

Dr. Clayton's OAT Cheat Sheet



SUGGESTED TREATMENT

Table taken from:

Richard S. Lord, & Bralley, A. J. (2012). *Laboratory Evaluations for Integrative and Functional Medicine* (Revised 2nd). Duluth, GA: Metametrix Institute.

B-Complex Vitamin Markers			
α- Ketoisovalerate	H		Valine catabolism
α-Ketoisocaproate	H	B-complex, 1 TID; lipoic acid 100 mg	Leucine catabolism
α-Keto-β-methylvalerate	H		Isoleucine catabolism
Kynurenate	H	Vitamin B ₆ , 100 mg/d	Tryptophan catabolism (hepatic)
ALT (conventional labs < 11)	L		
β-Hydroxyisovalerate	H	Biotin, 5 mg/day, magnesium, 100 mg BID	Isoleucine catabolism
Methylmalonate	H	B12, 1000 µg TID	Valine or odd-chain fatty acid catabolism

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PEROXISOMAL FATTY ACID OXIDATION

Fatty Acid Oxidation			
Adipate	H		Fatty acid oxidation
Suberate	H	L-Carnitine, 500-1000 mg TID; L-Lysine (if low), 500 mg TID; B2, 100mg BID	
Ethylmalonate	H	See text for other interventions in genetic disorders	

CONSIDERATIONS:

- MADD may need much higher doses of L-carnitine up to 3 grams/day.
- Riboflavin activation issues – consider using R5P (activated riboflavin).
- Riboflavin is safe and typically given at 100-400mg daily or R5P 30-60mg daily.

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SUGGESTED TREATMENT OF CATECHOLAMINE ABNORMALITIES

Neurotransmitter Considerations and Suggested Treatments		
B6	Pyridoxine or P5P	Dosing: 10-150mg daily
BH4	Tetrahydrobiopterin	BH2 BH4 recycled by B3; Royal Jelly
Cu++, Fe++, Mag+++	Trace Minerals	Poor digestion; Dysbiosis (High tricarballyate?); High HVA/VMA ratio; High Succinic; Anemia pattern on conventional labs
VITAMIN C	Ascorbic Acid	1,000mg 2-x daily; High oxy stress patterns
Methylation	B6, Folate, B12, and other methylation factors	P5P 50mg; Methylfolate 1-5gm; B12 1-2 mg; Mag++ 300mg daily
SAMe	Converting SAH to SAM	PNMT SNIps; Depression
BCAAs	Leucine, Iso-leucine, Valine	Block uptake for AA precursors to DA & NE in anxiety
Free Form Amino Acids	Balanced formula	Helpful when amino acid precursors are low (hypometabolic states)
Stress Reduction	High Cortisol; Histamine	Sleep hygiene; Limbic retraining – DNRS; Gupta

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RECOMMENDED TREATMENT



HIGH: LACTATE, PYRUVATE, BETA-HYDROXYBUTYRATE

Carbohydrate Metabolism			
Pyruvate	H	B ₁ , up to 100mg TID with B complex support; For concurrent H Lactate: lipoic acid, 500mg TID, B5 250mg daily	Aerobic/anaerobic energy production
Lactate	H	Coenzyme Q10, 50 mg TID; lower carbohydrates; Stop lactobacillus probiotic	
B-Hydroxybutyrate	H	Chromium picolinate, 200 µg BID, Vanadium 1.5mg daily	Balance of fat and CHO metabolism

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RECOMMENDED TREATMENT SCHEDULE



2-Methylhippurate	H	Avoidance of xylene; glycine 2-5 gm/d; Bs 100 mg TID	Hepatic conjugation
Orotate	H	Arginine 1-3 gm/day; AKG 300mg TID; Aspartic Acid 500 mg BID; Magnesium, 300 mg daily	Ammonia clearance, Pyrimidine synthesis,
Homocysteine	H	B6, B12, folate, Betaine	Methylation
α-Hydroxybutyrate	H	NAC 1000 mg	Hepatic GSH synthesis
Pyroglutamate	H	Glutathione 300 mg	Renal amino acid recovery
GGT	H	Taurine 500 mg BID	Renal amino acid recovery

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INTERVENTIONS TO CONTROL DYSBIOSIS



Elimination diets – AIP; Low FODMAP; Anti-Candida, fasting



Regular mealtime habits & mindful eating



Polyphenols



Digestive enzymes, bile acids, gastric acid



Lower the stress response (lower cortisol)



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FASTING: Effective way of reducing microbial populations in the gut

