In special and extremely rare situations such as total colonic duplication, the use of temporary colostomy/ileostomy becomes useful in the management of the pediatric patient in question. [31] Aftercare in cancer patients with whom a temporary colostomy was created based on the experiences of cancer patients with a temporary stoma who participated in a home health care service, with adaptation to changes in daily life due to the presence of a stoma, the development of skills during participation, the need for a home health care system during the transition to health care, and the need for support in adapting to an ostomy. [32] Social isolation represents a crucial risk factor for depression in patients with colorectal cancer following colostomy. [33] With the above, there are local conditions where peristomal skin complications affect a significant proportion of people with stomas, with peristomal dermatitis being the most common. [34] See figure 2.



**Figure 2: Retraction, colostomy stenosis with peristomal dermatitis**

Instead of a colostomy, a continuous transanal drainage system was used for bowel decompression. Both patients underwent laparoscopic anorectoplasty in a single time and perineal urogenital mobilization without major complications such as enterocolitis or urinary

tract infections; the conventional approach to persistent cloaca usually requires three laparotomies: colostomy, definitive repair, and colostomy closure, in selected cases, a single-stage surgical approach without a temporary colostomy may offer an alternative. [35]

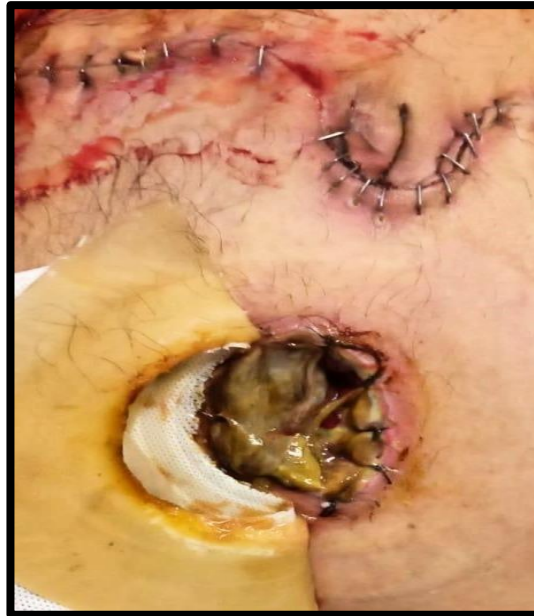
With a single-time incision and drainage for a rectal abscess, followed by a sigmoid colostomy and a two-stage reversal of the sigmoid colostomy, all procedures are performed through multidisciplinary collaboration. [36] In this situation, MCM would be applied, avoiding such exponential morbidity. And digital devices have even been created for people with stomas that report a considerable negative impact on their professional and social lives due to the leakage of stomach effluents outside the ostomy base plate, which generates great concern, which already has a solution on the horizon. [37] Stoma complications, such as leakage and anastomotic infections, along with high-output stoma, delayed recovery and highlighted the need for specific clinical interventions. Nurses should regularly assess bowel function and promptly address stoma complications to optimize recovery, prioritizing personalized approaches. [38] Patients undergoing colostomy often experience difficulties such as primary stressors (symptoms related to the stoma and colostomy bag, affecting patients physically, psychologically, and socially) and secondary stressors (lack of social life, lack of patient autonomy, and changes in religious practices), which in order to meet their self-care needs, these difficulties can be resolved through personal coping strategies and family support. [39] One of the most common complications is peristomal hernia, the ostomy technique with continuous circular suture and fascia block is safe and feasible, evidencing possible efficacy in preventing peristomal hernias after colostomy. [40, 41] Not credible, patients with stomas who repeatedly attempt to restore intestinal transit due to chronic anastomotic colorectal and coloanal leakage are associated with an increased likelihood of a permanent stoma. [42] See figure 3.



**Figure 3: Repeat stoma from failed attempt to re-establish intestinal transit**

In the first 3 months after ostomy creation, the diameter and height of the ostomy typically decrease, and changes in body weight or other modifications regarding the shape of the ostomy can alter the peristome area, resulting in deep folds and wrinkles, bulging, and inward/outward body profiles. [43, 44]

The colostomy presents complications a posteriori such as peristome hernias that are the ones that are most documented by the surgical reintervention that is necessarily done and are obviously registered is therefore their highest incidence, not for that reason they are the most "frequent", however, there are too many more conditions not well tabulated such as the retraction of the stoma, (see Figure 4) stenosis of the lumen of the intestine, intestinal prolapse by the stoma, ischemia and necrosis, (see Figure 5) not to mention corrosion dermatitis and secondary infection. [45, 46]



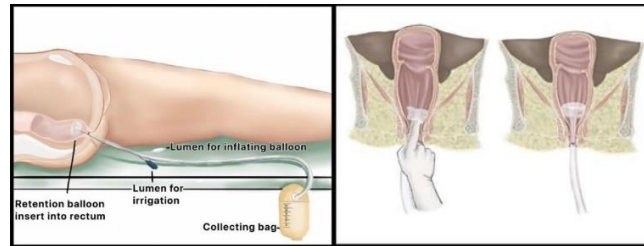
**Figure 4: Colostomy retraction 72 hours after surgery**



**Figure 5: Colostomies prolapse with intestinal ischemia**

Although the colostomy is considered the last resort in certain pathologies such as fecal incontinence, in other diseases however, it is the first resort. The authors of this article can include this type of patients who have total fecal incontinence to consider the use of MCM, in a periodic, organized and well-planned/projected manner, as a possible solution. [47, 48] On the other hand, anal sphincter injuries, which often accompany perineal trauma, are closely associated with pelvic fractures. If not recognized and treated, these lesions can lead to sepsis

and permanent fecal incontinence. Early diagnosis and immediate intervention are crucial to prevent long-term morbidity and the use of a colostomy. [49] The fecal management system (Flexi-Seal) is a safe and effective way to replace the colostomy for fecal diversion. This device is a system consisting of a soft silicone catheter with a retention balloon that is inserted into the rectum, a syringe for rectal irrigation, and a collection bag. [50] Figure 6.



**Figure 6: A. Illustration of the Flexi-Seal fecal management system. B. Implementation of the Flexi-Seal fecal management system. Image taken from reference Yu Y.S., Weng Y.T., Wu C.W., Tzeng Y.S. Successful Perianal Wound Treatment Using the Fecal Management System: A Report of 2 Cases. *Ann Plast Surg*. 2025; 94(3S Suppl 1): S87-S89. [50]**

Incisional hernia at the stoma site is a common complication after ostomy reversal, with a variable incidence reported up to 50% in the literature, in this published study of the total incidence of hernia, including patients who had a peristomal hernia before ostomy reversal, and of incisional hernia after reversal, or both, it was 38.8%. [51] Complete spinal cord injury in patients is associated with severe dysmotility of the colon and may therefore be associated with an increased risk of leakage after primary repair or anastomosis due to colon injury. Patients treated with colostomy were more likely to develop severe postoperative sepsis. [52] Sigmoid perforation by migration of a biliary stent is rare, management is a colostomy, however, it is not performed, and primary closure is performed with adequate evolution, where the personalized treatment strategy is vital to prevent a serious outcome and improve prognosis, demonstrating that individualized treatment can minimize morbidity associated with invasive and morbid surgical procedures. [53]

## CONCLUSIONS

Performing an ileostomy/colostomy should be a well-scrutinized decision, and it will depend on the experience of the surgeon and the characteristics of each patient, evaluating at that time in case of emergency surgery or projecting a complete protocol of the disease that the patient suffers in an elective surgical intervention.

It is necessary to review/practice/ensure the surgical technique in bowel anastomoses and stop performing "preventive" stomas in elective surgeries; this only shows a lack of confidence and/or expertise on the part of the surgeon, and on the other hand, they greatly affect the patient to carry them out.

The medical colostomy, with its well-described indications, becomes a new watershed as an option in terms of being an innovative, effective, economical, safe and even preferential therapeutic resource, minimizing morbidity and mortality, with better prognosis for the patient.



## Conflict of Interest

The authors stated that they had no potential conflicts of interest regarding the research, authorship, and/or publication of this article.

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