

CHRONIC FATIGUE/FIBROMYALGIA

Case study

Dr ASHLEY BERRY

MB,BS Grad Dip Health Sc (Nutr med)

Information overload?

There may be much new information, don't be overwhelmed

I am not expecting all of you to follow all of this, but you can go over the slides later, and look at particular subjects e.g. hair test interpretation or how to treat parasites (all referenced)

Much of this information is from my mentor Prof Mel Sydney-Smith, who has taught in Australia and overseas

You must have a paper copy of The Canadian Consensus Document, which details chronic fatigue syndrome and fibromyalgia, if you are treating 'tired' patients

Definition of CFS/FM – The Canadian Consensus Document, 2005

Bruce Carruthers and Marjorie van de Sande

1 Profound fatigue - new, unexplained, persistent, recurrent physical or mental

2 Post-exertional fatigue or malaise - physical or mental, with slow recovery, usually > 24 hours

3 Insomnia or unrefreshed sleep

4 Pain - joints, muscles, migratory, headaches may be prominent

5 Neuro/Cognitive symptoms - 2 or more of confusion, disorientation, short term memory, info. processing, word retrieval, sensory disturbances or overload i.e. photophobia, hypersensitive to noise, emotions → crash

brain fog

FM – more pain and more sleep disturbances

6 At least one symptom from each of these:

- a) Autonomic symptoms or signs - **postural hypotension**/POTS, light-headed, extreme pallor, nausea and irritable bowel symptoms, urine frequency and bladder symptoms, palpitations, SOBOE
- b) Neuro-endocrine or Immune manifestations - low body temp and high variability, sweating, feverish and cold extremities, intolerance to heat/cold, weight changes, worse with stress
- c) Immune: tender lymph nodes, recurrent sore throats, recurrent flu-like symptoms, malaise, new sensitivities to food, medications or chemicals

7 Symptom duration: > 6/12 adults
 > 3/12 children

Types of CFS/FM - Dr R Schloeffel, Sydney, more user-friendly

1 Neuro psychiatric Anxiety/Panic, depression, OCD, psychosis

2 Dysautonomia Postural hypotension, POTS

3 Insomnia sleep apnoea, central sleep apnoea must exclude OSA/PowerBreathe

4 Git food intolerances, leaky gut, SIBO, chronic constipation/gastroparesis

5 Endocrine GH def, IR/leptin resistance, hypoglycaemia, adrenal dysf/HPA dysf

6 Genetic a) Coeliac, MTHFR, Pyrrole b) Mitochondrial c) CT disease: EDS, Marfans

Types of CFS/FM – continued; patient can have **several** types

7 Post infective **Mycoplasma**, CMV, EBV, RRV, BFV, Chlamydia, HHV6 **etc, unknown?**

8 Tick-borne **Lyme**, babesia, bartonella, ehrlichia, anaplasma

9 Toxic **Heavy metals**, chemicals, pesticides, chemoRx, RadioRx, medications

10 CIRS = chronic inflammatory response syndrome **mould, MCAS, EMF**

11 Surgical **dental infections**, chr tonsillitis, Arnold-Chiari, appendicitis, GB'itis

12 FM **severe myalgia**, fatigue, sleep dysfunction

Dr Mel Sydney-Smith mantra

1 Digestion – optimise this first; mention betaine hydrochloric acid
empirical test

2 Diet – individualise

3 Detoxification – as we live in such a toxic world, i.e. chemicals, heavy metals, polluted air and water etc **all** of us are toxic to a large extent

CS 15-year old female student (most CFS/FM are female - why?) 1st visit March 2017, took 2 years to get her substantially better

Post-viral fatigue - extreme, sleeps a lot since Oct 2015, always tired, exercise makes her worse, recurrent infections, nothing so far has helped, brain fog CFS?

Insomnia - sleep onset and maintenance - discuss management - why and Rx

PH:

29 weeks premature, reflux while in hospital – food allergy? dairy?

Infant – bronchiolitis low immunity: what does this mean?

2-3 y.o. cold and exercise-induced asthma food allergy - dairy? mould? histamines?

CS 15 year old female student

Several pneumonias – **RED FLAG** low immunity = low zinc, low vitamin C, low protein, toxicity, stress, sleep, sugar

Atypical pneumonia, possibly pertussis despite immunisation **low immunity**

Multiple antibiotics – **food allergy, SIBO → low micronutrients**

Viral infections monthly – **low immunity** (echinacea, olive leaf extract, astragalus and andrographis)

FH – **brother with CFS: congenital, perhaps similar SNPs**

Examination – pale conjunctiva (sometimes palmar creases, but not here)

No postural drop in her BP (but look at batemanhornecenter.org > NASA 10 minute lean test for more info.) This is an important test to do on all tired patients, using a manual sphygmomanometer, every minute till BP returns to normal

Cold feet – low Magnesium, overactive sympathetic nervous system, low EFA, B2,6

Cracked heels – low EFA/vitamin A

Dry skin shins – low EFA

Calves – not tender

Examination – pale conjunctiva

Fingers – collapsed finger pulps **low protein**

Definite horizontal grooves (Beau's lines) 2/4 **maldigestion**

White spots nails – **low zinc** (but absence of white spots can still be low zinc)

Tongue posterior coating white/yellowish **SIBO**

Strawberry-tipped tongue **low vitamin B3**

Crimson crescents throat – immune activation **food allergy**
(explain where they are located)

Examination – strawberry tipped tongue



Examination – continued

Abdomen – tender to **deep** palpation all over, especially RIF and over small intestine **SIBO** (if stomach only, check *Helicobacter pylori*)

Mention **ileo-caecal valve release test** – demo on youtube

Chest - nad (good air entry bases, no wheeze) **show patients how to belly breathe?**

CVS, CNS (**absent reflexes = low antioxidants, increased reflexes = low magnesium**),

Thyroid nad (**palpate for nodules, tenderness**)

Examination – continued

Pupils – immediately dilate **adrenal fatigue/HPA dysfunction/burnout**

Tandem Romberg stance with eyes closed – normal, **if abnormal ie < 20 seconds suggests vestibular issue (usually acute), posterior column/cerebellar toxicity (reduced truncal balance due to poor proprioception) or low brain sugar;**
toxicity and low brain sugar tend to be more chronic conditions;
also rarely - severe B12 deficiency, syphilis, posterior spinal cord vascular damage, trauma

Diet

High in carbohydrates (B -gluten-free toast w peanut butter, L – one egg with paleo bread, D adequate) – **what do high carbs mean?**

Inadequate in protein - did have some protein, especially at dinner, but other meals inadequate protein **what does this mean?**

Little omega-3 (as with most teenagers) **what does this mean?**

Ideal diet for endomorphs: optimal protein say 30-40%, low carbohydrates (cooling and reheating carbohydrates reduces sugar by 50%), say 25% or less if extremely overweight, good fats 30-40%, higher if extremely overweight; **mesomorphs** need lots of exercise and some carbohydrates; **ectomorphs** need non-refined carbohydrates

Diet

Dr Mel's formula for protein consumption 0.9 mg per kg body weight, with a factor for low lean weight, pregnancy, breast feeding and hard exercise (e.g. daily gym or marathon running)

Discuss

Plate should look like this, especially if slightly overweight:

50% vegetables

25% protein

25% carbohydrate e.g. brown organic Basmati rice, as it is a good detoxifier (Dr Walter Crinnion – Clean, green and lean book & youtube videos). Cooling and reheating carbohydrates lowers the carb content by 50%

Multi System Questionnaire – many versions on the internet, use at each visit

Rating from 0 (never had the symptom) to 4 (frequently and severe)

Digestive tract

Ears

Emotions

Energy

Eyes

Head

Heart

Joints/muscles

Lungs

Mind

Mouth

Nose

Skin

Weight

Other

Grand total 0 = ideal, <20 acceptable, > 100 very unwell patient

POINT SCALE

0 = Never or almost never have the symptoms

1 = Occasionally have it, effect is not severe

2 = Occasionally have it, effect is severe

3 = Frequently have it, effect is not severe

4 = Frequently have it, effect is severe

KEY TO QUESTIONNAIRE

Add individual scores and total each group. Add each group score and give a grand total.

+ Optimal is less than 20 + Mild Toxicity: 20-35 + Moderate Toxicity: 35-100 + Severe Toxicity: over 100

DIGESTIVE TRACT

- ___ Nausea or vomiting
- ___ Diarrhea
- ___ Constipation
- ___ Bloating feeling
- ___ Belching or passing gas
- ___ Heartburn
- ___ Intestinal/stomach pain
- Total ___ 0 ___

EARS

- ___ Itchy ears
- ___ Eruptions, ear infections
- ___ Drainage from ear
- ___ Ringing in ears, hearing loss
- Total ___ 0 ___

EMOTIONS

- ___ Mood swings
- ___ Anxiety, fear or nervousness
- ___ Anger, irritability or aggressiveness
- ___ Depression
- Total ___ 0 ___

ENERGY/ACTIVITY

- ___ Fatigue, sluggishness
- ___ Apathy, lethargy
- ___ Hyperactivity
- ___ Restlessness
- Total ___ 0 ___

EYES

- ___ Watery or itchy eyes
- ___ Swollen, reddened or sticky eyelids
- ___ Bags or dark circles under eyes
- ___ Blurred or tunnel vision (does not include near or far-sightedness)
- Total ___ 0 ___

HEAD

- ___ Headaches
- ___ Dizziness
- ___ Disinnes
- ___ Insomnia
- Total ___ 0 ___

HEART

- ___ Irregular or skipped heartbeat
- ___ Rapid or pounding heartbeat
- ___ Chest pain
- Total ___ 0 ___

JOINTS/MUSCLES

- ___ Pain or aches in joints
- ___ Arthritis
- ___ Stiffness or limitation of movement
- ___ Pain or aches in muscles
- ___ Feeling of weakness or tiredness
- Total ___ 0 ___

LUNGS

- ___ Chest congestion
- ___ Asthma, bronchitis
- ___ Shortness of breath
- ___ Difficult breathing
- Total ___ 0 ___

MIND

- ___ Poor memory
- ___ Confusion, poor comprehension
- ___ Poor concentration
- ___ Poor physical coordination
- ___ Difficulty in making decisions
- ___ Stuttering or stammering
- ___ Slurred speech
- ___ Learning disabilities
- Total ___ 0 ___

MOUTH/THROAT

- ___ Chronic coughing
- ___ Gagging, frequent need to clear throat
- ___ Raw throat, hoarseness, loss of voice
- ___ Swollen/discolored tongue, gum, lips
- ___ Canker sores
- Total ___ 0 ___

NOSE

- ___ Stuffy nose
- ___ Sinus problems
- ___ Hay fever
- ___ Sneezing attacks
- ___ Excessive mucous formation
- Total ___ 0 ___

SKIN

- ___ Acne
- ___ Itches, rashes or dry skin
- ___ Hair loss
- ___ Flashing or hot flashes
- ___ Excessive sweating
- Total ___ 0 ___

WEIGHT

- ___ Binge eating/drinking
- ___ Craving certain foods
- ___ Excessive weight
- ___ Compulsive eating
- ___ Water retention
- ___ Underweight
- Total ___ 0 ___

OTHER

- ___ Frequent illness
- ___ Frequent or urgent urination
- ___ Genital itch or discharge
- Total ___ 0 ___

GRAND TOTAL: ___ 0 ___

MSQ multi-system questionnaire 21.3.2017 important slides if you use MSQ

Digestion 5 – leaky gut, SIBO/dysbiosis, food allergy/toxicity, low stomach acid

Emotions 8 - Type 2 nutrient deficiency (explain this), high cytokines/inflammation, SIBO

Energy 8 - toxicity (stealth infection, SIBO), inflammation, metabolic derangement (e.g. protein deficiency), low iron, low thyroid, adrenal insufficiency/HPA dysfunction

Head 6 - high cytokines, especially due to SIBO, environmental toxicity

Joints/muscles 11 - high cytokines – any of the above e.g. SIBO, stealth infection, chronic inflammation, mould, MCAS, chemical or EMF toxicity

MSQ multi-system questionnaire 21.3.2017

Mind 12 - high cytokines, Type 2 nutrient deficiency

Nose 8 - allergy, especially dairy, mast cell activation (MCAS – Dr W Afrin, many articles)

Skin 6 - acne - low zinc? Low EFA? food allergy? secondary infection? hormonal changes?

Miscellaneous frequent illness 4 - low immunity

Total for this patient = 87

Provisional diagnoses – to be confirmed and adjusted after all tests are back

Chronic fatigue syndrome - **post viral**, but other factors may contribute

Adrenal fatigue/HPA dysfunction/burnout (**new term for an old illness**)

Low immunity

Food allergy and SIBO/dysbiosis/toxicity

Maldigestion

Multiple micronutrient deficiencies, especially B3, other Bs, zinc, iron, iodine?

Low EFA

Pyrrole? - **next slide**

Pyrrole summary

When to suspect pyrrole: **anxiety** (**insomnia** if older patient), **perfectionist** tendencies = longer 2nd toe (longer than great toe), **reduced dreams** (prominent lunule on thumb nail, curved area next to the nail bed should be $< \frac{1}{4}$ of the trimmed nail), zinc (white) spots on the nail

Best pyrrole test is the 2nd urine of the morning looking for pyrroles – but has to be immediately frozen, kept away from sunlight and is expensive

Pyrrole questionnaire vanitadahia.com has an excellent one that can be used to possibly diagnose and **follow up your interventions** i.e. zinc and vitamin B6 will help, **if does not, wrong diagnosis**

Provoking factors – mental or physical stress, stealth infections, SIBO, heavy metals (betterhealthguy.com Scott Forsgren – Kryptopyrroluria, quoting Dr D Klinghardt)

Associated with heavy metals (>75%), neurological disease – multiple sclerosis, Parkinson's disease, autism (>80%)

Tests for CS

Routine haematology, biochemistry, glucose tolerance test **with insulins** fasting, 1 hour and 2 hour is more accurate than fasting insulin and glucose, **(not done in this case - needle-phobia?)**, serum copper, plasma zinc, DHEAS, cortisol, Thyroid – TSH, T3 and T4, reverse T3, blood mercury, blood lead

Urine – 24 hour sodium, potassium, magnesium, calcium, zinc, cortisol and iodine (using 37.5 - 50 mg loading dose iodine as per **David Brownstein**) or consider hair test (not quite as good but gives valuable information about many other areas)

Parasite stool test – 3 separate specimens is more accurate

Stool microbial analysis - Bioscreen or similar CDSA – **the debate of culture versus PCR testing continues**

Next 2 slides – head hair test analysis ANDREW CUTLER criteria (many free youtube videos and 2 excellent books)

Hair test example
not this patient

		RESULT μg/g	REFERENCE INTERVAL	PERCENTILE 68 th 95 th	
Aluminum	(Al)	2.6	< 7.0		
Antimony	(Sb)	< 0.01	< 0.050		
Arsenic	(As)	0.028	< 0.060		
Barium	(Ba)	0.39	< 2.0		
Beryllium	(Be)	< 0.01	< 0.020		
Bismuth	(Bi)	< 0.002	< 2.0		
Cadmium	(Cd)	< 0.009	< 0.050		
Lead	(Pb)	0.04	< 0.60		
Mercury	(Hg)	2.3	< 0.80		
Platinum	(Pt)	< 0.003	< 0.005		
Thallium	(Tl)	< 0.001	< 0.002		
Thorium	(Th)	< 0.001	< 0.002		
Uranium	(U)	0.001	< 0.060		
Nickel	(Ni)	0.06	< 0.30		
Silver	(Ag)	0.01	< 0.15		
Tin	(Sn)	0.03	< 0.30		
Titanium	(Ti)	0.28	< 0.70		
Total Toxic Representation					

ESSENTIAL AND OTHER ELEMENTS					
		RESULT μg/g	REFERENCE INTERVAL	PERCENTILE 2.5 th 16 th 50 th 84 th 97.5 th	
Calcium	(Ca)	626	300- 1200		
Magnesium	(Mg)	41	35- 120		
Sodium	(Na)	6	20- 250		
Potassium	(K)	< 3	8- 75		
Copper	(Cu)	12	11- 37		
Zinc	(Zn)	190	140- 220		
Manganese	(Mn)	0.17	0.08- 0.60		
Chromium	(Cr)	0.27	0.40- 0.65		
Vanadium	(V)	0.021	0.018- 0.065		
Molybdenum	(Mo)	0.039	0.020- 0.050		
Boron	(B)	1.0	0.25- 1.5		
Iodine	(I)	0.15	0.25- 1.8		
Lithium	(Li)	< 0.004	0.007- 0.020		
Phosphorus	(P)	181	150- 220		
Selenium	(Se)	1.1	0.55- 1.1		
Strontium	(Sr)	0.70	0.50- 7.6		
Sulfur	(S)	45000	44000- 50000		
Cobalt	(Co)	0.006	0.005- 0.040		
Iron	(Fe)	5.9	7.0- 16		
Germanium	(Ge)	0.033	0.030- 0.040		
Rubidium	(Rb)	0.003	0.007- 0.096		
Zirconium	(Zr)	0.009	0.020- 0.42		

Toxic & Essential Elements; Hair

TOXIC METALS					
		RESULT µg/g	REFERENCE INTERVAL	PERCENTILE	
				68 th	95 th
Aluminum	(Al)	3.1	< 7.0		
Antimony	(Sb)	0.024	< 0.050		
Arsenic	(As)	0.039	< 0.060		
Barium	(Ba)	0.20	< 2.0		
Beryllium	(Be)	< 0.01	< 0.020		
Bismuth	(Bi)	< 0.002	< 2.0		
Cadmium	(Cd)	< 0.009	< 0.050		
Lead	(Pb)	0.35	< 0.60		
Mercury	(Hg)	0.75	< 0.80		
Platinum	(Pt)	< 0.003	< 0.005		
Thallium	(Tl)	< 0.001	< 0.002		
Thorium	(Th)	< 0.001	< 0.002		
Uranium	(U)	0.012	< 0.060		
Nickel	(Ni)	0.05	< 0.30		
Silver	(Ag)	0.03	< 0.15		
Tin	(Sn)	0.05	< 0.30		
Titanium	(Ti)	0.28	< 0.70		
Total Toxic Representation					
ESSENTIAL AND OTHER ELEMENTS					
		RESULT µg/g	REFERENCE INTERVAL	PERCENTILE	
				2.5 th	16 th 50 th 84 th 97.5 th
Calcium	(Ca)	252	300 - 1200		
Magnesium	(Mg)	27	35 - 120		
Sodium	(Na)	38	20 - 250		
Potassium	(K)	13	8 - 75		
Copper	(Cu)	81	11 - 37		
Zinc	(Zn)	180	140 - 220		
Manganese	(Mn)	0.06	0.08 - 0.60		
Chromium	(Cr)	0.37	0.40 - 0.65		
Vanadium	(V)	0.014	0.018 - 0.065		
Molybdenum	(Mo)	0.016	0.020 - 0.050		
Boron	(B)	1.3	0.25 - 1.5		
Iodine	(I)	0.45	0.25 - 1.8		
Lithium	(Li)	< 0.004	0.007 - 0.020		
Phosphorus	(P)	165	150 - 220		
Selenium	(Se)	1.3	0.55 - 1.1		
Strontium	(Sr)	0.40	0.50 - 7.6		
Sulfur	(S)	46400	44000 - 50000		
Cobalt	(Co)	0.002	0.005 - 0.040		
Iron	(Fe)	4.3	7.0 - 16		
Germanium	(Ge)	0.032	0.030 - 0.040		
Rubidium	(Rb)	0.013	0.007 - 0.096		
Zirconium	(Zr)	0.021	0.020 - 0.42		
SPECIMEN DATA			RATIOS		
COMMENTS:			ELEMENTS	RATIOS	RANGE
Date Collected: 04/15/2021			Ca/Mg	9.33	4 - 30
Date Received: 04/28/2021			Ca/P	1.53	1 - 12
Sample Size: 0.201 g			Na/K	2.92	0.5 - 10
Sample Type: Head					

Summary of Andrew Cutler criteria for heavy metal toxicity

Always treat high copper before treating mercury

Look at lower ½ of the report – only need 1 criterion to diagnose mercury toxicity

1 If 4 or more bars touch the pink zone, this is mercury toxicity

2 Normally, there should be at least 5 bars going to the right and 5 to the left; if fewer, this is mercury toxicity

3 Normally, at least 11 bars should be in the green zone; if fewer, this is mercury

4 If there are fewer than 4 bars in the pink zone, 5 or more bars to the right and to the left, and 11 or more bars in the green zone, then the upper ½ of the chart is accurate.

5 Copper:zinc balance is easy to see on any hair test (not just this one)

6 Lithium can be low – increases risk of dementia

7 If sodium and potassium point one way, and calcium and magnesium the other, this is adrenal fatigue

Routine tests – from previous GP 8/3/2017, just before I saw CS for first time

Hb	139 (115-160) if < 120 check ferritin, chronic kidney disease etc
MCV	86 (78-96) if MCV > 90 suggests xs alcohol, or B12, red cell folate deficient
WBC	6.1 (4.5-13.5) low ~ low = protein, C, zinc, toxicity; high = inflammation, differentials were all mid range
Na	142 m.mol/litre (132-145)
K	4 m.mol/l (3.5-5.5) discuss - ideal potassium 4 – 4.5
Bicarbonate	25 m.mol/l (21-31), enzymes best at alkaline pH, so > 26-27 vegetable juice
Urea	6.3 m.mol/l (2.5-6), reflects protein intake as long as normal hydration
Creatinine	75 micro.mol/litre (35-75) reflects muscle, ideal mid range or higher
Albumin	48 (38-49) often this is much lower, ideal > 42, reflects adequate protein
Globulin	23 (23-39)
Albumin/globulin ratio > 1.8 is ideal, anything less suggests subtle inflammation	
Fasting bilirubin	23 micro.mol/l (3-15) Gilbert's reactive to meds, increased brain ageing

Other tests

Gliadin and endomyseal antibodies negative (unlikely to be frankly Coeliac, but could still be gluten sensitive, can do the coeliac gene test)

Glucose	normal
Insulin	9 m.U/l ideal is 5 or less , reference is Dr Dale Bredesen – Alzheimer's
Ferritin	21 microgm/l (30-200, ideal is ~ 90-110 , unless cancer, then keep lowish)
DHEAS	4.8 micromole/l (2.4-13) a bit low, but not replenished in view of her age
Serum cortisol	221 nmol/l (70-650) low due to poor sleep? chronic stress?
TSH	0.87 mU/litre
T4	11.8 pmol/litre (8-22) low
T3	4.2 pmol/litre (4-9) low
Serum copper	17 micromol/l (12-22) ratio cu/zn > 1 reflects inflammation, vegetarian
Plasma zinc	13.9 micromole/l (9-19), Weston-Price foundation: copper/zinc imbalance
Homocysteine	6.6 micromole/l (5-12) ideal 7-8, if v high or low, likely poor detoxification
ESR and hs-CRP	both normal, can have subtle inflammation even if normal

More pathology

CMV, EBV, mycoplasma, Barmah forest V, Ross river fever V - all negative

Cyclic citrullinated peptide antibody (more specific for RA than Rheu factor), ANA - negative

Urine tests:

volume 2510 litres reasonable, if v high (> 3 litres) could be mercury toxicity

Creatinine 9.3 mmol/l (2-15) reasonable, confirms complete collection

Na 58 mmol/d (25-285) this is very low, often occurs in CFS, low aldosterone → can cause postural hypotension, or frank POTS

K 58 (25-125) vegetable intake, higher the better, as K is a Type 2 nutrient

Calcium 1 (1-7), can be lab error due to poor acidification of bottle, ionised serum calcium

Magnesium 4.2 (3-7) prefer to be ~ 6, as Type 2 nutrient

Zinc 5.8 (8-18) low - affects immunity, stomach acid, lean weight, Type 2 nutrient

Cortisol 5 (54-319) ideal is about 180, 140-220 ok, this is EXTREMELY low, no stamina

Iodine 24,004 (<45,000) low iodine symptom is premenstrual breast tenderness

Saliva, urine pyrrole and parasite tests

Morning saliva cortisol 16.9 (6-42 nmol/litre, ideal ~25)

Noon 6.2 (2-11) good level

Afternoon 1.6 (2-11) this is an extremely low level - discuss what can be done for this

Night 1.1 (1-5) often this is high, 'tired and wired', so need meditation, breathing exercises, tapping (EFT emotional freedom technique), phosphatidyl serine 300-600 mg will lower cortisol if it is high and therefore help sleep initiation

Urine pyrrole normalised (mcg/dl) 13 but errors with collection can occur, questionnaire better?

Normal <10

Borderline 10-15

High > 15, some patients have levels of > 80-100

Parasitology – dientamoeba and blastocystis on 3 separate specimens (minor detour)

Parasitology – dientamoeba and blastocystis

Rx – **this applies to any SIBO or parasite cleanse**

- 1 Laxative once a week for 3 weeks e.g. Pico prep or similar, must have mild loose stools the next morning **(for all SIBO treatments at the start, to lower the bowel toxic load)**
- 2 Limit refined carbs and fruit **(as these grow streptococcus and enterococcus, and candida)**
- 3 Alkalise with aluminium-free sodium bicarbonate ½ teaspoon **between** meals, as need to be acidic **during** meals for optimum digestion
- 4 Paromomycin 400 mg tds for 10 days (no alcohol as risk of nausea/vomiting) followed by trimethoprim 300 mg for 10 days

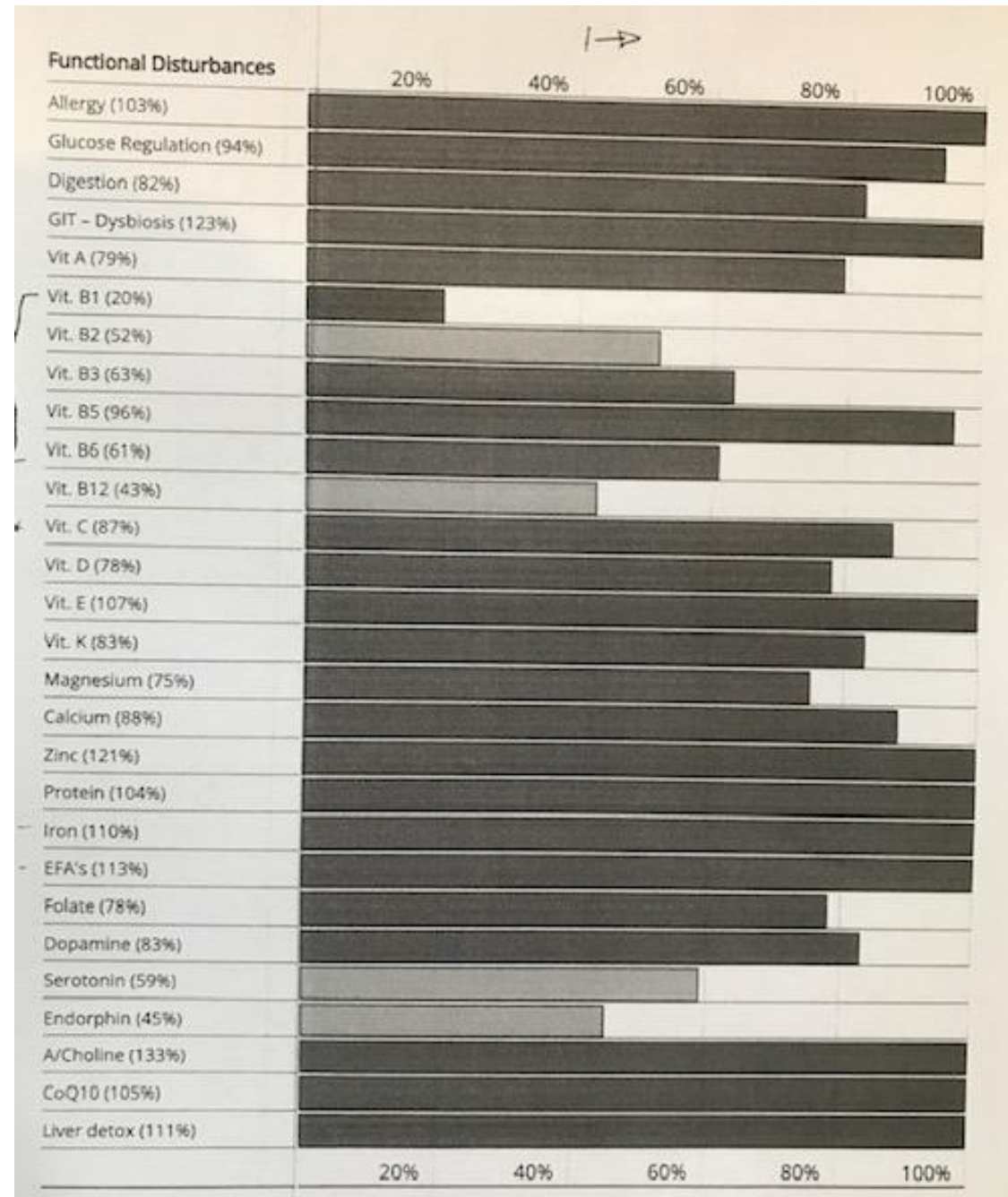
Dientamoeba – always treat

Blastocystis – **only treat if symptoms** i.e. unwell, diarrhoea, rumbling, low micronutrients

Also use nystatin, saccharomyces boulardii and probiotic during treatment, probiotic 2 hours away from paromomycin.

Test was repeated 12/7/2017 – no parasite detected

CS – Dr Mel's Nutricheck 1st visit March '17



Rearranged problem list

Chronic fatigue syndrome – post viral, but other factors may contribute, low protein, micronutrients, low neurotransmitters, environmental toxicity?

Adrenal fatigue, lack of vit Bs, especially B5 – severe, especially low 24-hour urine cortisol and very low evening salivary cortisol confirms this

Food allergy – IgG test: cease gluten (so avoid rye, oats/avidin, barley and spelt – can have rice, quinoa, amaranth, lupin, chickpea flour, coconut flour, besan, buckwheat, arrowroot, almond flour), mild to dairy, egg white, sugar cane (use raw honey instead), cranberry, soy and pinto beans (consider lectins if many beans are positive). Allergies are not forever.

Dientamoeba and blastocystis

SIBO – Bioscreen test, discussed in next slide

Protein maldigestion and low fat-soluble vitamins = poor fat absorption – use of apple cider vinegar after meals or betaine HCl 1-2 immediately after meals; ox-bile; glycine and taurine make bile

Low immunity – lack of zinc, iodine, cortisol, protein, other micronutrients

Multiple micronutrient deficiencies, especially sodium, zinc, magnesium, iron and iodine; note calcium and zinc are antagonistic, zinc and iron are antagonistic, so separate by > 2 hours

Mild hypoglycaemia and IR – diet, supplements chromium/vanadium, berberine, metformin

Bioscreen faecal microbial analysis – will only cover briefly as not available in Asia yet

Aerobes:

E Coli (an important good one) normal 99.64% (70-90%)

Enterococcus normal

Candida albicans high 30,000 (<10,000) this is a **PCR** and **culture** test

Rx laxative, high garlic and coconut cream diet, low sugars, nystatin, Thorne SF722; **Candidemia** - ketoconazole (liver toxicity), itraconazole (safer), voriconazole, albaconazole; use with cat's claw, lactoferrin and **biofilm** treatments – stevia, N-acetyl cysteine (PMID 30018595)

Anaerobes:

Bacteroides low numbers and low variety – improved with bone broth 3-4 times per day for 1-2 months, then reduce, or slow cooked meats

alternatives are fish or bean broth

Eubacterium **high Collinsella aerofaciens is associated with high insulin, low intake of fibre and weight gain** (L Gomez-Arango et al Low dietary fiber intake increases collinsella abundance, Gut Microbes 2018, PMID 29144833)

Lactobacillus and Bifidobacterium both low – replaced with **d-lactate free probiotic** i.e. **no lactobacillus acidophilus and plantarum, which can both cause brain fog. Discuss d and l lactic acid**

Management of CS

- 1 Optimise digestion **chewing thoroughly**, remember **soup or water before the meal** makes **more** stomach acid (osmoreceptors). Heal gut lining with **Thorne GI-encaps**, Crystal Star Digestive support, **zinc carnosine** or aloe vera/slippery elm for 3-4 months.
Melatonin and nystatin both help heal leaky gut
- 2 Diet - **slow-cooked meals, regular protein, cooked, steamed, stewed or canned fruit if extremely sensitive person** for 1-2 months, avoid allergens (IgG test or **quick elimination diet**)
- 3 Detoxification - **infrared sauna, coffee enemas, colonics**, slowing Phase 1 = unable to sleep with evening caffeine (use **pink grapefruit naringenin**), and **support Phase 2** (many multis available); **nac** and **R-alpha lipoic acid**
- 4 Antioxidants - start most of my patients on **vitamin C** (liposomal) 1-2 grams bd, and a **multi B** that has a bit of everything especially vitamin B6 (many uses with zinc)
- 5 EFA - 3rd party-tested fish oil e.g. Nordic Natural or SPM/spec proresolving mediators
- 6 Specific treatments - intestinal candidiasis, treat adrenal fatigue, replace EFA, minerals sodium, calcium, magnesium, zinc, iodine (Lugol's solution 2 drops daily for 2-3 months, then 1-2 drops weekly, repeat urine tests)

Adrenal fatigue

1 Vitamin C

2 Adrenal energy support - Life Extension Adrenal energy formula or similar – ashwagandha, holy basil, bacopa etc; **caution with rhodiola rosea**, if an **excitable or anxious person**, can make them worse.

Over several months, this helped this CS immensely, she ceased cortate herself as she felt so good on Adrenal Energy formula, but not all will have this reaction

3 Cortate (cortisol) 5 mg - increased slowly; I usually give 5-10 mg in the morning, another dose before their flat period, gradually increase **depending on response**; can do a **therapeutic trial** 2 tablets four times a day for 2 weeks, if improves confirms adrenal fatigue is a major issue (**McK Jefferies – Safe uses of cortisol, 3rd edition**)

Later CS used cortate 25 mg ½ bd

In August, 4-5 months after first being seen, sleep got worse (**common antibiotic affect? worth trying binders**), so melatonin 1 mg was added → helped a lot

Abdominal tenderness improved – MSQ, nail grooves, tongue, DEEP palpation, tandem stance and pupils are useful for monitoring

Cortisone was increased to 7.5 mg morning and noon - just before her afternoon slump

Feb 2018 (11 months after first visit) another Bioscreen was performed:

Enterococcus and candida Rx vancomycin (not absorbed, so entirely intestinal action) and fluconazole, followed by Bactrex (Metagenics) herbal antibiotic, golden seal or cat's claw

October 2018 – wisdom teeth removed under general anaesthetic, needed antibiotics, so gut deteriorated and MSQ got worse; iron fell → intravenous iron replacement as a rescue treatment - discuss rescue procedures e.g. iron infusions, melatonin etc

December 2018 - menorrhagia Rx vitex agnus castus (raises progesterone), therapeutic trial of low dose naltrexone 1.5 mg nocte, later increased to 3 mg nocte, helped (max 20 mg)

Jan to June 2019 - trial of intravenous vitamin C, which helped energy; Nystatin, Thorne SF722 and fluconazole were used over > 4-6 months to suppress candida, with good effect; mould was discovered at home; I had been to USA to do a mould conference ISEAI, Phoenix.

Shoemaker cluster analysis and VCS visual contrast sensitivity testing was done; VCS test costs \$25 and must be done on a well day and at a best-energy time of the day

Mould summary

Shoemaker was the pioneer; ISEAI, USA, has reformulated his ideas. Currently, Neil Nathan is possibly very knowledgeable (many youtube videos and books). It appears 20% of patients with the **coeliac gene HLA-DQ2, DQ8** may be sensitive to mould toxins (hundreds of mycotoxins)

The **Shoemaker cluster analysis** gives 11 separate coloured boxes of **symptom clusters; if > 8 of 11 positive most days of the week, 85% mould sensitive; if < 4 positive, 85% not mould sensitive**. This can be supported with a **Shoemaker VCS test**, **fail = confirms mould, and used as a monitoring tool**; if passes, **does not help** diagnosis or follow up;

Dr Janette Hope (ISEAI, USA) - patients can't afford testing. She uses **activated charcoal once a week only** e.g. ¼ tablet or ¼ teaspoon once a week at 3 pm, away from all supplements and foods; **every month, double dose** till using 1-2 capsules or teaspoons **a week**; later add nac or infrared sauna to hasten mould expulsion. Can add lipoic acid, vitamin C, E, selenium.

There are advantages in testing - **urine test after nac 500 mg bd and infrared sauna or sweating**
Discuss enterohepatic recirculation

Most important issue is **remediation of the home**; need a building biologist like Nicole Bijlsma, who has a great website > hazards in the home **for all patients, CFS/FM, cancer, hormonal etc**

NO POINT REPAIRING UNLESS THE SOURCE HAS BEEN DETERMINED AND FIXED

CIRS Symptom Clusters		
Fatigue		Red Eyes
Weakness	Unusual skin sensitivity	Blurred Vision
Decreased assimilation of knowledge	Tingling	Sweats (night)
Aches		Mood Swings
Headache		Ice-pick Pain
Light Sensitivity		
Memory Impairment	Shortness of breath	Abdominal Pain
Decreased Word Finding	Sinus congestion	Diarrhea
		Numbness
Difficulty Concentrating	Cough	Tearing
	Excessive thirst	Disorientation
	Confusion	Metallic Taste
Joint Pain	Appetite Swings	Static Shocks
AM Stiffness	Difficulty regulating body temperature	Vertigo
Cramps	Increased urination	

MSQ

21/3/17	87 - initial visit - sleeping all day, extreme fatigue, poor concentration
11/7/17	59 - treated parasites, Bioscreen, melatonin , fluconazole for candida
4/12/17	64 - needed iron infusion and cortisone 7.5 mg bd
2/5/18	73 - 2 nd Bioscreen - Rx vancomycin
18/11/18	67 - Wisdom teeth removed, oral antibiotics by dentist – got worse
8/1/19	59 - Cholestyramine trialled, later added activated charcoal
17/7/19	43 - Able to exercise more, concentration better, did ½ her final year exam, binders continued
21/4/20	29 - Feb 21 ceased cortisol totally, Adrenal energy formula helping a lot
24/6/20	21 - Rock climbing; August 2020 viral infection, mild relapse, recovered well
24/2/21	23 - PMT Rx vitex , evening primrose oil and B6 ,
26/6/21	14 - insulin down from 9 to 6-7; did work experience; lfts mildly abnormal, fatty liver? ordered ultrasound (not performed yet)

Take-home messages - treat the patient, not the test

- 1 **Individualise** treatment – **there is no one magic remedy**, no one-pathology, one-treatment
- 2 Take a good **history** and listen to patient, parents, siblings, whoever attends
- 3 I get my patients to **record** the consultation, as CFS/FM patients can have poor memory, especially during a 1.5 hour visit
- 4 **Examine** thoroughly, nutritional focus – **feet, hands, oral cavity, abdomen, pupils, balance should improve if you are doing the right treatment**
- 5 Go over old notes for interpreting **tests** e.g. **Andrew Cutler - Hair test interpretation book**
- 6 Work from the patient's a **problem list**, **which you keep adjusting**
- 7 Start with **digestion, diet and detox**
- 8 Quick **elimination diet or GF/DF diet** can save money, best spent on stool testing - **ask Dr Patana which stool test to use in Bangkok**
- 9 Consider **parasite** testing and treatment early
- 10 Replenish **type 2 nutrients** early
- 11 Study mould, MCAS, heavy metal toxicity (**Andrew Cutler**), EMF sensitivity, they seem to be as or more important than stealth infections

QUESTIONS

IF YOU DON'T ASK QUESTIONS, I WILL NOT BE CERTAIN YOU HAVE FOLLOWED
THIS LECTURE

'Fundamentals of nutritional and environmental illness' textbook will be
released in the next 6-12 months