



Stoma Related Complications

A simple procedure can turn into a nightmare.

By

Asmaa El Sayed El Gendy

Lecturer of General and Colorectal surgery

Faculty of medicine

Cairo university

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Introduction

- Intestinal stoma can be created using either the small or the large bowel.
- More than 75% of all stoma are placed as part of the treatment of colorectal cancer.
- The incidence of stoma-related complications is reported to be 10–70%.
- Skin irritation, erosion, and ulceration are the most common early complications, with a combined incidence of 25–35%,



- While stoma prolapse is the most common late complication, with an incidence of 8–75%.
- Most early complications can be managed conservatively,
- while most late complications require surgical revision.
- Both surgical and patient-related factors influence late complications.
- Identifying preoperative predictors of postoperative complications is of outmost importance.



Was the complication inevitable, or was
it created by our decision- making?

Is the stoma functioning, is it salvageable, and if not, when should we intervene ?

- The goal of stoma creation is to improve patients' quality of life and minimize surgical complications.
- However, inappropriate preoperative management and postoperative complications can result in diminished quality of life, social isolation, and increased medical interventions and costs.



Preoperative Considerations

- preoperative preparation is essential and can profoundly impact the patient.
- Preoperative stoma site marking and patient education:
 1. improves stoma-related clinical outcomes
 2. improves patient quality of life and experience
 3. decreasing healthcare resource utilization.



Preoperative Considerations

Although many medical centers provide robust complimentary ancillary resources to assist the ostomate and surgeon, the surgeon is ultimately responsible for perioperative care and should be competent in preoperative stoma preparation.



Preoperative Stoma Education

- The mainstay of stoma education traditionally occurs in the postoperative period;
- however evidence suggests that preoperative educational programs may be equally important.
- Accordingly, societal care guidelines recommend patients receive preoperative stoma education by a specialty nurse, such as a wound and ostomy, and continence nurse before undergoing ostomy surgery
- Several factors may hinder postoperative stoma education.
- Pain, medications, and psychological stress in the early postoperative period



Postoperative Care for the Stoma

- Immediately after creation, the stoma will become edematous and swell to two to three times the original size.
- The stoma will typically shrink to normal size after approximately 4–6 weeks.
- The new stoma should be monitored daily and assessed for color, viability, and retraction and should remain pink, moist, and protrude well.
- If a stoma rod was used, the rod may be removed 3–5 days postoperatively or when centripetal tension decreases and the rod easily slides out.

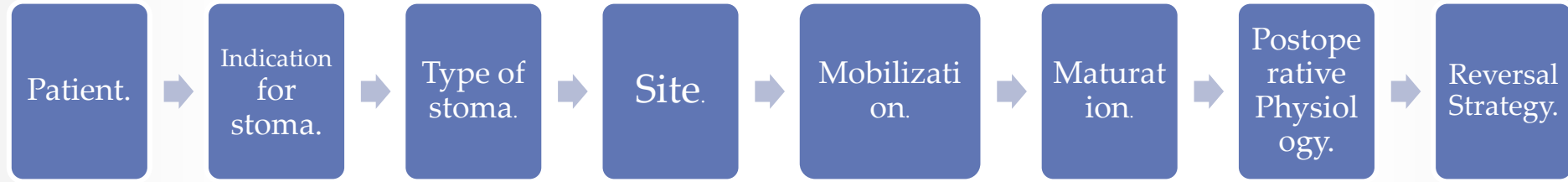


Postoperative Care for the Stoma

- The stoma rod can be left for longer periods of time for difficult or tenuous stomas.
- Both small bowel and colonic stomas do not typically function immediately.
- Stoma outputs initially resemble small volumes of serosanguinous or mildly bilious thin fluid without particulate matter, described as “bowel sweat.”
- Bowel function will recover with time and stoma outputs will increase.
- Colostomies tend to produce gas first, followed by liquid stool, and ultimately more solid waste as time proceeds



The Stoma is a surgical construct



Every step creates a potential failure point

Did we choose the Right Stoma?

Loop ileostomy vs Loop colostomy

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REVIEW



Meta-analysis: loop ileostomy versus colostomy to prevent complications of anterior resection for rectal cancer

Shilai Yang¹ · Gang Tang² · Yudi Zhang³ · Zhengqiang Wei¹ · Donglin Du¹

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Diversion is not a free operation

Stomal Ischemia

- Stomal Ischemia: Necrosis, Retraction, and Stenosis
- Poorly perfused stomas can necrose in the early postoperative period
- Arterial insufficiency is the most common cause of stoma necrosis;
- venous ischemia can rarely arise from fascial obstruction within the trephine.



Stomal Ischemia

- Stomal ischemia typically begins with mucosal pallor and progresses to petechiae, cyanosis, and purple-black mucosal necrosis.
- Mild stomal ischemia may cause limited, partial- thickness mucosal necrosis and slough; but deeper bowel wall layers may remain viable.
- Early venous congestion may look dramatic and still recover.



Stomal Ischemia

- Proper stoma creation techniques can help avoid ischemia-related stoma complications by assuring adequacy of bowel perfusion.
- Intraoperative assessments of mesenteric pulses, pulsatile bleeding from the cut edge of the mesentery, nuisance bleeding from the cut edge of the bowel wall, ICG fluorescence, and mucosal evaluation can mitigate risk of stoma ischemia and related complications.



Stomal Ischemia

- Management of early postoperative stoma ischemia varies between small bowel and colonic stomas.
- Any stoma with early evidence of subfascial ischemia (i.e., posterior to abdominal wall fascia) should be revised,
- since deep ischemia may progress to frank intraperitoneal necrosis and perforation.



Peristomal Skin Disorders

- Peristomal skin disorders are the most commonly occurring complication for ostomates.
- Although skin irritation can occur at any time during the course of the stoma, dermatologic conditions are most commonly seen in the early postoperative period as the ostomate learns proper stoma care techniques
- Up to 70% of new ostomates may have peristomal dermatitis, which is often unrecognized by the patient



Peristomal Skin Disorders

- Fortunately, most peristomal skin complications arising from a well-constructed and properly located stoma can be successfully managed with local wound care.
- Most peristomal skin irritation arises from poorly fitted or improperly sized appliances that expose vulnerable peristomal skin to potentially caustic stoma effluent



Peristomal Skin Disorders

- protect skin integrity at the pouch-skin interface.
- Weeping superficial peristomal skin excoriation can be treated with a thin layer of topical stoma powder.
- Peristomal contour issues such as peristomal indentations, skin folds, and mucocutaneous separation may be filled with stoma paste
- or a preformed barrier ring to “caulk” under-the-flange leakage.



Peristomal Abscess

- Rarely, an ostomate may develop a peristomal abscess.
- Peristomal tenderness, swelling, and erythema may indicate a subcutaneous collection
- Peristomal abscesses are typically seen in the early postoperative period resulting from intraoperative contamination
- Initial management of a peristomal abscess includes drainage via image-guided or standard operative techniques.



High Output Small Bowel Stomas

- Normal ileostomy outputs are typically between 800 and 1200 mL/day.
- outputs exceeding 1200–2000 mL per day are considered to be high.
- High stoma outputs can cause severe fluid, electrolyte, and nutritional deficiencies and are typically seen with small bowel stomas and rarely proximal colostomies
- High output stomas can be transiently seen in the new ostomate as ileus resolves,
- Approximately half of postoperative high output stomas will resolve spontaneously within 2 weeks



High Output Small Bowel Stomas

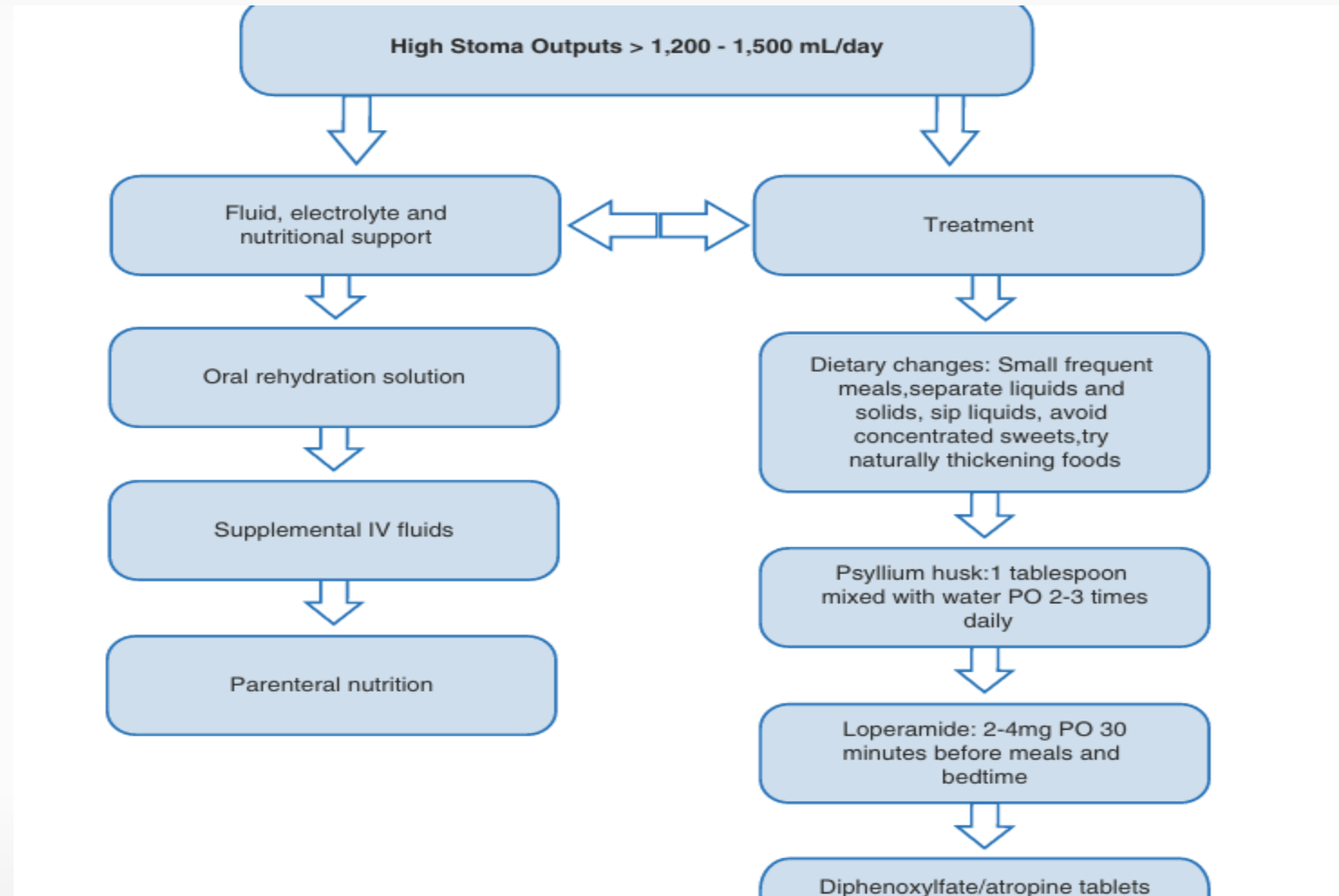
- With time and resumption of a normal diet, stoma outputs typically plateau to a level proportional to the length of remaining proximal bowel; but high outputs can commonly necessitate treatment.

Small bowel stomas outputting less than 1200 mL/24 hours are usually well tolerated without clinical derangements and do not typically require treatment

high stoma outputs can be treated with dietary, behavioral, and medical means



High Output Small Bowel Stomas



Parastomal Hernia

Observe

- Minimal symptoms.
- No obstruction.
- No incarceration.
- Acceptable appliance function
- High operative risk.

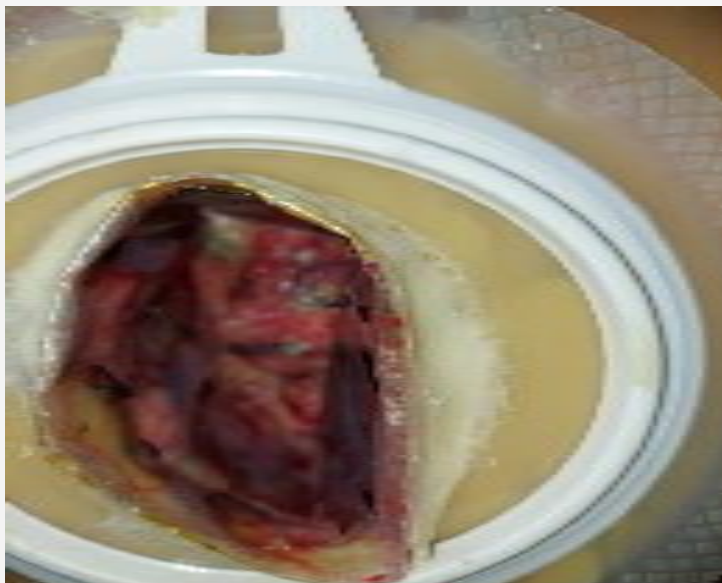
Repair

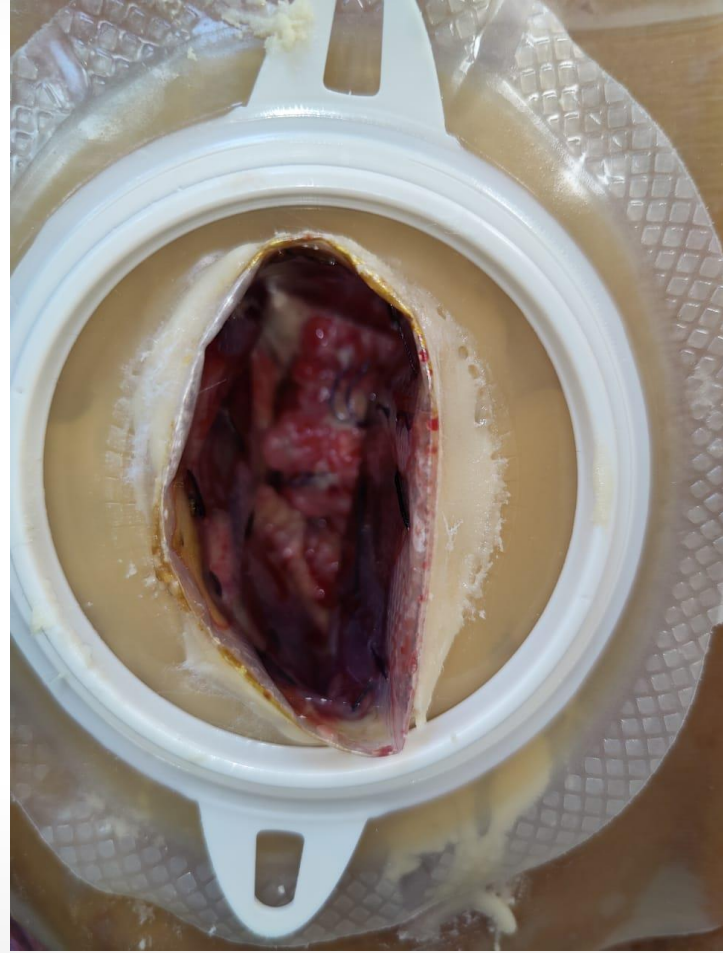
- Recurrent obstruction.
- Incarceration/strangulation.
- Significant pain.
- Major appliance dysfunction.
- Impair quality of life.

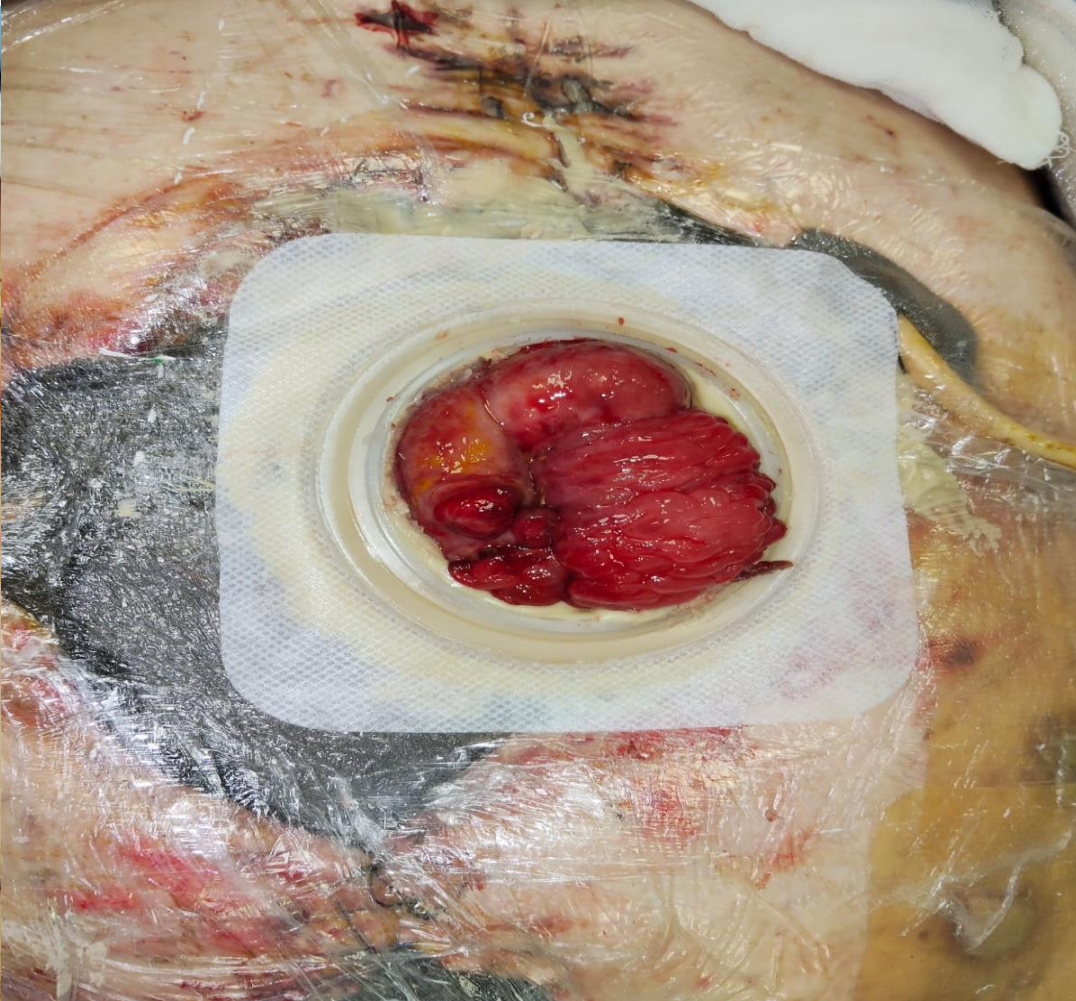
The Stoma we Never Reverse

- “Temporary” does not mean temporary
 - Anastomotic complications.
 - Disease progression.
 - Frailty/comorbidity.
 - Adjuvant treatment.
 - Patient preference.
 - Functional outcome concerns.
 - Surgeon reluctance.
 - Lost follow up.

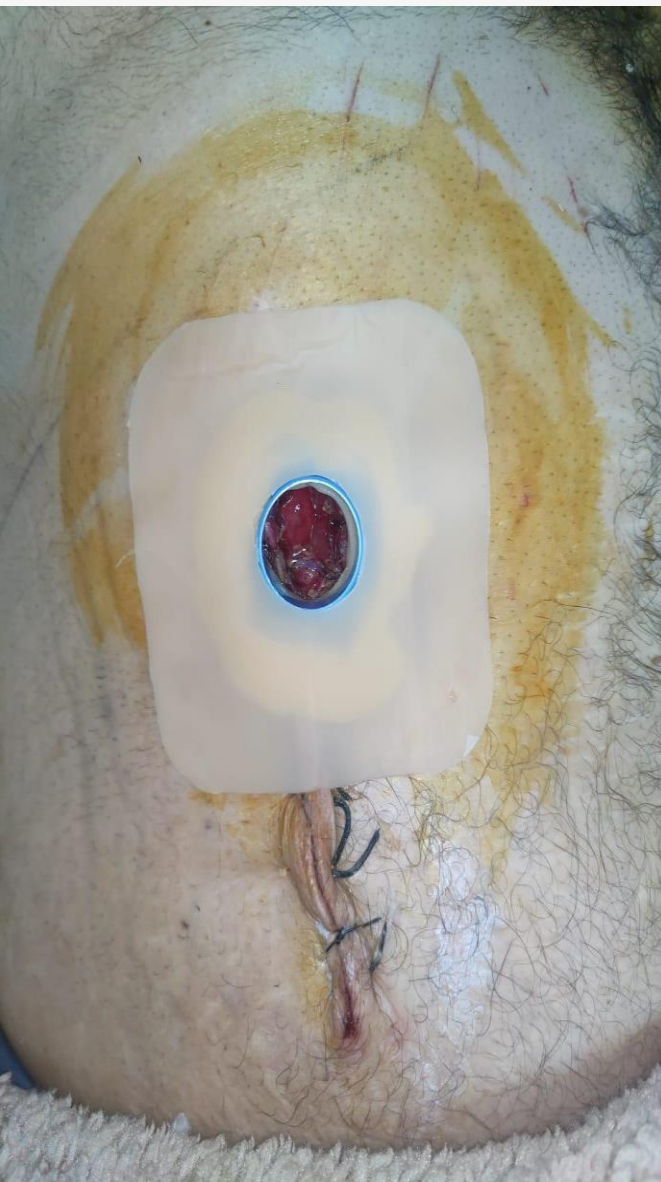
A temporary stoma should have a reversal strategy from day one.

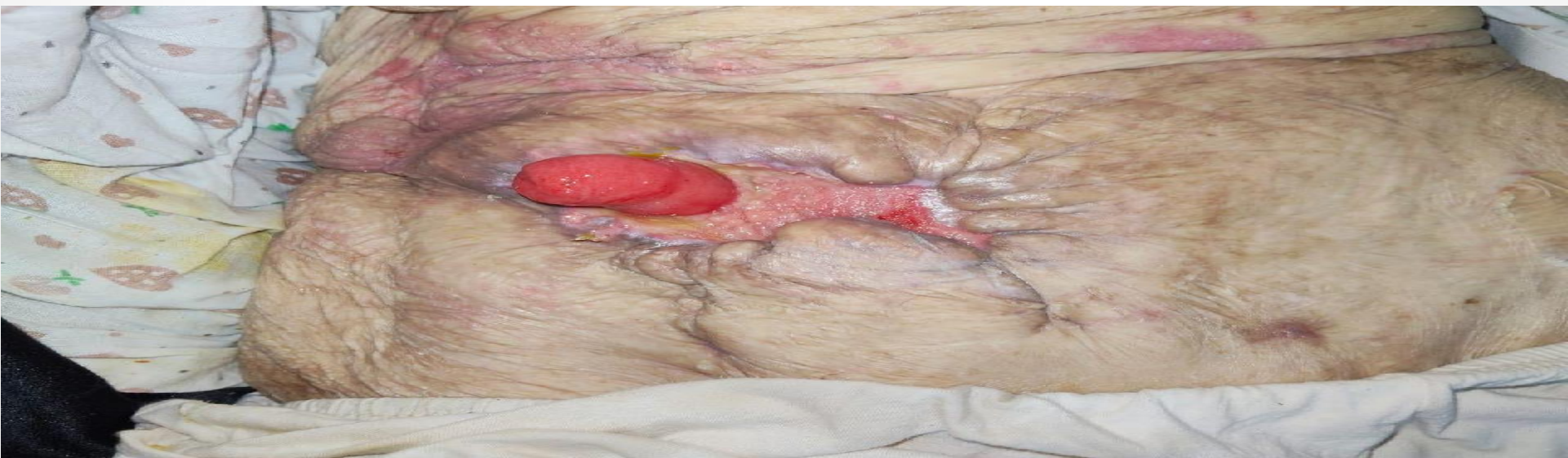












Conclusion

- Preoperative stoma site marking and patient education improve stoma-related clinical outcomes, patient quality of life and experience, while decreasing healthcare resource utilization.
- The finished stoma should protrude from the skin, thereby improving the seal between the appliance and the peristomal skin and decreasing complications.
- Optimal care for patients undergoing ostomy surgery includes preoperative and postoperative care by an ostomy nurse specialist
- Early stoma-related complications such as leakage, peristomal dermatitis, and dehydration can often be remedied with stoma care and patient education

- A good stoma starts before the operation.
- Most major stoma complications are not bad luck- they are often technical, anatomical , or process failures that begin before the stoma is created.
- Early recognition prevents major morbidity.
- Not every complication requires surgery – but the wrong delay can be disastrous.
- The best treatment of a stoma complication is prevention.
- Do not rush for protective stoma.

- ***When to Observe.***
- ***When to Intervene.***
- ***When to Re-site.***

Thank You