KYLIE CASSIN -.JAMES MARR

NutriPATH

Date of Birth : 06-Jun-1979
Sex : F
Collected : 23-May-2018
Received: 23-May-2018
15 SILKY OAK CLOSE
GREEN POINT NSW 2251
Lab id : 3540532 UR#:

HEALTHY SELF
60 KARALTA ROAD
ERINA NSW 2250

COMPLETE DIGESTIVE STOOL ANALYSIS - Level 1

MACROSCOPIC DESCRIPTION

	Result	Range	Markers
Stool Colour	**Brown**	Brown	**Colour** - Brown is the colour of normal stool. Other colours may indicate abnormal GIT conditions.
Stool Form	**Formed**	Formed	**Form** -A formed stool is considered normal. Variations to this may indicate abnormal GIT conditions.
Mucous	**ND**	< +	**Mucous** - Mucous production may indcate the presence of an infection, inflammation or malignancy.
Blood (Macro)	**ND**	< +	**Blood (Macro)**- The presence of blood in the stool may indicate possible GIT ulcer, and must always be investigated immediately.

Macroscopy Comment

BROWN coloured stool is considered normal in appearance.

MICROSCOPIC DESCRIPTION

	Result	Range	Markers
RBCs (Micro)	**ND**	< +	**RBC(Micro)** - The presence of RBCs in the stool may indicate the presence of an infection, inflammation or haemorrhage.
WBCs (Micro)	**0**	< 10	**WBC(Micro)** - The presence of WBCs in the stool may indicate the presence of an infection, inflammation or haemorrhage.
Food Remnants	+	< ++	**Food Remnants** - The presence of food remnants may indicate maldigestion.
Fat Globules	**ND**	< +	**Fat Globules** -The presence of fat globules may indicate fat maldigestion.
Starch	**ND**	< +	**Starch** - The presence of starch grains may indicate carbohydrate maldigestion.

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DIGESTIVE MARKERS

	Result	Range	Markers
Meat Fibres	ND	< +	**Meat Fibres** - The presence of meat fibres may indicate maldigestion from gastric hypoacidity or diminished pancreatic output.
Vegetable Fibres	+	< ++	**Vegetable Fibres** - The presence of vegetable fibres may indicate maldigestion from gastric hypoacidity or diminished pancreatic output.

METABOLIC MARKERS

		Markers
pH		
6.5		**pH** - Imbalances in gut pH, will influence SCFA production and effect.

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BENEFICIAL BACTERIA

	Result	Range
Bifidobacteria	++	2 - 4 +
Lactobacilli	+	2 - 4 +
Eschericia coli	++++	2 - 4 +
Enterococci	+	1 - 2 +

COMMENTS:
Significant numbers of Lactobacilli, Bifidobacteria and E coli are normally present in the healthy gut: Lactobacilli and Bifidobacteria, in particular, are essential for gut health because they contribute to 1) the inhibition of gut pathogens and carcinogens. 2) the control of intetinal pH, 3) the reduction of cholesterol, 4) the synthesis of vitamins and disaccharidase enzymes.

OTHER BACTERIA

	Result	Range
Klebsiella	ND	< +++
Pseudomonas	ND	< +++
Campylobacter	ND	< +
Citrobacter	++++	< +++
Yersinia	ND	< +
Other Bacteria.	++	< +++

COMMENTS:

YEASTS

	Result	Range
Candida albicans	ND	< +
Other Yeasts	ND	< +

COMMENTS:

PARASITES

	Result	Range
Cryptosporidium	ND	< +
Giardia lamblia	ND	< +
Entamoeba Histolytica	ND	< +
Blastocystis Hominis	ND	< +
Dientamoeba fragilis	ND	< +
Other Parasites	ND	< +

COMMENTS:

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MICROORGANISM SUMMARY

BENEFICIAL BACTERIA LEVELS LOW:
Consider possible causes and symptoms include antibiotics use, chlorinated water consumption, food allergy or sensitivity, IBS, IBD, inadequate dietary fiber or water, low intestinal sIgA, maldigestion, NSAIDs use, nutrient insufficiencies, parasite infection and slow transit time.
Ideally, Bifidobacteria should be recovered at levels of 4+, whilst Lactobacillus and E. coli should be 2+ or greater.
To Improve the levels of beneficial bacteria follow the four R's:
REMOVE
• Allergenic foods, Alcohol, NSAIDs, Pathogens, Sugar, refined carbohyrates, saturated fat, red meat, fermented foods
REPLACE
• Supplement hydrochloride, digestive enzymes or other digestive aids (see pancreatic elastase 1 results)
REINOCULATE
• Prebiotic and probiotic supplementation (see bacterial culture results)
REPAIR
• Use nutraceutical agents that will help heal the gastrointestinal lining. eg. L-glutamine, aloe vera, zinc, slippery elm.

Adequate levels of Bifidobacteria detected.

CITROBACTER PRESENT:
Citrobacter is considered an opportunistic pathogen and therefore can be found in the gut as normal flora. It is occasionally implicated in diarrheal disease, particularly C. freundii, C. diversus and C. koseri.

Treatment: Currently no specific antimicrobial guidelines for GI overgrowth of Citrobacter exist. Carbapenems and fluroquinolones are the antibiotics of choice for extra-intestinal sites.
Low numbers of the bacteria should be ignored whilst supplementing with adequate levels of probiotics if indicated.

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ANTIBIOTIC SENSITIVITIES and NATURAL INHIBITORS

	Citrobacter freundii
Antibiotics	
	Susceptible
Penicillin.	NO
Ampicillin	NO
Erythromycin	NO
Tetracycline	YES
Sulphonamides	YES
Trimethoprim	YES
Ciprofloxacin	YES
Gentamycin.	NO
Ticarcillin	NO
Tobramycin	NO
Augmentin	NO
Cephalexin	NO
Inhibitors	
	Inhibition %
Berberine	80%
Oregano	60%
Plant Tannins	80%
Uva-Ursi	80%

LEGEND

Low Inhibition — High Inhibition

0	20	40	60	80	100

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PATHOGEN SUMMARY

OTHER BACTERIA PRESENT:

Organism	Result	Range	Classification
alpha-haemolytic Streptococcus	2+	0 - 3+	Non-Pathogen
gamma-haemolytic Streptococcus	1+	0 - 3+	Non-Pathogen
Citrobacter freundii	4+ * H	0 - 3+	POSSIBLE Pathogen

OTHER YEASTS PRESENT:

Organism	Result	Range	Classification
NO FUNGAL ORGANISMS GROWN			

OTHER PARASITES PRESENT:

Organism	Result	Range	Classification
NO PARASITIC ORGANISMS DETECTED			

CITROBACTER:
Sources:
Common in the environment and may be spread by person-to person contact. Several outbreaks have occurred in babies in hospital units. Isolated from water, fish, animals and food.

Pathogenicity:
Citrobacter is considered an opportunistic pathogen and therefore can be found in the gut as part of the normal flora.

Symptoms:
Citrobacter has occasionally been implicated in diarrheal disease, particularly C. freundii and C. diversus and C. koseri

Treatment:
Currently, standard texts provide no specific antimicrobial guidelines for GI overgrowth of Citrobacter. Carbapenems and fluroquinolones are the recommended antibiotics for extraintestinal sites.

SAFE Analytical Laboratories
PO Box 2060, Burleigh Junction. QLD. 4220
Ph: 61 7 55221919 Fax: 61 7 55221929
Email: admin@safelabs.com.au

Urinary Pyrrole Analysis Test Report

Patient Name	**Kylie Cassin**	**Date Reported**	10-02-2016
Date of Birth	06-06-1979	**Date Tested**	09-02-2016
Pathology Ref No.	233537529	**Date Received**	05-02-2016
Test Method	STM006/3	**Date Sampled**	02-02-2016
Referring Practitioner	**Dr Philip Myers**		
Clinic	Impact Wellness Centre 19 Chetwynd Rd Erina NSW Australia 2250		
Contact Phone	0243351445	**Report Fax**	0243351446
Report Email			

Results

Laboratory Sample No	U1601106
HPL (µg/dL)	14
HPL (µg/dL) Normalised*	16.4

*** Note:** The normalised HPL result is corrected for patient hydration using specific gravity.

Results pertain only to the sample as received at the laboratory

Critical Values

HPL < 10 µ g/dL = Normal

HPL 10-15 µ g/dL = Borderline

HPL > 15 µ g/dL = Elevated

Please Note: Interpretive Comments are not NATA/RCPA endorsed.

NATA
ACCREDITED FOR
TECHNICAL
COMPETENCE

Accredited for compliance with
ISO/IEC 17025:2005

Accreditation No: 15721

Authorised by: Brendon Hayes
Analytical Technician
SAFE Analytical Laboratories

Re-tested Oct 18.

Pyrrole = 10
Zinc = 18.9
Copper = 15.
Histamine = 0.7 (undermethylator)

Organic Acids metabolic panel 4016 test - Nutripath.

CASSIN, KYLIE
249 AVOCA DRIVE, GREEN POINT. 2251
Phone: 0439930226
Birthdate: 06/06/1979 **Sex:** F **Medicare Number:**
Your Reference: **Lab Reference:** 3415091
Laboratory: nutrpath
Addressee: Dr PHILIP MYERS **Referred by:** Dr PHILIP MYERS
Copy to:
Dr PHILIP MYERS
Requested: 03/02/2016 **Collected:** 03/02/2016 **Reported:** 15/02/2016 16:35

Citric Acid Cycle Metabolites serve both anabolic and catabolic functions.
They are the final common pathway of energy release from catabolism of fats, proteins, and carbohydrates.
They are the source of basic structural moleules that are drawn away from the cycle to support organ maintenance and neurological function-anabolic processes
They are at the crossroads of food conversion and utilization.
Spillage of Citric Acid Cycle intermediates into the urine may indicate mitochondrial inefficiencies in energy production. A block in any step may cause a build up of compounds that precede this step.
Amino acids supply carbon skeletons for maintaining mitochondrial concentrations.

Citrate, cis-Aconitate and Isocitrate ar the key organic acids in this biochemical pathway and are responsible for aerobic energy production.

	Pyruvic Acid.	2.78	ug/mgCR	0.60 - 6.61
+	**Lactic Acid.**	**2.16**	**ug/mgCR**	**0.00 - 1.58**
	Citric Acid.	38.00	ug/mgCR	37.50 - 417.80
-	**cis-Aconitic Acid.**	**9.80**	**ug/mgCR**	**12.00 - 42.90**
-	**Isocitric Acid.**	**5.50**	**ug/mgCR**	**7.80 - 45.90**
	a-Ketoglutaric Acid.	15.72	ug/mgCR	10.40 - 168.30
	Succinic Acid	4.49	ug/gCR	1.80 - 13.30
	Fumaric Acid.	0.49	ug/mgCR	0.18 - 1.20
	Malic Acid.	0.54	ug/mgCR	0.30 - 1.45

Fatty Acid Metabolism is needed for energy production.

Key Supplements:
Carnitine A metabolic cofactor synthesized from L-Lysine and L-methionine (as SAMe)
Conditionally essential nutrient
Fatty acid transport carrier from cytosol into mitochondria for beta -oxidation
Vitamin B2 (riboflavin)
Aids oxidative metabolism of fats within the mitochondria

Key Organic Acids:
Adipate (Adipic Acid) and Suberate (Suberic Acid)
Functional markers of carnitine insufficiency
Six and eight carbon dicarboxylic acids, respectively
Products of peroxisomal fatty acid oxidation
Increased when carnitine insufficiency limits long chain fatty acid entry into mitochondria

	Adipic Acid.	1.04	ug/mgCR	0.46 - 3.01
	Suberic Acid.	0.86	ug/mgCR	0.34 - 2.34
+	**Ethylmalonic Acid**	**4.79**	**ug/mgCR**	**1.09 - 4.22**
	Methyl-Succinic Acid	1.39	ug/mgCR	0.62 - 2.19
	a-OH-Butyrate	0.29	ug/mgCR	0.16 - 2.76
	b-OH-Butyrate	0.32	ug/mgCR	0.00 - 1.90
	a-Ketoisovaleric Acid	0.19	ug/mgCR	0.00 - 0.22
	a-Ketoisocaproic Acid	0.31	ug/mgCR	0.00 - 0.57
	a-Keto-b-Methylvaleric Acid	0.26	ug/mgCR	0.00 - 0.69
	beta-Hydroxyisovalerate	0.61	ug/mgCR	0.15 - 7.03
	Methylmalonic Acid.	1.06	ug/mgCR	0.44 - 1.90
	Formiminoglutamic Acid	5.2	ug/mgCR	0.0 - 9.0
	Kynurenic Acid.	2.56	ug/mgCR	0.00 - 6.27

b-OH-b-Methylglutaric Acid	4.68	ug/mgCR	1.34 - 6.55
ParaHydroxyphenyllactate	0.48	ug/mgCR	0.31 - 1.21
Orotic Acid.	0.37	ug/mgCR	0.14 - 0.64
Pyroglutamic Acid.	7.88	ug/mgCR	6.66 - 23.87
Benzoate (OA)	0.19	ug/mgCR	0.00 - 0.41
Hippurate (OA)	138	ug/mgCR	12.9 - 663
Benzoic/Hippuric Acids Ratio	0.0	RATIO	0.0 - 0.0
ParaHydroxyBenzoate	1.1	ug/mgCR	0.5 - 2.7
Phenylacetic Acid.	0.0	ug/mgCR	0.0 - 0.0
2-OH-Phenylacetic Acid	0.71	ug/gCR	0.35 - 1.04
Indoleacetic Acid	2.03	ug/mgCR	0.18 - 3.98
Tricarballylate	0.08	ug/mgCR	0.00 - 0.79
Dihydroxyphenylpropionic Acid	0.6	ug/mgCR	0.0 - 2.2
Citramalic Acid	2.8	ug/mgCR	0.0 - 7.0
Arabinose.	20.7	ug/mgCR	0.0 - 42.3
b-Ketoglutaric Acid.	0.0	ug/mgCR	0.0 - 0.0
Tartaric Acid.	3.8	mmol/molCr	0.0 - 14.1
HVA	2.7	mmol/molCr	2.5 - 3.5
VMA	3.1	mmol/molCr	2.5 - 3.5
5HIAA	3.9	mmol/molCr	3.0 - 4.5
Quinolinate (OA)	3.30	ug/mgCR	0.00 - 6.10

PYRUVATE COMMENT:
Pyruvate is the anaerobic breakdown product of glucose. Its further conversion to acetyl-CoA requires the pyruvate dehydrogenase enzyme complex. Pyruvate dehydrogenase requires cofactors derived from thiamin, riboflavin, niacin, lipoic acid, and pantothenic acid for optimal function.
Levels of pyruvate in the tissues are further controlled by the biotin-containing protein, pyruvate carboxylase, which controls the first step in the reformation of glucose from pyruvate. Multiple forms of pyruvate carboxylase deficiency, some of which are biotin responsive, have been reported.

ISOCITRATE LOW:
This is an endproduct in the metabolism of aci-Aconitate in the Krebs Cycle. Low levels of isocitrate are suggestive of enzyme inhibition with Fluoride, Mercury, Arsenic or Tin.

SUPPLEMENTATION RECOMMENDATIONS:
The cofactors needed to up regulate the enzyme activity are: Aaspartic acid, Iron and Glutathione.

Lactate Elevated:
This metabolic precursor to the Citric Acid Cycle, may indicate a block in the production of energy. Can also be indicative of an on-going infectious state, use of some recreational and/or pharmaceutical drugs, alcohol over consumption, poor blood sugar control (especially with diabetics), and a number of inborn errors of metabolism.

SUPPLEMENTATION RECOMMENDATIONS:
CoQ10, thiamin (Vit B1), riboflavin, niacin, lipoic acid, and pantothenic acid.
MALATE COMMENT:
A high level of this organic acid may be indicative of a need for certain nutrients such as niacin (B3) and Coenzyme Q10.
A low level of this organic acid may be indicative of the need for aspartic acid.

Ethylmalonate (Ethylmalonic Acid) is a functional marker of carnitine insufficiency. It may be formed when short chain fatty acid oxidation is compromised, which causes an elevation of butyrate, some of which is converted to ethylmalonate.
This oxidation is dependent on formation of acylcarnitine.

ELEVATED ETHYLMALONATE:
Causes:
Carnitine deficiency, Riboflavin deficiency, failure in formation or oxidation of butyrylacrnitine, genetic mutations (short chain acyl-CoA dehydrogenase, multiple acyl-CoA dehyrdrogenase), Isoleucine loading.

Symptoms/conditions:
Periodic mild weakness, Mitochondrial dysfunction, Nausea, Fatigue, Hypoglycemia, Recurrent infections, Attention defici in children, Metabolilc acidosis, Reye

syndrome (inhibition of fatty acid oxidation likely caused by aspirin in presence of a genetic mutation given for viral infection-viral toxins also implicated)

Treatment:
B complex (B2, B5), CoQ10, L-Carnitine (may be contraindicatedin patients on thyroid medications), L-Lysine (precursor to L-Carnitine), Other nutrients involved in Carnitine synthesis (Mg, SAMe, Vit B6, ascorbic acid, iron, niacin)
Also: Glycine, 250mg/kg/day, Avoid medium chain fatty acids such as coconut oil

HYDROXYMETHYLGLUTARATE Comment:
This organic acid, WHEN ELEVATED, may be indicative of a low level of Coenzyme Q10 or poor synthesis.

PHENYLACETATE (PAA) COMMENT
- Intestinal bacterial action on polyphenols, tyrosine or phenylalanine results in PAA production
- Should only be present in background concentrations in healthy subjects
- Is trace product of endogenous phenylalanine, may accumulate in phenylketonuria (PKU)
- May accululate in schizophrenia
- Elimination may be redcud in depression
- May modulate estrogen-mediated cancers

IF PHENYLACETATE HIGH:
Causes: Intestinal bacterial overgrowth, Polypherol intake in the presence of PAA-producing bacteria, Malabsorption of phenylalanine due to low HCI in stomach, PKU

Symptoms/Conditions
Rule out PKU

TREATMENT:
Decrease sugars and amino acids

INDOLEACETIC ACID COMMENT:
Indican (Indoleacetate) is a by-product from breakdown of dietary protein in the upper bowel. Bacteria are responsible for the production of indican. Indican is present only at low levels in a healthy person. An elevated level of urinary indican is an indication of upper bowel bacterial overgrowth or dysbiosis. Indican excretion is reduced when the intestines are populated with strains of lactobacillus.

Vanilmandelate is a metabolite of both epinephrine and norepinephrine.

[5HIAA] is within range. This is the major metabolite of Serotonin.

Creatinine, Urine Spot.	11.2	mmol/L	5.0 - 13.0

Dr Shashi Singh & Dr Indu Gunawardena
Ear, Nose & Throat Specialists
Allergy Clinic
29 Hills Street GOSFORD NSW 2250
Ph: 43245677 Fax: 43245408

SKIN TESTING SHEET

Date: 10.3.15

Cassin, Ms Kylie

43303

249 Avoca Drive GREEN POINT NSW 2251
D.O.B.: 06/06/1979 Sex: F
M/C: 2474854917 Age: 35
Health Fund : Bupa Australia M Phone: 0439930226
Dr C Weber 230623BF
Womens Care and Family Practice 431 Terrigal Drive Erina 2250
Referral Date 23/05/2014 Referral Period 12 months
Dr. Indu Gunawardena Private

LEFT ARM

Grasses, Weeds & Trees

1/ Grass Mix (STD) (5)
2/ Ryegrass Mix (5)
3/ Bahia Grass (5)
4/ Johnson Grass (4)
5/ Bermuda Grass (2)
6/ Chenopodium (2)
7/ Plantain (4)
8/ Wattle (1)
9/ Privet ( )
10/ Pine Mix ( )
11/ Eucalyptus ( )
12/ Olive Tree (3)

EPITHELIA

13/ Cat Hair ( )
14/ Horse Hair ( )
15/ Dog Hair ( )
16/ Cattle ( )

FUNGI

17/ Candida ( )
18/ Altenaria ( )
19/ Hormodendrum (4)

Miscellaneous

20/ Dust Mite DPT (12)
21/ Dust Mite FAR (10)
22/ Latex (3)
23/ Control ( )

INSECTS

24/ Mosquito (3)
25/ Cockroach ( )

RIGHT ARM

FOODS

~~26/ Milk ( )~~
27/ Egg White ( )
28/ Egg Yolk ( )
29/ Peanut ( )
30/ Corn ( )
31/ Soybean ( )
32/ Wheat ( )
33/ Tomato ( )
34/ Orange ( )
35/ Yeast ( )
36/ Chicken ( )
37/ Apple ( )
38/ Potato ( )
39/ Sesame Seeds ( )
40/ Prawns ( )
41/ Cashews ( )
42/ Histamine (6)

Tested by: [signature]