



## What is a normal bowel movement???

Amy Morse  
November 30/13  
GI for GP's Jasper AB

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## Faculty Disclosure

- **Faculty:** Amy Morse
- **Relationships with commercial interests:**
  - **Grants/Research Support:** Therapeutic Fellowship funded by Olympus, Pentax and CIHR
  - **Speakers Bureau/Honoraria:** Takeda
  - **Consulting Fees:** Advisory Board, Shire
  - **Other:**



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## Objectives

- What is stool, how is it formed, how does it get eliminated
- Overview of what I do in my bowel history
- Review a few cases

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### What is stool?

- 1500 cc of ileal effluent → 200-400 cc stool
- Colon mixes contents, propels stool aborally/forward and resorbs water, some electrolytes and SCFA
- Liquid to solid
- Stool itself
  - 75 percent water
  - 25 percent solid matter.
    - 30% bacteria
    - 30% indigestible material
    - 10-20% percent is cholesterol and other fats;
    - 10 to 20% percent is inorganic substances
    - 2 to 3 percent is protein.
    - Cell debris shed from the mucous membrane of the intestinal tract also passes in the waste material, as do bile pigments (bilirubin)
  - The brown color of feces is due to the action of bacteria on bilirubin
  - The odor of feces is caused by chemical produced by bacterial action (e.g., hydrogen sulfide)

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### How does the colon move stool?

- Colon movement changes in the preparatory stage before defecation
- Predefecatory
  - Increase in propagating pressure waves
  - Start proximal colon initially, then start a bit more distally (not felt)
  - 15 min before defecation marked increase in frequency and amplitude of these impulses → fill the rectum and give defecatory urge (sacral spinal afferent mechanoreceptors)

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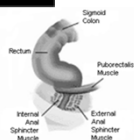
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### Anorectal Anatomy

- Puborectalis sling and levator ani muscles
- Internal sphincter
  - Involuntary
  - Normal state high tone
- External sphincter
  - Voluntary
  - High resting tone, but this can voluntarily be overcome




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### What happens when stool enters rectum?? Short term storage

- Inhibitory reflex activated
    - internal sphincter relaxes
    - External contracts
- This allows small amount of stool to enter the anal canal with maintenance of continence

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### What when the rectum fills?

- Larger amt stool in rectum → Longer internal sphincter relaxation which person notices
- Voluntary contraction of external till can find place to defecate
- At defecation the straining and sit/squat allow pelvis to descend, the puborectalis contracts BOTH these increase the rectoanal angle allowing stool to move out and be expelled when the external sphincter relaxed

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### What happens when you “hold it” or why can’t some people??

- Usually rectum empty
- Can store stool till appropriate to defecate
- Over compliance of rectum (megarectum) gives less urge to defecate
- Under compliance (stiff) rectum (e.g., radiation injury, proctitis) more frequent urge

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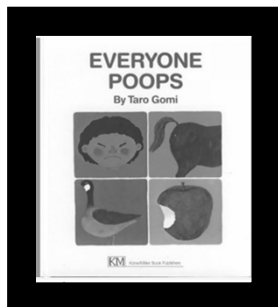
## Stool History

Avoiders or proclaimers

Type of stool

Measures being used to promote stool

Worrisome features




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## Type of Stools

Frequency

- 3/day to every 3 days
- Duration of pattern

Consistency

- Liquid
- Semi formed
- Formed – 1 piece
- Formed – pieces or cracks

Shape

- Narrow caliber
- Persistent could mean narrowing




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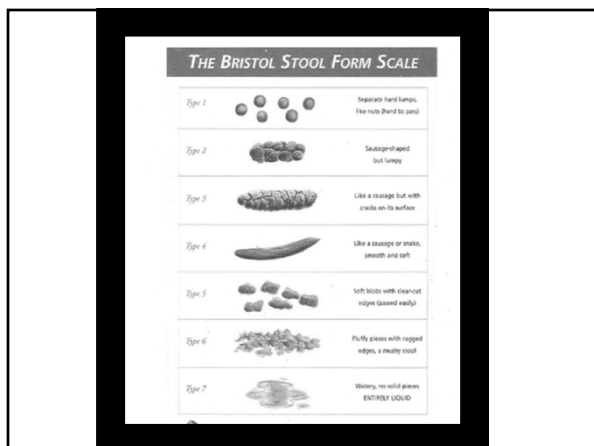
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### Case One:

- 23 yo male worried c/o diarrhea and cramps for 3 months
- Otherwise well
- Just moved from home, living alone

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### Stool history

- 5 BM per day
- Formed round balls
- No blood
- Strains
- Before one per day, no staining
- Eating 2 meals per day in dorm
- Breakfast – None
- Lunch – apple, crackers
- Supper – take-away
- Water intake ok 8 glasses liquid/day
- (Maybe 8 grams per day)
- Before at home – mom or dad cooked
  - Breakfast – daily cereal
  - Lunch sandwich (whole grain), fruit or veg and granola
  - Supper – meat, starch and cooked veg plus salad
  - Snacks –cookies or fruit
- (Closer to goal of 30g per day)

O/E: abdomen soft

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### Case 1

- Constipated stools at increased frequency
- Increased fibre for 2 days, felt worse stopped and is back
- You Suggest – 1 – 2 days of laxative while increasing fibre, will take some time to reset
- 2 months later: pts BM back at baseline to normal, cramps better
- Pts often think it's the number of stools that make diarrhea – its actually the volume (>500cc) and consistency that worry us!

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### Case 2

- Complains of diarrhea
  - 3 semi formed BM/day w/o blood or urgency, no nocturnal
- No fever, blood or weight change
- No active medications, no travel, ill contacts, nor recent abx
- Normal CBC, renal panel
- OTC
  - Herbal tea (senna tea when she brings in box)
  - New vitamins recommended by in-laws (magnesium containing)
  - Also using new artificial sweetener for weight loss

– Laxatives can be hiding

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### Case 3

- 60 year old male complains of constipation
- New, thin bowel movements daily or EOD
  - No change in diet or meds
  - **New blood**, no pain
  - Adopted
  - CBC normal, FOBT/FIT (NA sees blood), **DRE mass in posterior rectum**
  - Urgent GI referral made for mass in rectum → Has stage 2 rectal cancer treated with APR.

A rectal exam plus a clear documentation of the bleeding helps get an appropriately expedited GI referral

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### Case 4

- 40 year old woman
  - C/o constipation, very frustrated, going on “forever”
- BM: Formed, one smooth piece, no blood, spontaneous, EOD, duration since at least Jr High School
- Advise –reassure normal BM

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### Key Points

- Some people are reluctant to talk about BM, they will need more prodding
  - Diagrams help me a lot
  - EVERYBODY POOPS!!!
- Blood or no blood
- Specifically ask about incontinence and digital maneuvers (pts often don't volunteer)
- Not all frequent BM's are diarrhea
- Not all people go to bathroom everyday

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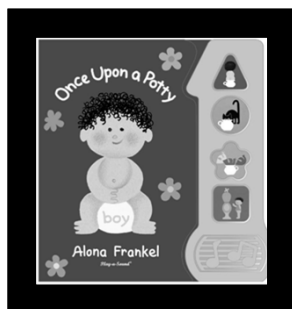
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