Understanding and Managing Ostomies

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Objectives

- List two types of ostomies
- Describe routine peristomal skin care
- Identify two types of ostomy barriers

Goals for the “Ostomate”

- Education for Self-Care
- Perfect skin at all times
- Maximum wear time from appliance
  - more is better….up to 2 weeks!
- No leakage
- No odor
Stoma Types
- Colostomy
- Ileostomy
- Urostomy
- Continent Stomas/Reservoirs

Surgical Procedures

"We're going to take a link out of your food chain!"

Indications for Colostomy
- Trauma – gunshot, stab wound, blunt trauma, etc...
- Congenital anomalies – Hirschsprung’s Disease
- Diverticular Disease
- Inflammatory Bowel Disease – Crohn’s, Ulcerative Colitis
- Obstruction
- Cancer of rectum
Surgical Procedures

- Abdominal Perineal Resection (APR)
- Low Anterior Resection (LAR)
- Subtotal Colectomy/Hemicolectomy
- Hartman’s Pouch
- Ileorectal Anastomosis

Abdominal Perineal Resection (APR)

- A-P Resection involves removal of the rectum through a combined abdominal and perineal approach
- Rectal cancer or benign disease of rectum
- Pt has 2 incisions – perineal and abdominal
- When rectum and sphincter are removed, the Ostomy is usually permanent

Low Anterior Resection (LAR)

- LAR involves resection of the sigmoid colon and/or proximal rectum.
- Abdominal Surgery only
- Anorectal Junction and anus are left intact
- Usually done for cancers of the rectosigmoid
- May have a temporary ostomy
- If temporary diversion, usually loop stoma
Subtotal Colectomy
- Removal of part of the Large Colon with re-anastomosis of the remaining bowel
- No Ostomy at all
- Temporary Stoma

Hartmann’s Pouch
- Formation of an end stoma with closure of the distal limb of the bowel
- Distal bowel closed and left in pelvis
- Temporary or permanent
- Will still have mucus production in distal limb of bowel
- May still feel urge to have a BM d/t mucus discharge from rectal segment
Colostomy Sites

Transverse Colostomy

Sigmoid Colostomy
Management Based on Anatomical Location

- The more distal the stoma, the more normal the stool consistency and evacuation pattern
  - Ileostomy – Thick, mushy, never formed. 500-1000cc per day. Very enzymatic and caustic to skin. Output after meals and other unpredictable times
  - Ascending Colostomy – Rare. Liquid stool. Similar to Ileostomy
  - Transverse Colostomy – Stool mushy, with evacuation several times daily (after meals and at other unpredictable times). Output may contain residual enzymes. Cannot be regulated by Irrigation
  - Descending/Sigmoid Colostomy – Stool normally soft-formed. Elimination pattern similar to preop. Can be regulated by irrigation if pt meets criteria

Indications for Ileostomy

- Inflammatory Bowel Disease
  - Crohn’s Disease, Ulcerative Colitis
- Familial Adenomatous Polyposis (FAP)
- Atonic Colon
- Protection of Distal Anastomosis

Surgical Procedures

- Ileorectal Anastomosis/Total Colectomy
  - Colon is removed Ileum anastomosed to rectum
- Ileoanal Anastomosis
- Total Proctocolectomy
- Ileonal Reservoir
Ileostomy Sites

Ileostomy

Management of Pt with Ileostomy

- End Ileostomy or "Brooke Ileostomy"
  - Dr Brooke was surgeon who began surgically maturing ileostomies
- Initial output: usually 12 – 24 hours postop – dark green, viscous, odorless
- Adaptation phase: High volume liquid output (>1000cc/day), sm bowel gradually adapts with increased H2O and electrolyte absorption and decreased fecal output (Typically 1-2 weeks)
- Long Term – Thick, mushy drainage. Never formed. 500-1000cc/d
Indications for Urostomy

- Congenital Disorders
  - Bladder Extrophy
- Neoplasms
  - Bladder Cancer
- Traumatic Injuries
- Neurogenic Bladder

Surgical Procedures

- Nephrostomy
- Cutaneous Pyelostomy
- Ureterostomy
- Ureteroenterocutaneous Diversions
- Cystectomy
- Ileal Conduit/Bricker Loop
Urostomy Types - Ileal Conduit

Urostomy Sites - Ileal Conduit

Ileal Conduit

The ileal conduit opens onto the surface of the skin or the urostomy.
Management of Pt with Urostomy/Ileal Conduit

- Educate patients to drink fluids regularly throughout the day. Constant flow helps prevent UTI from reflux.
- Stents usually present postop for 3-5 days.
- Mucus in urine normal, some hematuria normal.
- Urine is not damaging to skin unless it is allowed to pool on the skin.
- Odor Issues: Fish, Asparagus, vitamins, UTI, concentrated urine, antibiotics.

Ostomy Types

- Loop Ostomy
- Double-Barrel Ostomy
- End Ostomy

Loop Ostomy

- Loop of Bowel brought to abdominal wall and stabilized until granulation to abdominal wall takes place. Stabilized with some sort of rod device.
- Device removed usually about 1 week post op.
- Always intended to be a temporary and quick diversion.
Loop Stoma Construction

1. Loop ileostomy construction:
   - The bowel is brought through the abdominal wall.
   - It is supported temporarily by a rod or other device.
   - After several days, the rod is removed.
   - One opening discharges stool, the other, meconium.

Loop (Transverse) Colostomy

Loop Stoma
Loop Stoma

Double Barrel Ostomy

- Bowel divided and proximal end brought out as a functioning stoma and distal end brought out as a “mucus fistula”
- We want them either side by side so they can be pouched together – or enough separation that we can pouch the stoma and dress the mucus fistula
- Terminology: Colostomy and Mucus Fistula, Ileostomy and Mucus Fistula, etc...

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Double Barrel Stoma

End Ostomy

- Bowel resection done and proximal bowel brought out as a single stoma
- Distal segment is either sutured closed and left in place (Hartmann's Pouch) or removed
End Stoma

How we wish all stomas would look

Stoma = Ostomy
- Surgically created opening
- Not painful
- No sphincter
- Red
Stoma Assessment Criteria

- Proper location
  3 Priorities:
  1. Within Rectus Muscle
  2. Flat pouching surface
  3. Within Visual Field
- Color
  - Bright Red and Moist
- Height (protrusion)
- Shape
- Location of lumen

Normal Stoma

Placement
Ideal Site?

Stoma on Incision

Peristomal Skin Care
- Goal = Healthy and intact skin
- Routine guidelines
- Changing the pouching system
- Cleansing and assessment
- Shaving guidelines
Routine Peristomal Skin Care

Proper Method for Pouch Removal

- **Gently** peel pouch away from skin while pressing down on or supporting the skin
- Aggressively removing the pouch causes epidermal stripping

Removal of the Pouching System

To Enhance Weartime

- Keep skin dry, cleanse with warm water only
- Trim hair with blunt scissors or shave with electric razor
What Decreases Weartime?

- Heavy pouch
- Moisture
  - possible sources
    - liquid effluent or diarrhea
    - perspiration
    - water from bathing, swimming, hot tub
- Loss of intact seal, hidden leakage
- Irregular skin contours
- Flush stoma

Routine Skin Care

Cleansing:
- Warm Water only
- Soap leaves a residue:
  - Can cause Dermatitis
  - Decreases adhesiveness of pouch
- IF SOAP IS USED:
  - Be careful to avoid soaps that contain oils
  - Be careful to rinse thoroughly
Commercial Skin Cleanser wipes may be used when away from home but select those that do not contain Lanolin or other emollients (i.e. baby wipes)

*Tucks pads work well or wet paper towels stored in a zip lock bag

Clean Stoma
Routine Skin Care

Shaving:
- If peristomal skin is hairy (even peach fuzz)
- Prevents Folliculitis (caused by trauma to the hair follicle and results in inflammation and possibly infection)
- Prevents Pain with pouch removal
- Scissor to "clip" hair
- Electric Razor
- Safety razor
  - Shave in direction away from stoma
  - Wet or Dry (Shaving Cream, shaving powder or Stoma powder)
  - If Shaving Cream used then rinse and dry skin
  - If Barrier (stoma) powder used just dust and dry skin
*Prefer shaving to Clipping

Factors to Consider in Selecting a Pouching System

- Stoma characteristics
- Type & consistency of effluent
- Stoma size and construction
- Abdominal contours
- Degree of stomal protrusion/height
- Patient centered concerns
- Manual dexterity/Visual acuity
- Financial resources

Selecting a Pouching System

- Goal: Maintain Pouch Seal for an established length of time (ideally 5-7 days) so that the pt can establish a schedule for routine pouch changes rather than changing because it leaked.
- Routine pouch changes and prevention of leaks tremendously increase the patient’s feelings of security
- It is better to change q 2 days routinely than prn q 1-3 days when it leaks
- The interval between pouch changes is dependent on the type of drainage, pouching surface, and patient preference
Selecting a Pouching System

1. Select Fecal or Urinary System
   - If Fecal – Select Closed end or Drainable pouch.
     
     Most patients wear drainable (esp. those with higher volume output i.e. Ileostomies and Transverse Colostomies)
     
     Closed End Pouches appropriate for:
     - Activities (i.e. swimming, date, sex, etc…)
     - Poor Dexterity
     - Pts who find emptying a pouch offensive
     - Pts with descending/sigmoid colostomies

Selecting a Pouching System

2. Evaluate Abdominal Contours to determine the appropriate type of pouch “faceplate”
   - Flexible vs. Non-Flexible; Convex vs. Flat
   - *THE MOST IMPORTANT DECISION*

Sizing

- Correctly sizing the pouch is an essential component of effective stoma management.
- 3 Goals:
  - Prevent exposure of skin to drainage
  - Prevent undermining of the pouch seal
  - Prevent trauma to the stoma
Procedures for Sizing Stomas

- **Round Stoma:**
  - Use commercial sizing guides to determine size and cut the pouch opening about 1/8" larger (if stoma protrudes) or 1/4" larger (if stoma is skin level).

- **Oval Stoma:**
  - Fold a piece of paper in half (top to bottom); hold next to the stoma at widest point and mark lateral dimensions.
  - Refold the paper (side to side) so the two marks touch; hold the refolded paper against the stoma and mark the vertical dimensions at the widest point.
  - Open the paper and connect the dots; cut inside the line and gradually enlarge the opening until the correct size is obtained.
  - Label the pattern: Head, Foot, Skin Side, Pouch Side.

- **Irregular Stoma:**
  - Take a piece of plastic and place over the stoma.
  - Trace an outline of the stoma using an indelible marker.
  - Cut inside the line and gradually enlarge the opening until the correct size is obtained.
  - Label pattern: Head, Foot, Skin side, Pouch side.
What About Convexity?

- Use when:
  - irregular skin contours
  - flush or retracted stoma
  - getting poor wear time

- Best results when used with a belt

Measures to Improve Pouch Seal - Convexity

- Benefits of Convexity:
  - Reduces undermining; reduces stoma retraction; provides support for soft abdomen

- Levels of Convexity:
  - Low Level Convexity – Skin level stomas and for pt with soft abdomen
  - Deep Convexity – Stomas in deep valleys
  - Oval Convexity – Best if creases at 3 and 9 o’clock
Basics of Appliance Fitting

- One or Two Piece?
  - Convenience, preference
  - One piece more flexible
- Cut opening 1/16" to 1/8" larger than base of stoma
- Drainable, tap, or closed end?
  - Drainable for fecal, tap for urinary
  - Closed end for 1x daily change, emotional inability to deal with emptying

Basic Pouching Procedure

1. Size and cut the pouch opening
2. Clean and dry the skin, inspect for any peristomal damage or rash and treat accordingly
3. For Fecal diversions – apply paste if needed (i.e. to fill defects to create a flat pouching surface, or to caulk around the stoma)
   - Budded Stoma – use a "ring of paste"
   - Flush Stoma – use a "flat" layer of paste to prevent undermining
   *When applying paste directly to skin it helps to wet your finger to smooth the paste – then allow it to dry
*Paste is not necessary for Urinary Diversions
4. Apply Sealant to peristomal skin if indicated (i.e. fragile, oily, or very dry skin); allow to dry
5. Center and apply pouch
6. Apply clip/check closure mechanism to assure that it is secure
Basic Pouching Procedure

What about paste?
- Paste is not glue, use as a caulk
- Use when pouch contents will be liquid or pasty
- Use to even out irregular skin contours
- Less is better
- Allow to set up 30 sec prior to application of wafer
Pouch Emptying

- Ostomy pouches are not designed to carry lots of weight
- Empty any pouch when 1/4 to 1/3 full
- Night drainage bottle for urostomates
- Empty before getting in car, plane, etc.
- Always carry extra equipment for emergencies: extra clip too!

How to Empty?

- Individualize, give them choices
- Stand or sit or kneel
- Stool - Unroll or unclamp integrated drainage outlet, store in safe place
- If liquid, have TP floating in toilet to avoid splash / Rinse if desired
- Urine - Remove nozzle plug or turn to open
- Cleanse end, reattach clamp or reseal, replace nozzle plug or turn to close

Guidelines for Emptying the Pouch

- Standard Drainable Pouch
  - Hold end of pouch up and remove clip
  - Turn end of pouch back on itself to form a “cuff”
  - Drain pouch
  - Clean end of Pouch
  - “Uncuff”
  - Reattach Clip
  - Rinsing pouch is optional
Guidelines for Emptying the Pouch

- Integrated closure mechanisms that eliminate need for clip (i.e. Velcro or Loop Lock mechanisms). “Cuffing” is not required or recommended.
- Use of Odor Eliminator products prior to emptying helps to minimize odor
- Toilet paper in commode prevent splashing

*Return Demo*

Pouch Hygiene

- Can rinse if desired
- Not required
  - Pouches made of odor resistant vinyl
  - Squirt bottle
  - Alternate pouches – 2 piece system
  - Pouch with vents - filters
- Consider opaque pouch or pouch covers
  - Can’t visualize stool, perceive ‘dirtiness’

Stomal Challenges & Complications

- Stoma Necrosis
- Stenoisis
- Prolapse
- Flush Stoma
- Retraction
- Mucocutaneous Separation
- Parastomal Hernia
Stomal Stenosis

Prolapsed Stoma

Flush Stoma
Retraction

Retracted Stoma

Mucocutaneous Separation
Parastomal Hernia

Management of Difficult Stomas

- Flush/Retracted Stomas
- Deep Peristomal Creases
- Multiple Peristomal Skin Wrinkles
- Peristomal Gullies/Defects
- Soft Abdomen
- Mechanical Damage
- Chemical Damage
- Fungal Infections/Yeast Dermatitis
- Contact Dermatitis/Allergic Reaction
- Pyoderma Gangrenosum

Management of Difficult Stomas

- Pouching Goals:
  - Match patient's abdominal contours to pouch contours either through:
    - Pouch Selection
    - Modification of Abdominal Surface
  - Obtain a secure, reliable seal for minimum of 24 hours (ideally 2-3 days)
Management of Difficult Stomas

- **Flush/Retracted Stoma:**
  - CONVEXITY is usually helpful
  - Belts add support at 3 and 9 o’clock
    - Belts only help if stoma is close to the waistline, otherwise they tend to pull down
  - Binders are more effective when stoma is not in a belt plane
  - Firm faceplates may be helpful (if soft abdomen)
  - Size pouch opening to clear stoma by 1/8 – 1/4” to reduce risk of undermining
  - Fecal Stoma - Flat layer of paste to caulk junction between pouch and skin to prevent undermining
  - Urinary Stoma – Cut pouch opening “wide” so pouch adheres to a flat surface

Management of Difficult Stomas

- Attach belt (if necessary)
Management of Difficult Stomas

**Deep Peristomal Creasing:**
- Usually need all flexible system so pouch can “fold” with patient. If crease is only on one side then use barrier strips/paste to create a flat pouching surface.
- Convexity may help IF the convexity matches or helps to eliminate the creases.

**Multiple Skin Wrinkles:**
- Flexible system; thin, moldable barrier with a narrow ring that fits right around stoma and has flexible tape border to accommodate wrinkles.
- May be able to use a 2 pc system with a tape border if abdomen is firm.
- Some pts get better results with a firmer faceplate that supports the skin around the stoma in a stretched position (best if abdomen is soft).

**Gullies/Defects:**
- Fill with barrier paste (small defects)
- Barrier wedges/strip (Large defects)
- Flat and Convex Barrier Rings

**Soft Abdomen:**
- Firm faceplate helpful
- Belts and Binders helpful
- Convexity may help
Management of Difficult Stomas

- Paste, rings, strips
- Convex wafer

Mechanical Damage

- i.e.: Tape stripping, Folliculitis: erythematous, pustular lesions corresponding to hair follicles
- Causes:
  - Improper removal of tape or barrier
  - Scrubbing or "picking" at skin (Increased risk if skin is very fragile i.e., elderly pt or pt on steroids)
  - Folliculitis is inflammation of hair follicle caused by improper hair removal; damaged follicle is vulnerable to bacterial invasion and results in localized inflammation and/or infection
  - Belts and rigid appliances can occasionally cause trauma from pressure or friction
- Clinical Presentation: Patchy areas of superficial skin loss corresponding to areas of trauma; areas appear red and raw and are painful.
Mechanical Damage

- Technique - pulling too hard
- Improper use of equipment
- Fragile skin
- Aggressive taping

Mechanical Damage

Management:
- Correct the cause - Teach pt correct method of removing pouch and tape; Avoid scrubbing or picking at residual paste; Use a skin sealant under tape or eliminate use of tape if skin is very fragile; Teach appropriate hair removal
- Use “crusting technique”
- Temporary use of Hydrocolloid under pouching system
Chemical Damage

- i.e.: skin damage or erosion secondary to effluent / drainage in contact with skin
- Causes:
  - Usually enzymatic drainage in contact with the skin due to leaking pouch
  - Incorrect use of adhesives or solvents
- Clinical Observation: Erythematous and denuded areas that may extend into dermis
  - Involved area begins at stoma and typically extends inferiorly (downward). Area matches where drainage was in contact with skin
  - PAINFUL

Management:

- Correct the cause of leakage
- Use "crusting technique"
- Use Hair dryer on cool setting to dry the skin
- Use paste strips since they are alcohol free
- Can use hydrocolloid dressing as a barrier wafer until area is healed but will have to change pouch more frequently – usually q 1-2 days

*If there is a large area of skin loss or if the area is very painful, may need to use No-Sting Skin Sealant to seal the powder with "crusting"
Chemical Damage

Interventions
- Educate on cutting wafer correctly
- Use of accessories - paste, rings, strips
- Protect skin with skin preps
- Liquid skin protectant - cyanoacrylate
- Convexity wafer
- Ostomy belt

Crusting Procedure

1. Dust on Skin Barrier Powder
2. Remove Excess
3. "Seal" powder (if needed) by blotting over powder with a No-sting skin sealant

*If skin is very denuded, repeat x 3 to form a "crust"

**Use Antifungal Powder to treat yeast rash

*Return Demo*
Second Generation Liquid Skin Protectant

- 7 week old born at 25 weeks gestation. Stoma opening at skin level 3:00
- Skin appears purple and wrinkled from the cyanoacrylate application but the disappearance of erythema is clearly visible.
- Healed in 48 hrs

Second Generation Liquid Skin Protectant

- 22 month old, 31 week gestation
- Peristomal denudation
- Healed in 48 hrs

Fungal Infections/Yeast Dermatitis

- Causes:
  - Antibiotic Therapy (overgrowth of fungal organisms) + Moisture (promotes fungal growth)
  - Moisture alone
  - Diabetes, Immunosuppression, Oral Contraceptive use, Steroid use
- Clinical Observation:
  - Fair Skin – Red, maculopapular rash that is solid in the center and has border lesions at the periphery; with treatment changes to dark, red rash; then brown-red rash; then flakes off
  - Dark Skin – Rash appears lighter than the healthy skin, with satellite lesions at periphery; with treatment, involved area becomes darker than surrounding skin, then flakes off
  - Rash is usually Pruritic (itchy) and tender
Fungal Infections/Yeast Dermatitis

**Management:**
- Antifungal Powder to area “sealed” with skin sealant (“Crusting”)
- Prescription powder (Nystatin)
- Non-Prescription Powder – 2% miconazole products
- For fungal rashes not in peristomal area, may use antifungal creams or ointments

**Interventions**
- Identify underlying cause
- Reduction or elimination of moisture
- Evaluation of pouching system
- Topical antifungal powder
Contact Dermatitis / Allergic Reaction

- **Causes:**
  - Anything can be an Allergen (barrier wafer, tape, pouch, sealant, paste, powder)

- **Clinical Presentation:**
  - Rash that matches or mirrors the area of contact with the Allergen
  - May have blister formation
  - Pruritis: Pt states rash Itches and Burns

Contact Dermatitis / Allergic Reaction

Contact Dermatitis / Allergic Reaction

Contact Dermatitis / Allergic Reaction
Contact Dermatitis / Allergic Reaction

- Management:
  - Eliminate use of the Allergen
  - Consider topical steroids or antihistamines (i.e. Kenalog spray or Benadryl Gel)
  - Simplify the pouching system to limit the number of products used on the area until the skin heals (damaged skin may become "sensitized" and react to a number of products that patients are not really allergic to)
  - Consider a solid barrier + pouch (no paste or powder) or a non-adhesive system (silicone)

Dermatitis Complications

- Fungal infection not resolving in 48-72 hrs with Antifungal powder
- Consider MRSA
- Antimicrobial silver alginate powder

Principles in Managing Peristomal Irritant Dermatitis

- General Principles:
  - Determine and Correct causative factors
  - Treat skin to promote healing and to maintain a pouchable surface
  - Refer to Physician/Dermatologist if cause of problem is unclear or fails to respond to management
Pyoderma Gangrenosum

- Etiology unknown
- Auto immune inflammatory skin disorder
- Ulceration dusky red to purplish
- Painful
- Steroids to resolve inflammation

Resources

- www.wocn.org
- www.ostomy.org
- www.uoachicago.org
- www.medlineuniversity.com

Summary

- A Sound understanding and knowledge of Ostomies enables nurses to effectively manage the problems and issues that ostomy patients deal with on a day to day basis.

- The ability to teach effective stomal and peristomal skin care along with the ability to correctly select an appropriate pouching system will help your patient lead an active, fulfilling life with their ostomy.
Thank you