



Diarrhoea: more than just a splash in the pan

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What is Diarrhoea?

- Increase in frequency and liquidity (BSC 5-7) of stool_(DOH 2012)
- **Patient definition**
- Increased liquidity in stool or urgency
- Acute: }
- Chronic} 4 week cut off between the 2.
- Not discriminating – can affect any age/ethnic group
- Potentially life threatening
- Impacts upon QOL
- Embarrassing

Bristol Stool Chart

Type 1



Separate hard lumps, like nuts
(hard to pass)

Type 2



Sausage-shaped but lumpy

Type 3



Like a sausage but with cracks on
its surface

Type 4



Like a sausage or snake, smooth
and soft

Type 5



Soft blobs with clear-cut edges
(passed easily)

Type 6



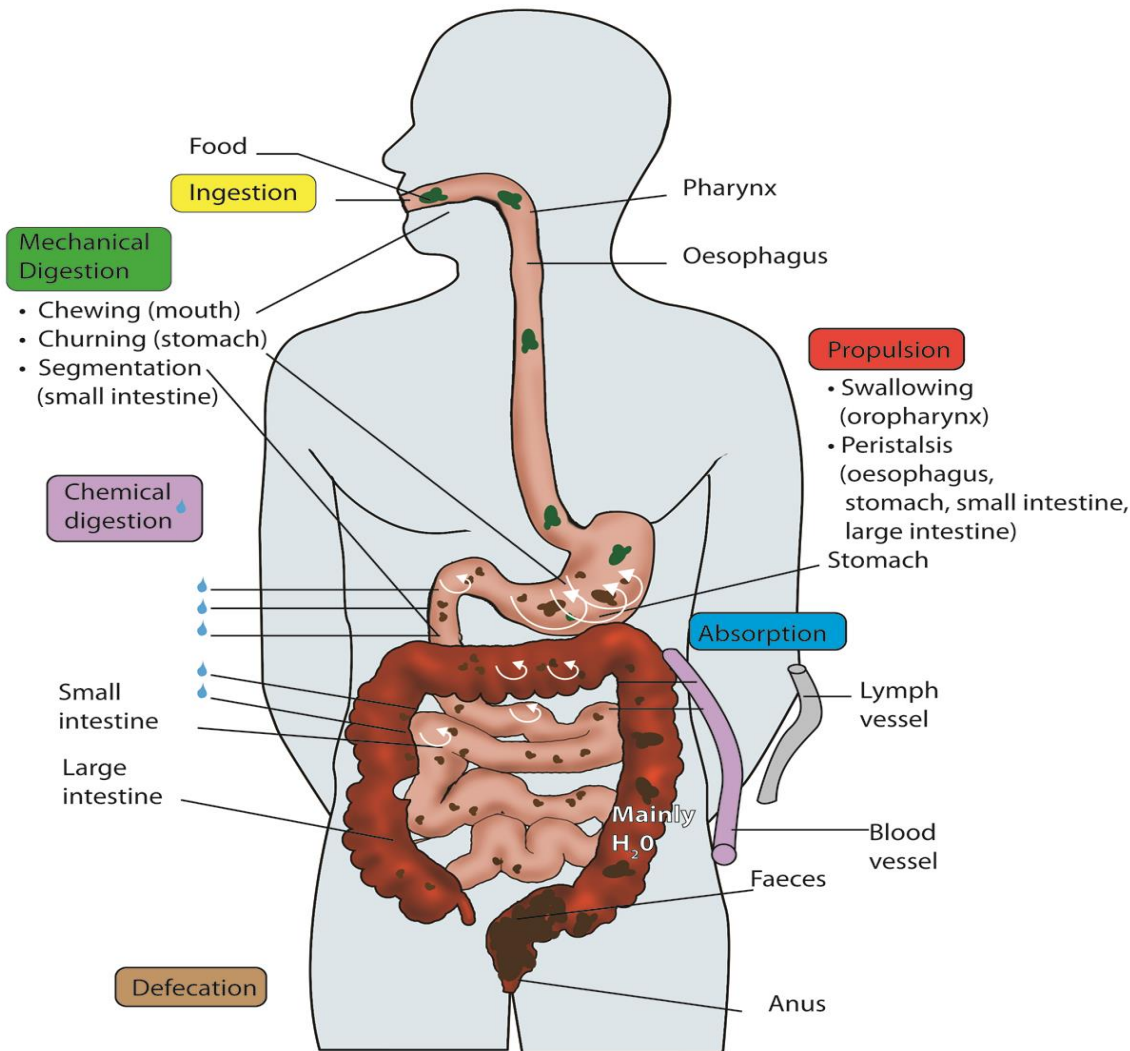
Fluffy pieces with ragged edges, a
mushy stool

Type 7



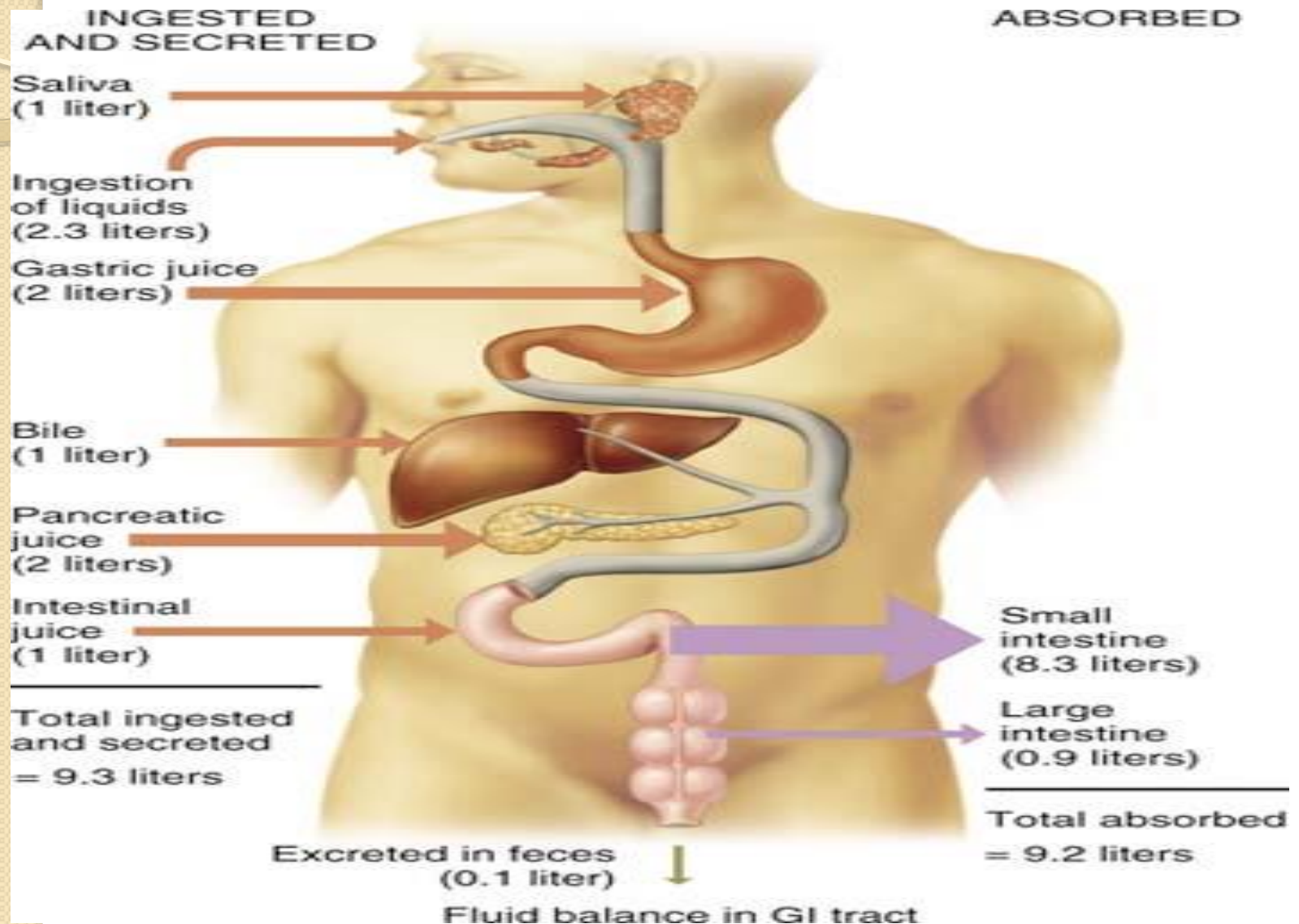
Watery, no solid pieces.
Entirely Liquid

Digestion



- Controlled by reflexes of the parasympathetic nerves.
- Receptors in the walls of the alimentary canal -respond to stretch/acidity /presence of certain breakdown products
- When stimulated –reflexes activate or inhibit the glands that secrete digestive juices
- Sphincters /valves ensure 1 way flow

Normal Gut Function



Mechanisms of Diarrhoea

OSMOTIC	SECRETORY	MOTILITY	COMBINED
malabsorbed osmotically active substances which retain H ₂ O int.lumen	Secretion stimulated by toxin	Both enhanced and decreased motility (predisposing to bact overgrowth)	Due to multiple factors
Hypolactaesia Drugs (lactulose, magnesium salts)	Toxins Ecoli / Vibrio cholerae Staph aureus C. Perfringens Tumors Zollinger-Ellison Syndrome Bile acid malabsorption	IBS Drugs (opioids / senna) Post vagotomy / gastrectomy / cholecystectomy	IBD Coeliac Malabsorption
Cessation of diarrhoea on fasting Measure K and faecal Na to calculate osmotic gap.	.Stool volume >200ml	Osmotic gap and fasting unhelpful	

Classifications of Diarrhoea

Common	Uncommon	Rare
Gastroenteritis viral (rota) Bacterial (Salmonella, Campylobacter) Parasitic (Giardia lamblia) Toxin (E. coli, Shigella) Irritable bowel syndrome Drugs (many) Alcohol Colorectal cancer IBD	Coeliac disease Hypogammaglobulinemia Bacterial overgrowth Microscopic colitis Chronic pancreatitis Thyrotoxicosis Pseudomembranous colitis Laxative abuse Food allergy Ileal/gastric resection NSAID enteropathy	Autonomic neuropathy Tropical sprue Ischaemic colitis Whipple's disease Collagenous colitis Addison's disease Hypoparathyroidism Amyloidosis Behcet's disease Gastrinoma Zinc deficiency

Differential Diagnosis

FUNCTIONAL	Irritable bowel syndrome Anxiety
INFECTIVE	Campylobacter <i>Salmonella</i> <i>Shigella</i> <i>Escherichia coli</i> <i>Clostridium difficile</i> <i>Yersinia</i> <i>Mycobacterium tuberculosis</i> <i>Giardia lamblia</i> <i>Entamoeba histolytica</i> <i>Cryptosporidium</i>
INFLAMMATORY	Ulcerative colitis Crohn's disease Microscopic / lymphocytic / collagenous colitis Behcet's disease

NEOPLASIA	Colorectal cancer Small bowel lymphoma Zollinger-Ellison Syndrome Carcinoid syndrome
DRUG INDUCED	Antibiotics NSAIDS Purgatives Magnesium containing antacids Digoxin Methyldopa Theophylline
ENDOCRINE CAUSES	Thyrotoxicosis Addison's disease Diabetic diarrhoea
MALABSORPTION	Coeliac disease Bile salt malabsorption Lactose intolerance Bacterial overgrowth Chronic pancreatitis

AAD

Antibiotics may disrupt the balance of the GI microbiota—leading to opportunistic infections. Broad spectrum commonly indicated.

Up to 25% of people with AAD may develop CDAD, i.e. an active *C. difficile* infection (Barbut and Petit 2001), which can be fatal.

Patient-to-patient transmission of *CDI* is being seen less in hospitals, but increasing in patients transferring between the community and healthcare settings.

- 57% of new *CDI* occur within the community (HPA 2012).
- Among patients who have had an episode of *CDI*, the likelihood of relapse or developing a further infection is up to 55% (Tonna and Welsby 2005).
- With the majority (76%) of cases occurring in those over the age of 65 (Health Protection Agency 2012),

Major risk factors for AAD/CDAD

- **Age over 65 years**
 - **Broad spectrum antibiotics**, such as amoxicillin and clindamycin, third-generation cephalosporins, erythromycin, tetracycline and quinolones, such as ciprofloxacin
 - **Recent stay in hospital or care home**
 - **Underlying GI disease**, such as inflammatory bowel disease
 - **GI-acting drugs**, such as proton pump inhibitors H2-antagonists and non-steroidal anti-inflammatory drugs (e.g. diclofenac)
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- (Bignardi 1998, Cummings 2010, Cunningham and Dial 2008, Dial *et al* 2005, Mayo Clinic 2010, Suissa, *et al* 2012)

Antibiotics and diarrhoea

- Erythromycin can increase gut motility and cause diarrhoea.
- Breakdown products of penicillin can act as an osmotic laxative.
- Tetracycline inhibits fat absorption leading to diarrhoea.
- Neomycin affects bile salt absorption, leading to diarrhoea

SIGHT

S	Suspect that a case may be infective where there is no clear alternative cause for diarrhoea
I	Isolate the patient and consult with the infection control team (ICT) while determining the cause of the diarrhoea
G	Gloves and aprons must be used for all contacts with the patient and their environment
H	Hand washing with soap and water should be carried out before and after each contact with the patient and the patient's environment
T	Test the stool for toxin, by sending a specimen immediately

ASSESSMENT	NO	YES	ACTION
Clinical Assessment			
Early Warning Score elevated above baseline?			If 'Yes', action as per NEWS guidelines
Moderate to severe abdominal pain			If 'yes,' seek medical advice
Rectal Bleeding			If 'yes', seek medical advice
Drug history			
Laxatives			Discuss stopping with medical team. Re-evaluate daily
Oral iron			If 'yes' Discuss with medical team
Metformin			If 'yes' Discuss with medical team
Opiates			Consider spurious diarrhoea (overflow)
Overflow Diarrhoea?			Appendix I
Dietary Issues			
Naso-gastric feeding			If, 'yes' discuss with medical team & dietician.
Predisposing factors for CDT?			Appendix 2-if 'yes' SIGHT protocol
Assessment			
Is this new onset diarrhoea according to DoH CDI definition with no alternative cause?			If 'yes' SIGHT protocol
Outcome Was patient isolated?			If 'yes' what time? If 'no' what reason?
Stool sample obtained			If 'yes' what time? If 'no' what reason?

Appendix I & 2

Increased risk for CDI

- ❖ Antibiotic exposure (multiple antibiotic courses)
- ❖ Age > 65 years
- ❖ Gastro-intestinal surgery / manipulation
- ❖ Long length of stay in healthcare settings
- ❖ A serious underlying illness
- ❖ Proton pump inhibitor (PPI)
- ❖ Previous CDI

Nutritional supplements (HPA, 2008).

Overflow Diarrhoea

When a patient has constipation the faeces becomes so hard it cannot be expelled and only faecal fluid is passed. The signs are:

Only fluids are expelled

It usually has the colour of faeces

The patient has faecal soiling and incontinence

It is not accompanied by abdominal

Pain

Nursing care

