

## Gut Health – Kelda White

[www.keldawhite.co.uk](http://www.keldawhite.co.uk)

**If anyone wishes to buy probiotics, Cytoplan (online) sells good quality products.  
The discount code WK0006-10 gives you 10% off.**

**If you would like advice on what might be helpful, please contact me:  
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### Week 5: Restoring the microbiome.

- Providing the right environment for a thriving microbiome.
- Reintroducing healthy gut bacteria.
- Feeding your bacterial allies.
- Nutrition, fermented food, pre, pro and post biotics.
- Feingold and GAPs approaches.

### Role of Appendix:

- Harbour for good bacteria to repopulate the gut after diarrhoea or loss of bacteria for other reasons.
- Inflammation could result if immune system starts attacking good bacteria in the appendix because there are not enough germs ('real enemies') in our environment.
- In the foetus it holds endocrine cells which produce compounds which assist with homeostatic mechanisms.
- Role in immunity: lymphoid tissues accumulate after birth and peak between 20-30, almost disappearing by 60. In earlier years, it assists with the maturation of B lymphocytes and immunoglobulin. It also produces molecules that direct the movement of lymphocytes to other areas of the body.
- Research by Heather Smith in Midwestern University Arizona shows that this lymphatic tissue can stimulate the growth of some beneficial gut bacteria. Appendix has evolved independently in several mammal lineages, over 30 separate times and does not often disappear once it has appeared.

### Providing the Right Environment

#### *Stress-free (!)*

#### *Low immune diet*

- Cut out things which are causing problems. Stopping poorly digested food particles from entering the blood stream
- Some may need to stay off things like gluten for life or until the gut heals.
- Avoiding whatever causes inflammation. Test but otherwise start with wheat, gluten, dairy, sugar, alcohol, caffeine.

#### *Deal with infections/infestations*

- Avoid processed sugar.
- Candida: a big topic but essentially reducing candida food (sugars and yeasts), using grapefruit seed extract, oregano, caprylic acid (coconut oil), citricidal (grapefruit seed extract), improving gut bacteria diversity
- Worms: coconut oil, raw carrots, cider vinegar, raw garlic, pumpkin seeds (soak and drink tea or grind), Black Walnut, Clove (kills eggs too), Motherwort. Jasmine tea for tapeworms.
- Zapper.

#### *Cleanse*

- Bowel needs to be moving properly: fibre, water, exercise, supporting liver and bowel.

#### *Colonic Irrigation*

- Process where up to 60 litres of water (may contain herbs) flushed through the lower intestine.
- Been used in ancient Greece and India.
- Allowed to build up – stimulates gut reflex, then waste matter excreted.
- Can clear layers of faecal build up which may occur with sluggish bowels. And wash away bad bacteria.
- Useful in cancer, severe constipation, toxicity. Can improve energy and mental state.
- Not recommended during pregnancy, heart probs, high blood pressure, fissures, haemorrhoids, ulcerative colitis.

*Detox heavy metals: can produce symptoms during detox.*

- Using remedies (next week).
- Good diet to support natural elimination of toxins. Colonic. Vitamin C, lots of water.
- Omega 3, amino acids, zinc (displaces heavy metals), selenium – chelate mercury and remove from the body.
- Folate, B12, 6, sulphur rich foods (brassicas, garlic, onions, daikon radish), milk thistle, turmeric to support liver.
- Kaolin and bentonite: draws toxins from body (and minerals too – supplement).
- NAC ( form of amino acid cystine) which helps eliminate mercury and other metals.
- Sauna therapy (check electrolyte and mineral balance to prevent dehydration)
- Coriander chelates heavy metals and excretes them from the body. Also alginate from seaweed (spirulina and chlorella)
- Broccoli sprout juice one of the most powerful detoxifiers.
- Remove fillings, detox vaccines, avoid more metals (fish, pollutants). Avoid hot, sour or salty foods which increase mercury vapour.

*Heal the lining of the gut.*

- Gut bacteria.
- Omega 3. Decreases harmful bacteria, increases beneficial ones and restores gut wall.
- L-glutamine (amino acid which helps rejuvenate gut wall lining).
- Zinc, ACE vits.

GAPS Diet:

- Based on work which has cured autism and other disorders by healing the gut. Detoxing and avoiding toxins.
- Introduction programme: of bone broths, fermented vegetable juices, good quality fats, easily digested vegetables, boiled meats. Lots of soups.
- Supplements: probiotics, EFA, vitamin A (leaky gut and malabsorption from deficiency) from cod liver oil (damaged gut do not absorb supplements), stomach acid (betaine hcl with pepsin), digestive enzymes, vitamins and minerals.
- Later, fruit, raw vegetables and juices, nut, nut flours. Grains, starchy tubers, sugars (except honey) and other inflammatory foods always avoided. Black elderberry immune stimulating and most powerful anti-viral known.
- May be on it for 2 years plus and keep going back to it.

Bone broth

- Helps heal and seal your gut, and promotes healthy digestion: The gelatin found in bone broth is a hydrophilic colloid. It attracts and holds liquids, including digestive juices, thereby supporting proper digestion
- Reduces joint pain and inflammation, due to chondroitin sulphates, glucosamine, and other compounds extracted from the boiled down cartilage
- Inhibits infection (chicken soup = Jewish penicillin. A study revealed that it did mitigate infection.
- Fights inflammation: amino acids with these properties (arginine, glycine, proline). Glycine promotes sleep.
- Also helps bones, hair, skin, nails.

Vegan version:

- Wakame seaweed: omega 3, iron, calcium, magnesium, iodine.
- Shiitake mushrooms: D, zinc, B vitamins, prebiotic, amino acids (forms collagen).
- Coconut oil or olive oil – repair gut wall.
- Turmeric: anti-inflammatory.
- Kale or spinach: prebiotic, some protein, vitamins KAC, magnesium, calcium.

Paleo:

- “Eating what we used to”.
- No grains, no seeds, little fruit, no sugar, dairy. Lots of good fats.

Raw food diet:

- Contains all of the enzymes which can help with digestion. Juices easily absorbed.
- Often too harsh when gut is already damaged.
- Sugar from fruits can make candida worse.

FODMAPs

- Some people sensitive to some compounds in high fibre foods
- Fermentable Oligosaccharides Disaccharides Monosaccharides and Polyols: certain types of sugars which are poorly absorbed in small intestine. Draw water into the bowel which causes diarrhoea. Also stimulates digestion by lower intestine bacteria resulting in gas and bloating, pain.
- More complex than glucose so resist digestive enzymes. Avoiding these foods helps 70% of those with IBS symptoms.
- Avoid:

- Creams, cream cheeses, icecream, milk, soft cheeses, flavoured yogurts.
- Barley, bulgar wheat, couscous, rye, semolina, wheat in all forms.
- Artichokes, asparagus, avocados, beans and pulses, beetroots, broccoli, cabbages, cauliflowers, fennel, garlic, mushrooms, onions, peas, shallots, sugarsnap peas.
- Apples, apricots, blackberries, cherries, large quantities of dried fruit, mangoes, nectarines, peaches, pears, plums, prunes, watermelon.

\*\*A lot of these are the prebiotics. Should take probiotics instead.

### Feingold

- Created for allergy symptoms and extended to children with ADHD ASD, dyslexia, behavioural issues
- Removes artificial additives and foods containing salicylates (aspirin). Tested by reintroducing.

### Diet:

#### Improve the diet

- Not just feeding ourselves. Also feeding 90 trillion bacteria!
- Fibre: most foods contain a mixture:
  - Insoluble: lignins, cellulose. Cell walls. Absorbs water and helps food pass through the rest of the digestion quickly.
  - Diverticulitis: need to have fibre but avoid in small bits. Blend and soak seeds. Lots of soluble fibre. Plenty of water. Decrease anything that you know irritates. Blackberry seeds, tomatoes, wheatbran. Find alternatives. Sieve seeds out, use oat bran and soak it instead of wheat.
- Prebiotics are resistant starches and soluble fibre. A form of dietary fibre that feed the bacteria. Indigestible up to that point but broken down by our bacteria. Can buy supplements but our bacteria evolved to live on food!
  - Soluble fibre dissolves in water: pectins and plant gums. Draws water into the gut, helps control cholesterol and blood sugar and feeds bacteria. Beans, apples, pears, carrots, broccoli, brussels sprouts, flax, figs, nectarines, apricots, hazel nuts, oats, (beta glucan reduces cholesterol), barley, sweet potatoes, turnips.
  - Resistant starch: like insoluble fibre as mainly undigested but once it reaches the large intestine, it acts like soluble fibre. Most of the carbohydrates in your diet are starches: long chains of glucose that are found in grains, potatoes and various foods. Some is resistant to digestion: functions like soluble fibre. Improve insulin sensitivity, reduces blood sugar levels, reduces appetite and feeds bacteria. Allows them to produce several compounds, including gases and short-chain fatty acids, most notably butyrate which protects gut walls.
    - Type 1: in grains, seeds and legumes and resists digestion because it's bound within the fibrous cell walls.
    - Type 2: in some starchy foods, including raw potatoes and green (unripe) bananas.
    - Type 3: formed when certain starchy foods, including potatoes and rice, are cooked and then cooled. The cooling turns some of the digestible starches into resistant starches via retrogradation.
    - Type 4: Is man-made and formed via a chemical process.
- Bad bacteria cannot feed on prebiotics. They do thrive on sugar. Good prebiotics:
  - Chicory root: 70% of the fibre is called inulin. Also FOS (Fructooligosaccharides. Slightly sweet – agave syrup – reduce clostridium perfringens). Helps with constipation. Can help with diabetes by raising a protein which helps control blood glucose levels. Also supports liver and is antioxidant. Chicory root or coffee.
  - Dandelion greens: also inulin. Blanche to make them less bitter.
  - Jerusalem artichoke. Inulin and FOS.
  - Garlic promotes bifidobacterial and prevents disease forming bacteria from growing.
  - Onions: inulin and FOS and antibiotic.
  - re bananas, leeks, onions, garlic, Jerusalem artichokes. Feed the good bacteria.
  - Leeks: same family as onions and garlic.
  - Asparagus: FOS and inulin.
  - Bananas: resistant starch if unripe and inulin.
  - Barley: beta glucan.
  - Oats: beta glucan and resistant starch.
  - Cocoa contains polyphenols which support helpful bacteria.
  - Apples: pectin increases butyrate which decreases harmful bacteria and maintains integrity of gut lining.
  - Burdock, used widely in Japan but grows wild here. Inulin and FOS.
  - Yacon inulin and FOS.
  - Wheatbran (caution) contains a particular type of fibre which promotes Bifidobacterium growth but can inhibit nutrient absorption and irritate gut.
  - Seaweed 50-85% of fibre is soluble.
- Avoid:
  - Acid forming foods (caffeine, alcohol, 'bad' fats, sugar, processed foods)
  - Unfiltered water (chlorine can interfere with gut bacteria).
  - Smoking
  - Any lifestyle habit which disturbs gut bacteria.

### *Fermented foods*

- Better longterm than probiotics. May need probiotics for initial boost.
- Also semi-digested so easier for the body. Yogurt and sourdough bread easier to digest than milk and bread which has been fermented more quickly. . Bacteria have already started to break down the food.
- Increases the vitamin and mineral content.

### **Repopulate**

The only way to find out what the imbalance is, is to do a stool test.

- More than once and at intervals.
- Geneva diagnostics, Atlas Biomed, HealthPath.
- Worth noting that even if levels of something low, does not mean that you will develop the issues relating to a lack of that bacteria. Depends on other factors. Also individuals vary in their response to whether taking a certain approach will result in the desired rise of specific bacteria levels.
- Still lack of definition about what 'normal' actually is. Common sense: follow the steps and be sensitive to the results.

Bacteria related to specific states:

- Lactobacillus plantarum and reuteri and bifobacterium infantis related to pain relief.
- Japanese scientist used lactobacillus casei Shirota to reduce diarrhoea in formula fed babies.
- Lactobacillus fermentus lowers cholesterol
- Lactobacillus plantarum associated with better locomotor responses and higher serotonin and dopamine levels in mice.
- Anxiety and depression associated with low levels of bifidobacteria.
- Not a bacteria but Saccharomyces boulardii beneficial.
  - Yeast, therefore does not get affected by antibiotics.
  - Populates readily and therefore protects from harmful opportunists.
  - Binds to toxins.
  - Can cause sensitivities in those intolerant to yeast.
- E coli Nissle: soldier who was immune to diarrhoea. Bacteria still bred and sold

Probiotics

- To be effective, have to reach the gut alive in large numbers (a billion).
- Some more resilient than others (like the one used by Japanese researchers above).
- Not in yogurt drinks (too much sugar).
- Need to be chilled. 8billion cells per gram.
- Get as many different strains as possible. Also take one brand for a while and then take another to get a range.
- However, factory made and tend to only colonise for as long as we are taking the probiotics for. Researchers are looking into taking several interdependent bacteria at the same time. Seems to be more effective to take several strains together.
- Can cause short term bloating and discomfort as bad bacteria die off. Make sure people are not constipated as toxins could just be reabsorbed.
- Faecal implants: Hitler.
- 2013 Netherlands: prepared faecal solutions from healthy volunteers and placed them in small intestines of patients affected with C Diff (kills 13,000 Americans annually – hard to eradicate). Cured infection in 85% straight away and most of the remainder in second dose.

Postbiotics:

- Metabolites of probiotics (what they produce). Waste!
- Many positive effects we associate with probiotics might actually be to do with post-biotics. Also feed other bacteria as we saw before and also help process prebiotics (feed our bacteria).
- Associated with:
  - Lower blood sugar and obesity.
  - Immunity
  - Treatment of diarrhoea.
  - Antimicrobial for bad bacteria. Protective against salmonella.
  - Reduces inflammation. Can be more effective than probiotics for those with inflammatory bowel disease.
- Source: probiotics. And also tablets.