Diet with an Ileo-anal pouch for patients

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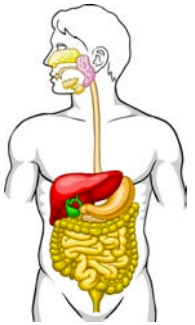
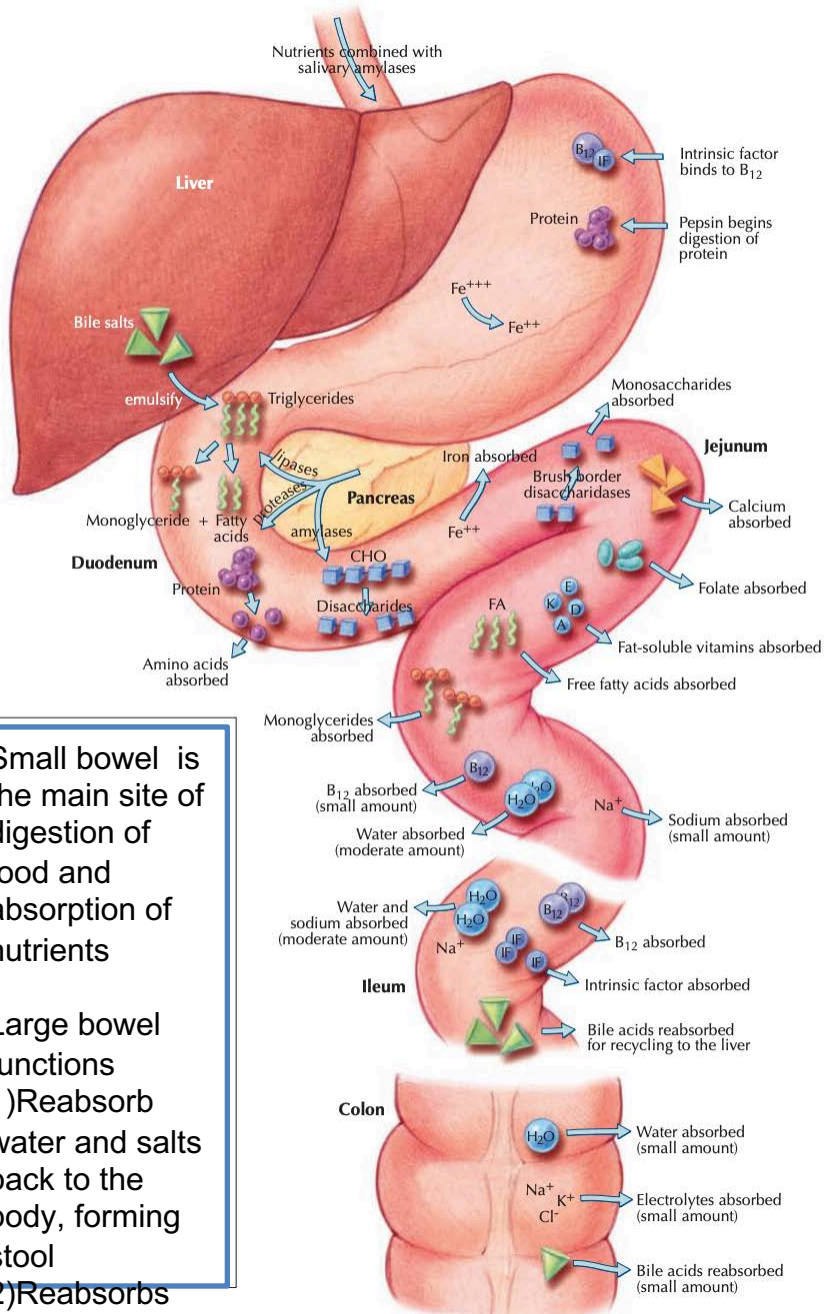
- Nutrient absorption and digestion
- Pouch formation and its effects
- How to reintroduce food post-op
- How to choose a healthy diet
- How diet can affect pouch function

Digestion and Absorption

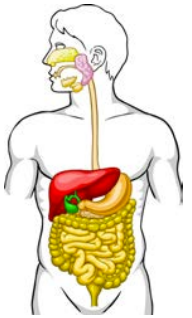




Small bowel is the main site of digestion of food and absorption of nutrients

Large bowel functions
1)Reabsorb water and salts back to the body, forming stool
2)Reabsorbs

Digestion and Absorption



CHO

Disaccharides

Water & sodium

Monosaccharides

Protein

Amino acids & simple peptides

Vit K | B12 | Water soluble vitamins | Vit A&D

Fat

Minerals

Bile salts

Fatty acids

Colon

Ileum

Jejunum

Duodenum

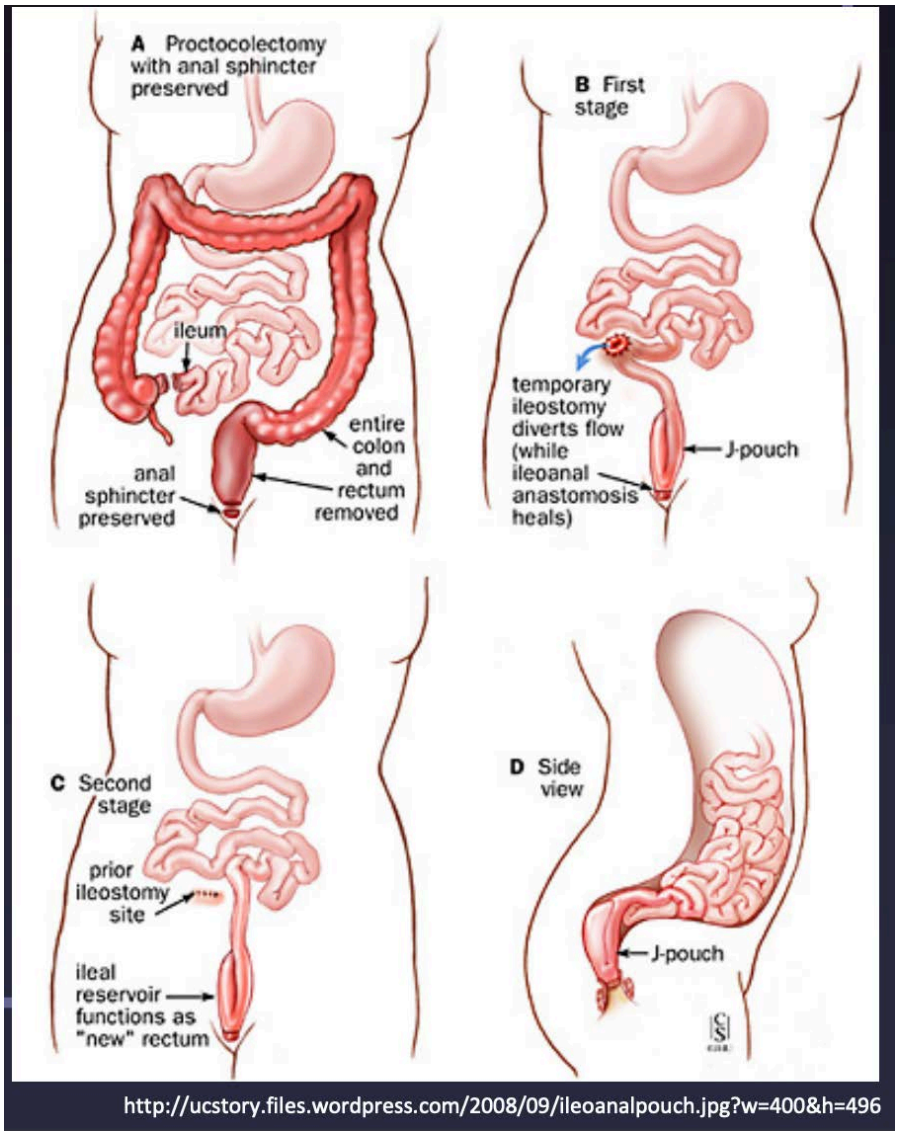
Pancreatic enzymes

Bile

Oesophagus

Stomach

Pouch Formation



http://ucstory.files.wordpress.com/2008/09/ileoanalpouch.jpg?w=400&h=496

- Loss of large bowel
- Large bowel responsible for reabsorbing water and salt
  - More liquid stool
  - ↑ volume of stool

- Pouch formed from last 30-60cm of terminal ileum
- -Terminal ileum absorbs B12 and bile salts

Nutritional implications of pouch formation

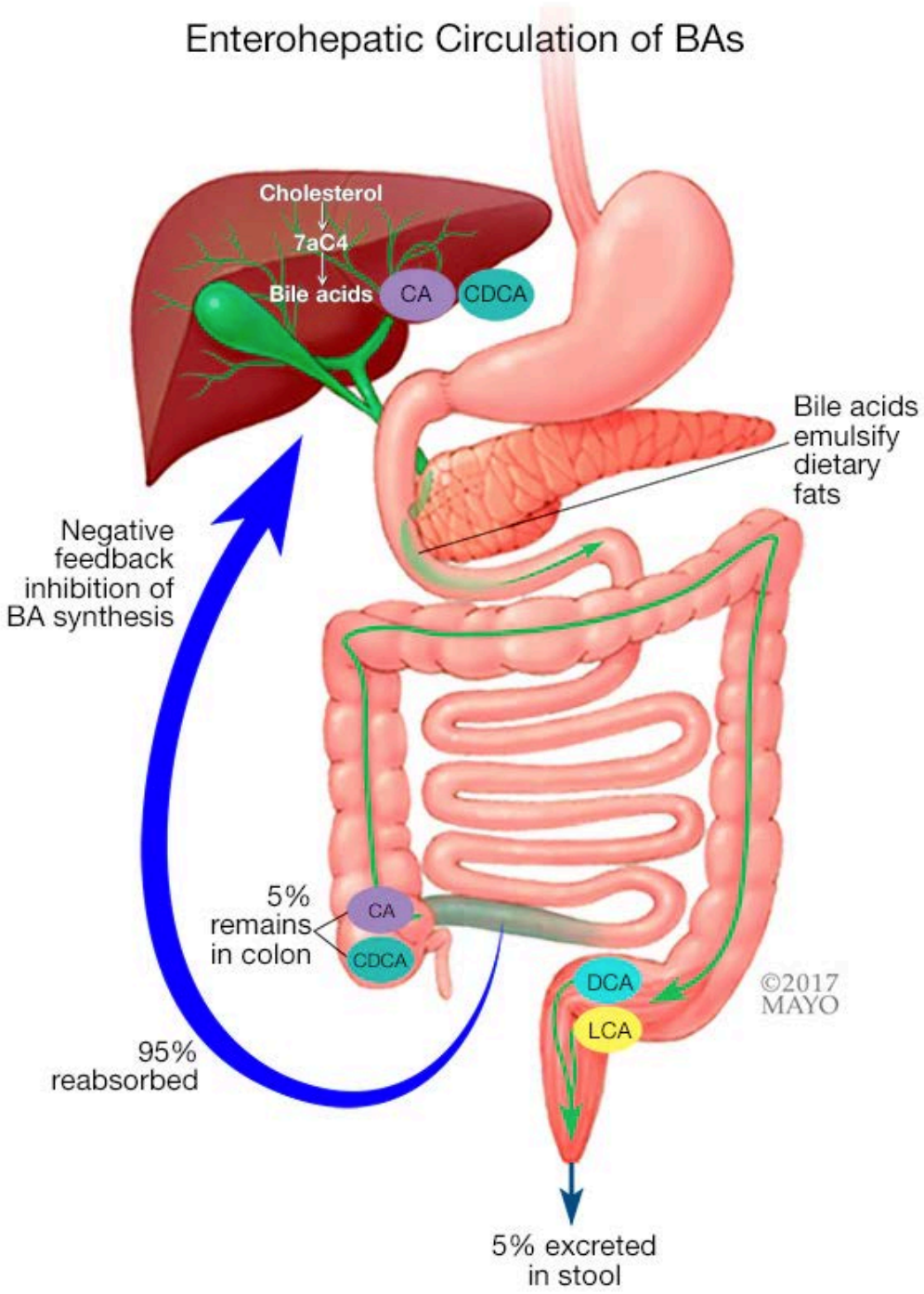
- Vitamin B12 malabsorption (M'Koma 1992)

– Bile acid/salt malabsorption

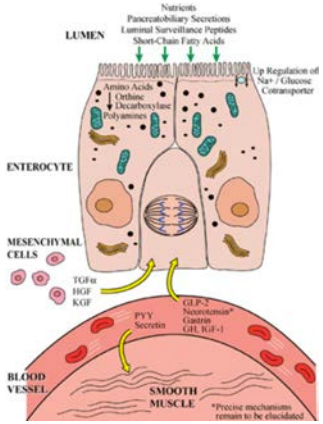
- ? fat malabsorption/ gallstones (no evidence for ↑ risk of gall stones)

- Dehydration
- —>First 6-8 weeks of surgery large losses of fluid and salts 1.2L-2.0L/day

Enterohepatic Circulation of BAs



Adaptation



- Kidneys adapt and reserve more water/salts
- Small bowel adapts and ↑absorption of nutrients
- Pouch empties 3-7 times/day
- ~650g stool/day (mushy consistency)
  (Pearson 2008 chapter 14 (210-232) in Stoma Care (J Wiley)
- Bowel movements similar throughout years ~ 6-7 x 24 hours (night frequency 1-2x) Bullard et al. Dis Col Rect 2002

Dietary support for patients

- Identify malnourished patients
  - Before and after surgery
  - Identify those **<u>at risk</u>** of malnutrition
  - Use Nutrition Screening Tools
  - Monitor for weight loss
  - Check for food restrictions
- Supporting patients reintroducing foods post-operatively
- Supporting a healthy diet in the long term (varied and balanced)
  - Prevent nutritional deficiencies
  - Maintain good pouch function
  - Maintain a healthy weight
- Ensure well hydrated -fluid and salt
- Monitor

The New patient
What to eat after surgery

- Introduce a soft, low fibre diet to avoid
  - Blockages
  - Delay healing of the wound

Avoid:

Nuts	Seeds	Pips
Pith	Fruit/Veg skins	Peas
Raw Vegs	Salad	Sweetcorn
Mushroom	Celery	Dried fruit
Coconut	Pineapple	Mango

For how long?

- 6-8 weeks after your ileostomy is formed
- 2-4 weeks after your pouch is formed

<u>What about after?</u>

- Reintroduce these foods in small quantities
- one at a time for 2-3 days/1 week
- Eat slowly and Chew well

The New patient
What to eat after surgery

Choose high protein/energy diet

- **Promotes wound healing**
- **Speeds up recovery**
- **Stops weight loss**

- Choose **nutritious balanced meals**
  - include **protein** e.g. meat, fish, cheese, eggs, milk, yogurt or pulses
  - include **carbohydrate** e.g. cereals, bread, rice, pasta, potato
  - Include **healthy fats and Calcium rich dairy products (or lactose free alternatives)** e.g. olive oil, milk puddings, petit filou, custard, blancmanges, yogurt, cheese and biscuits
- Choose **nutritious snacks**
  - e.g. sandwiches, cereal, milky drinks, cold puddings
- Supplement **meals with energy dense ingredients (fortify)**
  - e.g. olive oil, rapeseed oil, butter, margarine, cream, sugar, jam, honey, marmalade, sweets, chocolate, biscuits, cakes, ice-cream, crisps
- Introduce **oral supplements**

The New patient
What to drink after surgery

Take enough fluids and salt to stop dehydration

- Aim for 1.5-2.0 litres (3-4 pints or 8-10 cups) of fluid per day

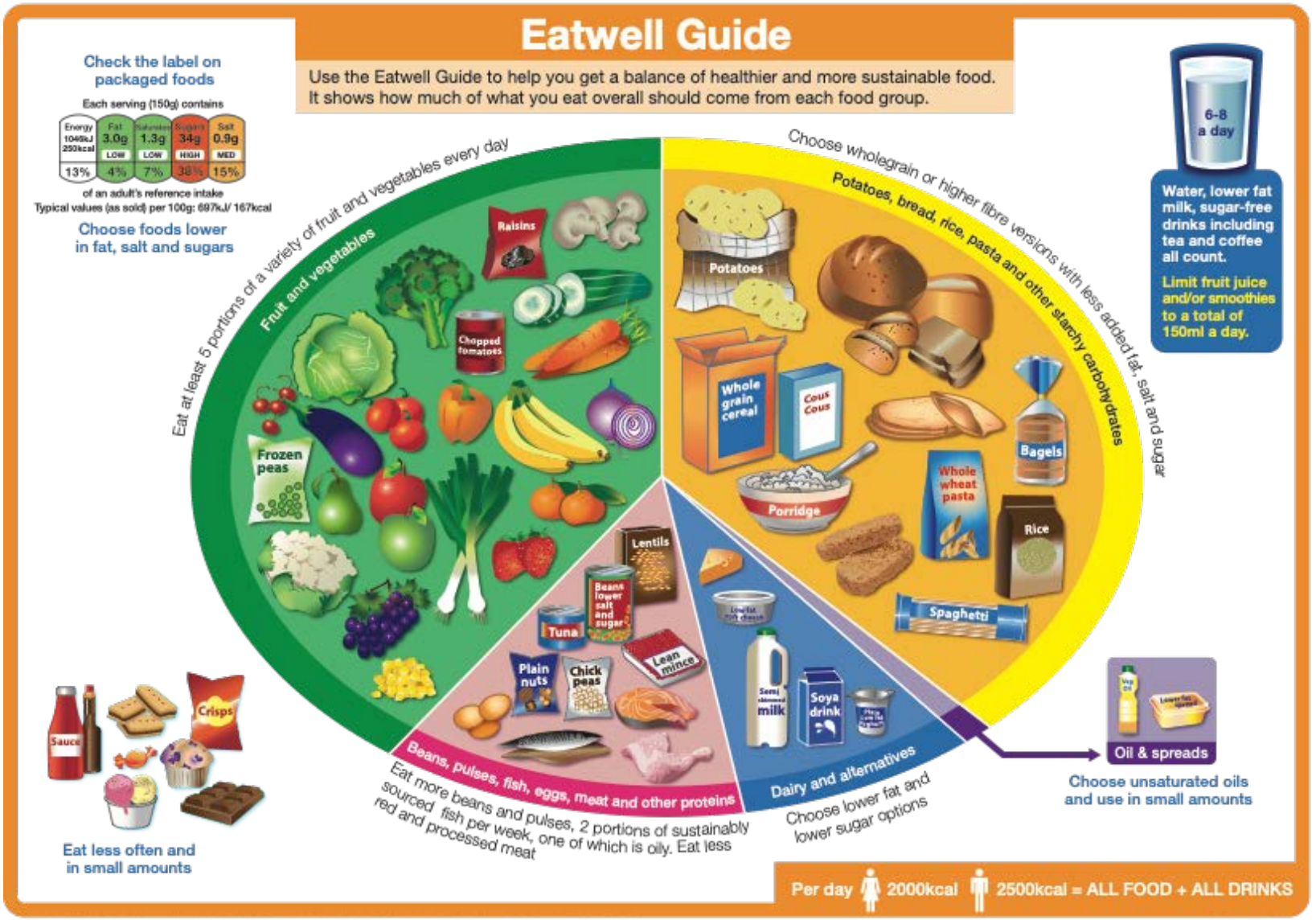
-water, tea, coffee, unsweetened fruit juices or sugar free squashes

- Add extra salt to your meals.

- ½ - 1 teaspoon a day

- If your output is ↑ ; you may need anti-diarrhoeal medication (loperamide) and rehydration solution e.g St. Marks electrolyte mix
- 30-60 minutes before meals

The Established patient



Source: Public Health England in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

Alcohol

- Promotion of drinking in moderation
  - 21 Units a week for men
  - 14 units a week for women
  - 1-2 alcohol free days a week
  - 1 unit
    - ½ pint beer
    - Pub measure spirit
    - Small glass wine

Individual foods and pouch function

- You are Unique!
- Individual tolerances
- Follow a varied, balanced diet – only avoid foods which cause unacceptable pouch function
- Tolerance to certain foods may change over time
- Food and symptom diaries can be useful
- Introduce one food at a time

Food affecting pouch function

Symptoms	Associated foods
Foods that thicken the stools	– Bananas – Rice – Bread – Potatoes – Tapioca – Pasta – Instant mash – Jelly babies/marshmallow – Psyllium husk/oats
• Foods that loosen the stools 	– Chocolate – Raw fruit/vegetable – Highly spiced foods – Greasy foods – Sugary foods – Fruit juice – Leafy green vegetables

Foods frequently associated with symptoms

Symptoms	**Associated foods**
Increased stool output	Fibrous foods, spicy foods, alcohol, milk, caffeinated drinks, fried food, chocolate
Decreased stool output	Bread , rice, pasta, bananas
Anal irritation	Spicy foods, nuts, seeds coconut, citrus fruit, raw fruit & vegetables
Increased wind	Broccoli, sprouts, cabbage, cauliflower, onion, garlic, leeks, asparagus, beans, spicy foods, beer, milk, fizzy drinks, minimise swallowing air
Increased stool odour	Fish. Onions, garlic, eggs

Wind consists of gases produced during digestion from 2 sources:

→**air swallowed** with food

→**bacterial fermentation** of carbohydrate rich food leaving residue in the pouch

- **Wind can be reduced by:**

» Eating **small regular** meals

» Eating **slowly** and **chewing food well**

» <u>Avoiding smoking, sugar free gum, taking drinks through a straw, fizzy drinks</u>

» Reducing **fiber** intake (white bread, rice, pasta, refined cereals, small portions fruit and vegetables but avoiding skins, pith, seeds, pips)

» Reducing intake of **pulses** (beans, peas, lentils)

» Reducing intake of **fructans** (garlic, leeks, onions, artichoke, chicory)

» Reducing intake of **brassicas** (cabbage, sprouts, broccoli, cauliflower)

» Reducing intake of **resistant starches** (pre-heated pizza, dry pasta, reheating starchy foods i.e. cold potato)

» Trial a period of lactose free dairy – check for **lactose intolerance**

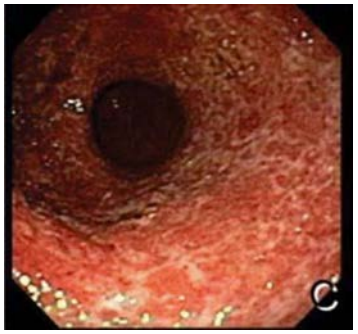
Eating patterns and pouch function

- Study of 69 people showed
  - Pouch opened 5-8 times a day (51 pts)
  - Bowel frequency with no. of meals
  - Pouch opened ½ - 4hrs after a meal (28pts ½ - 2hrs after a meal
  - Stool output greatest after main meal of day (48 pts)

- To *improve function*
  - No more than 3x meals a day
  - Experiment with timing and size of meals
  - Keep a diary to evaluate meal and pouch pattern
  - Eat last meal at > 2 hours before bedtime
  - You are Unique. Check your own bowel habit to determine how long after a meal you can leave home
  - Food choices based on your tolerance
  - Avoid unnecessary restrictions
  - Try one new food at a time
  - Use food and symptom diary
  - Tolerance changes with time- re try
  - Eat slowly/Chew food well /Mindful eating

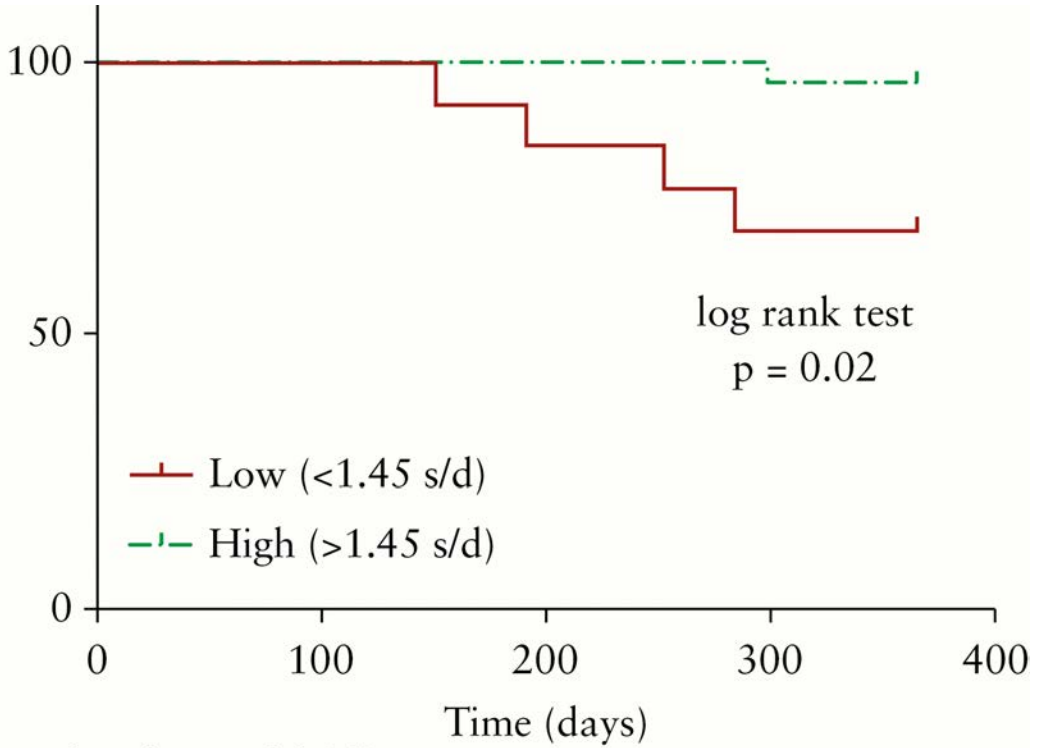
?Radar key/ Toilet urgency card

Pouchitis



- Probiotics
  - Specific strains used (i.e.lactobacillus, acidophilus bifidobacteria)
  - Vivomixx preparation (**previously known as VSL#3**) 1-2 sachets/1-4 capsules (3-6g a day)
  - ↓ Pouchitis developement (Gionchetti et al (2003), Gosselink et al (2004)
  - ↓ Pouchitis recurrence (Mimura et al (2004), Sator (2004)

Association between fruit consumption and the development of pouchitis within one year.



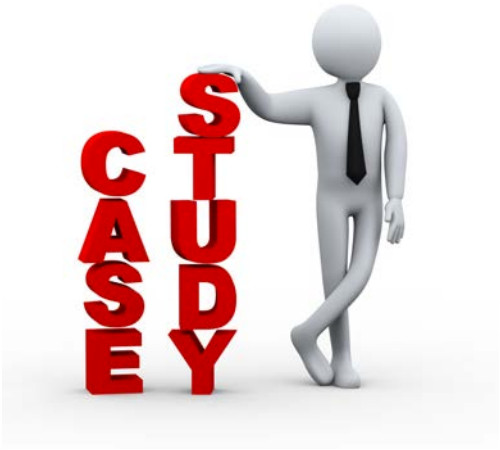
Number of patients with NP:

Low	13	11	9	9	9
High	26	26	25	25	25

Journal of Crohn's and Colitis, jjz053, https://doi.org/10.1093/ecco-jcc/jjz053

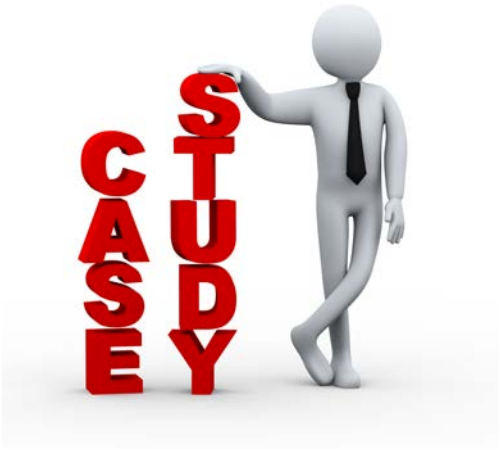
Published **4/3/19**. NP=Normal Pouch All patients [n = 39] 30% vs 3.8%

Case Study



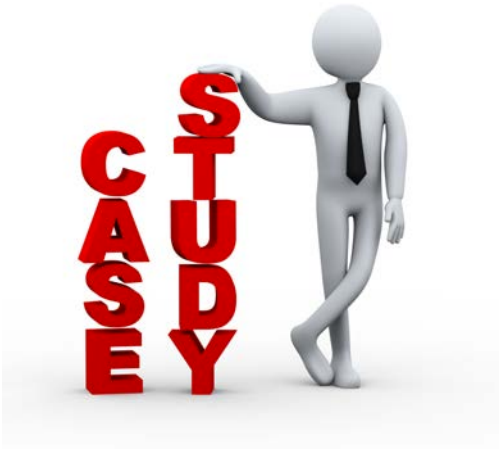
- Mr X
- 36 year old man
- Ileo-anal pouch 2007 for UC
- Significant weight loss
- Previous pouchitis
- Last pouchoscopy: Normal

Case Study



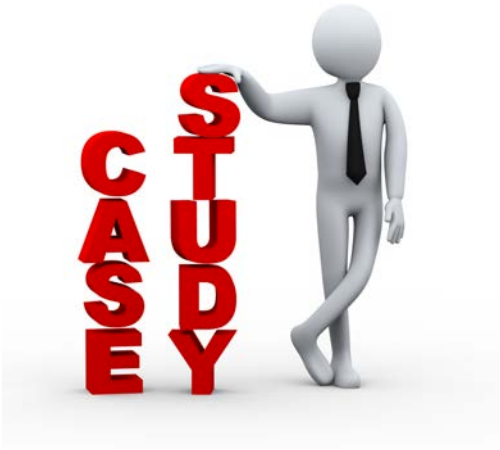
- 1st appointment
- Anthropometrics:Weight loss significant 5kg in 1 month, BMI 22kg/m2
- Biochemistry: Urinary Na <10, Vitamin D low, B12 low, ↑Ur / ↑Cr/ ↓eGFR , rest normal including CRP/WCC , low Mg
- Pouch opening every 1-2 hours 15x day
- Broken sleep and impact on QoL and Stress
- No inflammation/calprotectin normal
- No pouchitis
- Feeling really thirsty, headaches
- Frequent leg cramps
- Fuzzy head/can not concentrate
- Bloating 10/10
- Fatigue 10/10
- Wind /flatulence 10/10
- Diet : recently tried to change his lifestyle- became vegan

Case Study



- Not taking any medication other than occasionally immodium/loperamide
- Diet history: wholemeal bread, large amounts of vegetable including broccoli/cabbage/garlic/onion/spicy foods-chilly, poor sleep-> drinking a lot of caffeinated drinks, stressful job ordering take aways usually Chinese stir fry
- Irregular meal times, long gaps, large meals before sleeping
- Constantly thirst; drinking 4 cups of squash flavoured water, 5 mugs of tea/coffee, 1 litre of juice/herbal green tea

Case Study Discussion



- Main concerns
- 1) Dehydration - high output /shown by urinary test and effect on kidneys, affects energy levels/fatigue/headaches/causing cramps due to losses salt
- Discussed restricting all diluted drinks to 1 litre *ideally change to sports like drinks avoid diluted drinks and sip slowly through 1 litre of St Marks e-mix/day- COLD-
- Add extra salt
- Lower fibre intake
- Stop spicy foods/Decaffeinated drinks - avoid stimulants /triggers
- Regular meals- avoid erratic patterns ; regulate hunger
- Timing of meals/size and eating slowly/chewing well
- Avoid take aways ? Fibre and fat

- Start taking regular anti-anti-diarrhoea 30-60minutes before meals
- Consider omeprazole/PPI +/- codeine phosphate
- Check other e- ; supplement Mg for deficiency- will help with cramps also
- Check other vitamin deficiencies - vitamin D/Folic acid
- IV B12 injections and Iron supplementation to be prescribed
- Consider bile salt malabsorption ? Questrant trial
- If above fails and functional symptoms remain; consider low fermentable carbohydrate trial-FODMAPS

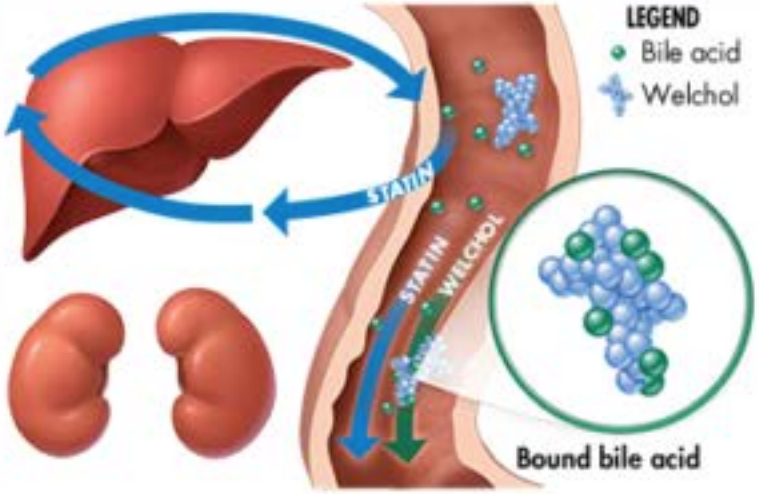
Summary

- After surgery take a soft low fibre diet, eat slowly and chew well for 2-4 weeks to stop blockages at the ileostomy closure site
- Long term aim to promote a balanced diet
- Prevent nutritional deficiencies
- Little and often approach
- Experiment with size and timing of meals
- Take enough fluids and salt
- Maintain a healthy weight
- Intolerances to certain foods will vary between individuals
- Avoid unnecessary restrictions
- Specific symptoms may be reduced by avoiding specific foods
- Seek advice if needed

References

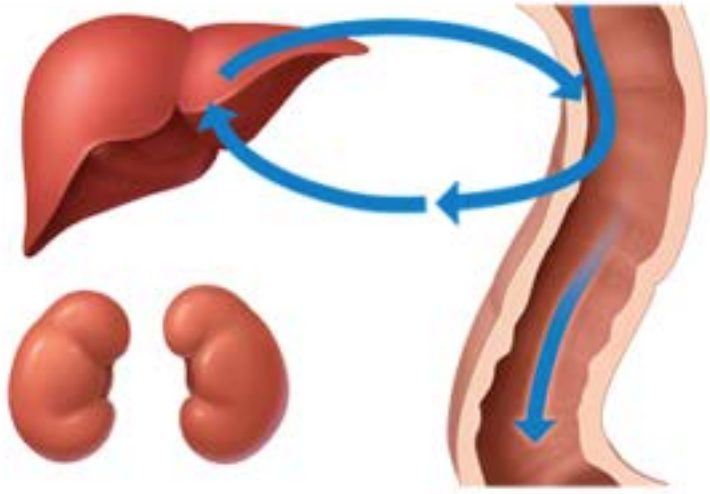
- Gionchetti P. et al Prophylaxis of pouchitis onset with probiotic therapy: a double blind, placebo controlled trial *Gastroenterology* 2003; 124: 1202-1209
- Gosselink et al Delay of the first onset of pouchitis by oral intake of the probiotic strain Lactobacillus rhamnosis GG *Diseases of the colon and rectum* 2004; 47: 876-884
- Mimura et al Once daily high dose probiotic therapy VSL#3 for maintainig remission in recurrant or refractory pouchitis *Gut* 2004; 53: 108-114
- Pearson M. Chapter 9 Williams J (Ed) The essentials of pouch care nursing (2001) Whurr Publishers
- Sartor Therapeutic manipulation of the enteric microflora in inflammatory bowel disease: antibiotics, probiotics and prebiotics *Gastroenterology* 2004;126: 1620-1633
- Tyus et al Diet tolerance and stool frequency in patients with ileoanal resovoirs *Journal of the American Dietetic Association* 1992: 92: 861-863

WELCHOL PATHWAY[2]



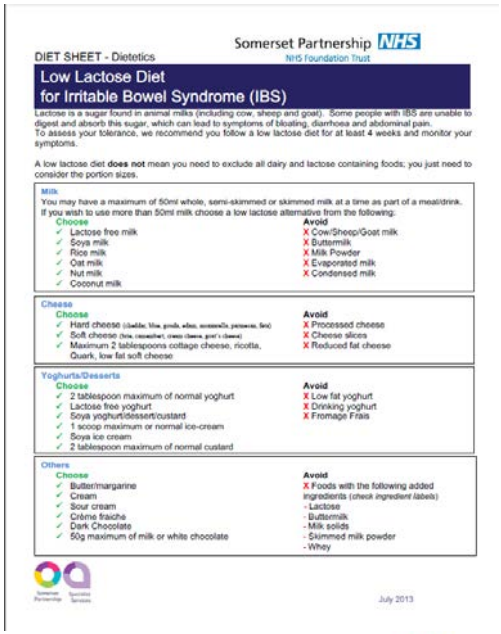
Welchol works in the small intestine, avoiding being metabolized by the liver and kidneys

STATIN PATHWAY



Statins work in the liver; they are mostly metabolized by the liver and excreted in the bile

Support



Somerset Partnership NHS
NHS Foundation Trust

DIET SHEET - Dietetics

Low Lactose Diet for Irritable Bowel Syndrome (IBS)

Lactose is a sugar found in animal milks (including cow, sheep and goat). Some people with IBS are unable to digest and absorb this sugar, which can lead to symptoms of bloating, diarrhoea and abdominal pain. To assess your tolerance, we recommend you follow a low lactose diet for at least 4 weeks and monitor your symptoms.

A low lactose diet **does not** mean you need to exclude all dairy and lactose containing foods; you just need to consider the portion sizes.

Milk

You may have a maximum of 50ml whole, semi-skimmed or skimmed milk at a time as part of a meal/drink. If you wish to use more than 50ml milk choose a low lactose alternative from the following:

Choose	Avoid
✓ Lactose free milk	X Cow/Sheep/Goat milk
✓ Soya milk	X Buttermilk
✓ Rice milk	X Milk Powder
✓ Oat milk	X Evaporated milk
✓ Nut milk	X Condensed milk
✓ Coconut milk	

Cheese

Choose	Avoid
✓ Hard cheese (cheddar, blue, gouda, edam, mozzarella, parmesan, feta)	X Processed cheese
✓ Soft cheese (brie, camembert, cream cheese, goat's cheese)	X Cheese slices
✓ Maximum 2 tablespoons cottage cheese, ricotta, Quark, low fat soft cheese	X Reduced fat cheese

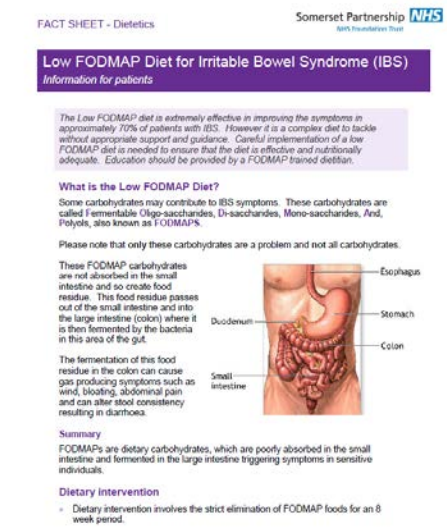
Yoghurts/Desserts

Choose	Avoid
✓ 2 tablespoon maximum of normal yoghurt	X Low fat yoghurt
✓ Lactose free yoghurt	X Drinking yoghurt
✓ Soya yoghurt/dessert/custard	X Fromage Frais
✓ 1 scoop maximum or normal ice-cream	
✓ Soya ice cream	
✓ 2 tablespoon maximum of normal custard	

Others

Choose	Avoid
✓ Butter/margarine	X Foods with the following added ingredients (check ingredient labels)
✓ Cream	- Lactose
✓ Sour cream	- Buttermilk
✓ Crème fraiche	- Milk solids
✓ Dark Chocolate	- Skimmed milk powder
✓ 50g maximum of milk or white chocolate	- Whey

July 2013



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FACT SHEET - Dietetics

Low FODMAP Diet for Irritable Bowel Syndrome (IBS)

Information for patients

The Low FODMAP diet is extremely effective in improving the symptoms in approximately 70% of patients with IBS. However it is a complex diet to tackle without appropriate support and guidance. Careful implementation of a low FODMAP diet is needed to ensure that the diet is effective and nutritionally adequate. Education should be provided by a FODMAP trained dietitian.

What is the Low FODMAP Diet?

Some carbohydrates may contribute to IBS symptoms. These carbohydrates are called Fermentable Oligo-saccharides, Di-saccharides, Mono-saccharides, And, Polyols, also known as FODMAPS.

Please note that only these carbohydrates are a problem and not all carbohydrates.

These FODMAP carbohydrates are not absorbed in the small intestine and so create food residue. This food residue passes out of the small intestine and into the large intestine (colon) where it is then fermented by the bacteria in this area of the gut.

The fermentation of this food residue in the colon can cause gas producing symptoms such as wind, bloating, abdominal pain and can alter stool consistency resulting in diarrhoea.

Summary

FODMAPs are dietary carbohydrates, which are poorly absorbed in the small intestine and fermented in the large intestine triggering symptoms in sensitive individuals.

Dietary intervention

- Dietary intervention involves the strict elimination of FODMAP foods for an 8 week period.

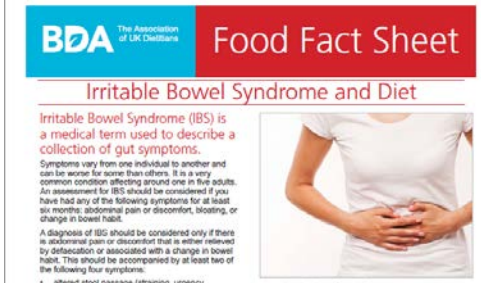
Somerset Partnership

https://patientwebinars.co.uk/ibs/

https://www.j-pouch.org/pages/diet

https://www.ostomy.org/

https://www.crohnsandcolitis.org.uk/



BDA The Association of UK Dietitians

Food Fact Sheet

Irritable Bowel Syndrome and Diet

Irritable Bowel Syndrome (IBS) is a medical term used to describe a collection of gut symptoms.

Symptoms vary from one individual to another and can be worse for some than others. It is a very common condition affecting around one in five adults. An assessment for IBS should be considered if you have had any of the following symptoms for at least six months: abdominal pain or discomfort, bloating, or change in bowel habit.

A diagnosis of IBS should be considered only if there is abdominal pain or discomfort that is either relieved by defaecation or associated with a change in bowel habit. This should be accompanied by at least two of the following four symptoms:

- altered stool passage (straining, urgency, incomplete evacuation)
- abdominal bloating (more common in women than men), distension, tension or hardness
- symptoms made worse by eating
- passage of mucus.

Other features such as lethargy, nausea, backache and bladder symptoms are common in people with IBS, and may be used to support the diagnosis. It is important to have a diagnosis of IBS confirmed and other conditions such as coeliac disease and inflammatory bowel disease ruled out. Four reasons to consult your doctor for referral to see a specialist are where you have possible IDS symptoms and any of the following:

- unintentional and unexplained weight loss
- rectal bleeding
- a family history of bowel or ovarian cancer
- a change in bowel habit to looser and/or more frequent stools persisting for more than six weeks in a person aged over 60 years.

What steps can I take if I have IBS?

Try to:

- eat three regular meals a day
- try not to skip any meals or eat late at night (smaller meal sizes may ease symptoms)
- limit alcohol intake to no more than two units per day and have at least two alcohol free days a week
- reduce intake of caffeine-containing drinks e.g. no more than two mugs (three cups) a day
- reduce intake of fizzy drinks
- drink at least eight cups of fluid per day, especially water or other non-caffeinated drinks, for example herbal teas
- cut down on rich or fatty foods including chips, fast foods, pies, batter, cheese, pizza, creamy sauces, snacks such as crisps, chocolate, cake and biscuits, spreads and cooking oils, and fatty meats such as burgers and sausages
- reduce your intake of manufactured foods and cook from fresh ingredients where possible
- limit fresh fruit to three portions per day (one portion is 80g).

Seek advice from a healthcare professional about the amount of dietary fibre that is right for you.

Helpful Hints:

- take time to relax – relaxation tapes, yoga, aromatherapy or massage may help
- take regular exercise such as walking, cycling, swimming
- take time to eat meals – chew your food well
- keep a food and symptom diary whilst you are making changes so you can see what has helped
- Make one change at a time so that you can see what has helped.
- Make changes according to your symptoms.

Dietary changes can often help IBS symptoms and sometimes simple changes are all that are needed.

Vegetables


Alfalfa


White & red cabbage


Swiss chard


Chicory leaves


Choy sum


Fennel leaves


Spring onion (green part only)


Chives


Silver beet


Spinach


Pak choy


Kale


Beansprouts


Endive leaves


Celeriac


Courgettes


Nori seaweed


Green (French) beans


Rocket


Lettuce: iceberg, butter, radicchio, red coral


Peppers


Olives


Oyster mushrooms


Carrots


Plantain


Pickled Beetroot


Cucumber


Aubergine


WHITE potatoes


Pumpkin


Tomatoes


Parsnip


Yam


Rocket


Chilli


Garlic oil


Turnip


Taro


Lettuce: iceberg, butter, radicchio, red coral


Radish

Swede

Ginger

Fruit

Honeydew & Cantaloupe

Kumquats

Star Fruit

Dragon fruit

Unripe bananas

Rhubarb

Papaya

Passion fruit

All citrus (except max half grapefruit)