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Reno, NV 89511

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www.labinterpretation.com

Sample Report

Date: 8/1/2007

Next test is overdue.

LabAssist™ Organic Acids & Environmental Pollutants Report

Practitioner

Printed on Monday, September 1, 2008 for:

Integrative Health Care
Dr. Able Insight

Anytown, USA 12345
775-555-5555
775-555-1212 (fax)

If there is a problem with this report, please contact us as soon as possible at: (775) 851-3337 or Fax (775) 851-3363

Basic Status High/Low - Environmental Pollutants Exposure on 8/1/2007

Sample Report **Organic Acids & Environmental Pollutants Date: 8/1/2007**

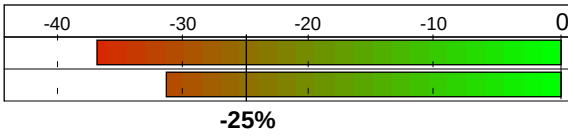
Male / Age: 48 Integrative Health Care (6087)

Client ID: (25889) Dr. Able Insight

775-555-5555

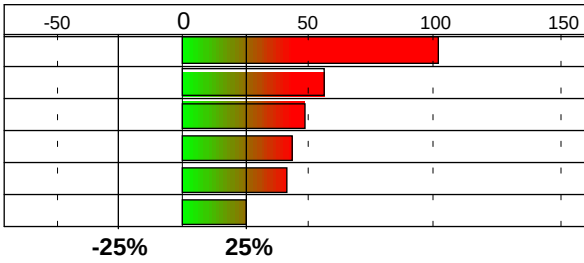
The % Status is the weighted deviation of the laboratory result.

Low Results



	% Status		Result	*Low*	*High*
2-Methylhippurate	-36.67	**L**	**0.20**	0.00	1.50
3-Methylhippurate	-31.25	**L**	**0.30**	0.00	1.60

High Results



	% Status		Result	*Low*	*High*
Monoethyl Phthalate	102.00	**H**	**1.52**	0.00	1.00
Phenylglyoxylate	55.88	**H**	**3.60**	0.00	3.40
M + P	48.57	**H**	**6.90**	0.00	7.00
Phthalate	43.33	**H**	**1.40**	0.00	1.50
Mandelate	41.67	**H**	**3.30**	0.00	3.60
Benzoate	25.00	**H**	**3.00**	0.00	4.00

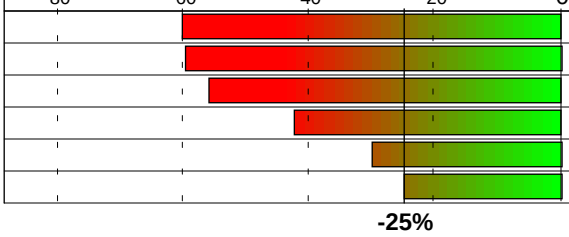
Basic Status High/Low - Urine Organic Acid on 8/1/2007

Sample Report **Organic Acids & Environmental Pollutants Date: 8/1/2007**

Male / Age: 48 Integrative Health Care (6087)

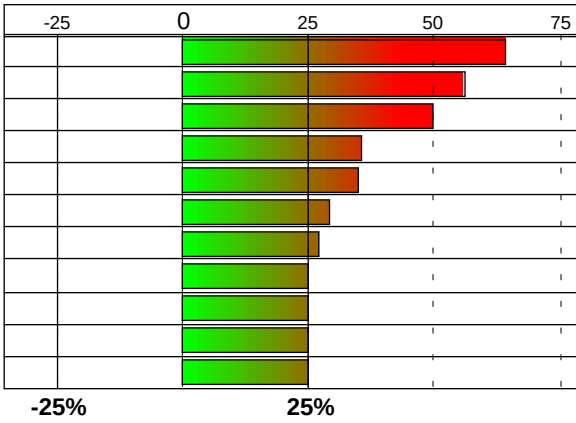
The % Status is the weighted deviation of the laboratory result.

Low Results



	% Status		Result	*Low*	*High*
Vanilmandelate	-60.00	**L**	**1.60**	1.70	2.70
Homovanillate	-59.52	**L**	**2.20**	2.40	4.50
5-Hydroxyindoleacetate	-55.71	**L**	**2.65**	2.75	4.50
CA Cycle Return	-42.08	**L**	**165.83**	150.00	350.00
Tricarballylate	-30.00	**L**	**0.10**	0.00	0.50
cis-Aconitate	-25.00	**L**	**27.00**	24.00	36.00

High Results



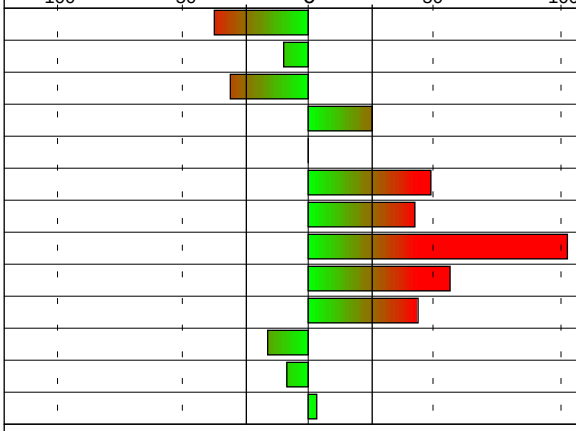
	% Status		Result	*Low*	*High*
Pyroglutamate	64.29	**H**	**24.00**	16.00	23.00
Succinate	55.88	**H**	**2.60**	0.80	2.50
Fumarate	50.00	**H**	**0.50**	0.20	0.50
a-Hydroxybutyrate	35.71	**H**	**0.60**	0.00	0.70
Pyruvate	35.00	**H**	**4.25**	0.00	5.00
P-Hydroxyphenylacetate	29.14	**H**	**14.00**	0.00	17.69
2-Hydroxyphenylacetate	26.92	**H**	**1.00**	0.00	1.30
Malate	25.00	**H**	**1.20**	0.00	1.60
Benzoate	25.00	**H**	**3.00**	0.00	4.00
b-Hydroxyisovalerate	25.00	**H**	**12.00**	0.00	16.00
Suberate	25.00	**H**	**0.90**	0.00	1.20

Basic Status Alphabetic - Environmental Pollutants Exposure on 8/1/2007

Sample Report **Organic Acids & Environmental Pollutants Date: 8/1/2007**

Male / Age: 48 Integrative Health Care (6087)

The % Status is the weighted deviation of the laboratory result relative to the range.



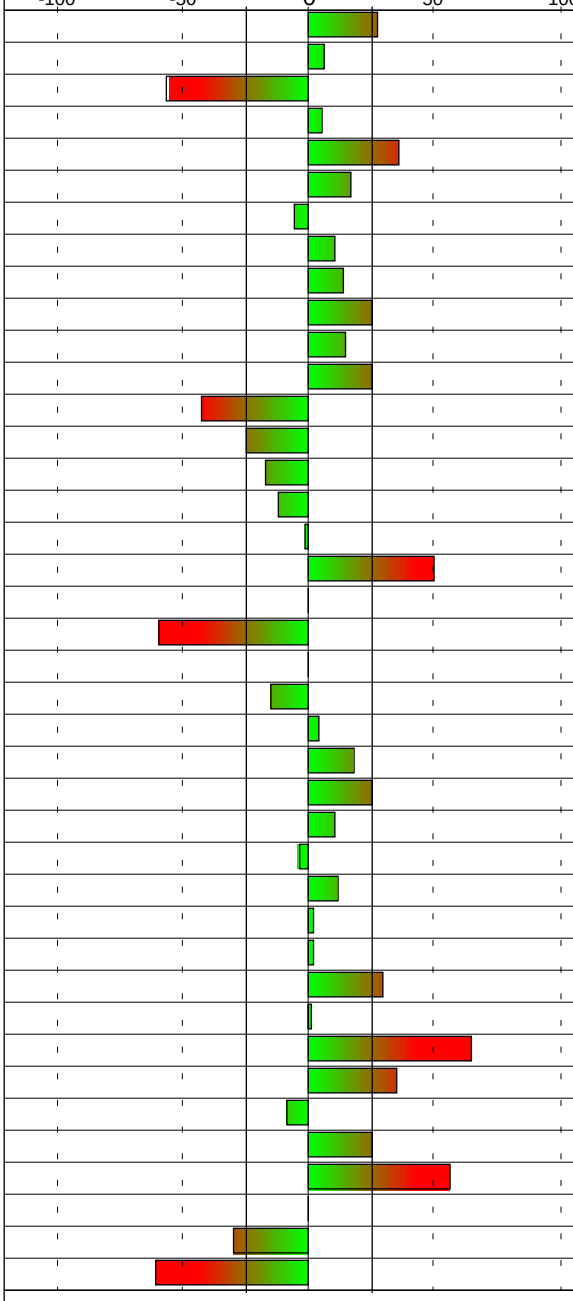
	% Status		Result	*Low*	*High*
2-Methylhippurate	**-36.67**	**L**	**0.20**	0.00	1.50
3,4-Dimethylhippurate	-10.00		1.20	0.00	3.00
3-Methylhippurate	**-31.25**	**L**	**0.30**	0.00	1.60
Benzoate	**25.00**	**H**	**3.00**	0.00	4.00
Hippurate	0.00		545.00	90.00	1000.00
M + P	**48.57**	**H**	**6.90**	0.00	7.00
Mandelate	**41.67**	**H**	**3.30**	0.00	3.60
Monoethyl Phthalate	**102.00**	**H**	**1.52**	0.00	1.00
Phenylglyoxylate	**55.88**	**H**	**3.60**	0.00	3.40
Phthalate	**43.33**	**H**	**1.40**	0.00	1.50
p-Hydroxybenzoate	-16.33		1.01	0.00	3.00
Quinolinate	-8.33		5.00	0.00	12.00
t,t-Muconic Acid	3.33		1.60	0.00	3.00
Total Status Deviation	**32.49**				
Total Status Skew	**16.71**				

Basic Status Alphabetic - Urine Organic Acid on 8/1/2007

Sample Report **Organic Acids & Environmental Pollutants Date: 8/1/2007**

Male / Age: 48 Integrative Health Care (6087)

The % Status is the weighted deviation of the laboratory result relative to the range.



	% Status		Result	Low	High
2-Hydroxyphenylacetate	**26.92**	**H**	**1.00**	0.00	1.30
3-Indoleacetate	6.36		3.10	0.00	5.50
5-Hydroxyindoleacetate	**-55.71**	**L**	**2.65**	2.75	4.50
Adipate	5.56		1.00	0.00	1.80
a-Hydroxybutyrate	**35.71**	**H**	**0.60**	0.00	0.70
a-Keto-b-methylvalerate	17.27		0.37	0.00	0.55
a-Ketoglutarate	-5.56		6.00	4.00	8.50
a-Ketoisocaproate	10.00		0.18	0.00	0.30
a-Ketoisovalerate	13.33		0.19	0.00	0.30
Benzoate	**25.00**	**H**	**3.00**	0.00	4.00
b-Hydroxybutyrate	15.00		1.30	0.00	2.00
b-Hydroxyisovalerate	**25.00**	**H**	**12.00**	0.00	16.00
CA Cycle Return	**-42.08**	**L**	**165.83**	150.00	350.00
cis-Aconitate	**-25.00**	**L**	**27.00**	24.00	36.00
Citramalate	-17.50		0.65	0.00	2.00
Citrate	-11.46		199.00	120.00	325.00
Ethylmalonate	-1.67		1.45	0.00	3.00
Fumarate	**50.00**	**H**	**0.50**	0.20	0.50
Hippurate	0.00		545.00	90.00	1000.00
Homovanillate	**-59.52**	**L**	**2.20**	2.40	4.50
Hydroxymethylglutarate	0.00		2.60	2.10	3.10
Isocitrate	-15.00		39.00	32.00	52.00
Kynurenate	4.55		1.20	0.00	2.20
Lactate	17.78		12.20	0.00	18.00
Malate	**25.00**	**H**	**1.20**	0.00	1.60
Methylmalonate	10.00		0.60	0.00	1.00
Methylsuccinate	-3.85		1.20	0.00	2.60
Orotate	11.43		0.43	0.00	0.70
Oxalate	2.00		52.00	0.00	100.00
p-Hydroxybenzoate	2.33		1.01	0.00	1.93
P-Hydroxyphenylacetate	**29.14**	**H**	**14.00**	0.00	17.69
p-Hydroxyphenyllactate	0.77		0.33	0.00	0.65
Pyroglutamate	**64.29**	**H**	**24.00**	16.00	23.00
Pyruvate	**35.00**	**H**	**4.25**	0.00	5.00
Quinolinate	-8.33		5.00	0.00	12.00
Suberate	**25.00**	**H**	**0.90**	0.00	1.20
Succinate	**55.88**	**H**	**2.60**	0.80	2.50
Tartarate	0.00		6.50	0.00	13.00
Tricarballylate	**-30.00**	**L**	**0.10**	0.00	0.50
Vanilmandelate	**-60.00**	**L**	**1.60**	1.70	2.70
Total Status Deviation	**22.97**				
Total Status Skew	**1.73**				

Nutritional Support

The following supplements may help to balance your biochemistry. Consult your practitioner.

- ☐ **1-CoEnzyme Q10**
  2x daily 50 mg
- ☐ **1-Styrene Detoxification Protocol**
  See Nutrition Detail
- ☐ **2-5-Hydroxytryptophan**
  2x daily 50 mg
- ☐ **1-Phthalate Reduction Protocol**
  See Nutrition Detail
- ☐ **1-Tyrosine**
  2x daily 500 mg
- ☐ **2-Glycine**
  2x daily 500 mg

Out-Of-Balance Panel Values

The following panels have a PSD of greater than 25% indicating need for further review. PSD is the Panel Status Deviation, or the average imbalance of that subset of results. The PSS is the Panel Status Skew, or the direction, negative (deficiency) or positive (excess), of that subset of results.

Panel Name	PSD	PSS
Plastic Sources	58.29%	58.29%
Phthalates	51.22%	45.67%
Paint and Solvents	44.34%	28.72%
Cosmetic Sources	41.25%	33.08%
Neurotransmitters	37.62%	-35.81%
Liver Detox Indicators	37.14%	37.14%
Automotive Sources	36.23%	13.59%
CAC Cycle Ratios	35.70%	-20.00%
Water Sources	32.69%	17.13%
Carbohydrate Metabolism	25.87%	25.87%

Lab Reported out-of-range Values

The following results are out-of-range (as reported by the lab), and should be carefully reviewed.

Monoethyl Phthalate (102.00%)

Phthalates are used in the manufacture of plastics to allow for flexibility and to soften resins. Not only that, but it is found in everything from makeup to detergents, shampoos to time-released pharmaceutical drugs.
This toxin is a well known endocrine disruptor as well as causing neurological and developmental disorders. It can interfere with tryptophan metabolism resulting in an increase in quinolinic acid, a pro-inflammatory and neurotoxic compound. Phthalates have also been implicated in abnormal fetal development, especially in male fetuses. Recently, it has been linked to increased male waist circumference and insulin resistance.

Drugs which may have an adverse affect:
Time-Released Meds

Pyroglutamate (64.29%)

A high level may be due to glutathione depletion due to small intestinal amino acid absorption and kidney amino acid recovery. There may be inadequate quantities of sulfur amino acids such as methionine or cysteine or inadequate intake and reserves of glycine.

Drugs which may have an adverse affect:
Acetaminophen

CA Cycle Phase 6 (-60.18%)

The last phase of the citric acid cycle, this stage marks the conversion of Fumarate into Malate. When the ratio is low, this may signify that the body is not refilling its losses along the entire cycle. Supplementing with a broad spectrum amino acid along with niacin may help restore balance.

Vanilmandelate (-60.00%)

Low levels of this organic acid may be related to low CNS levels of epinephrine and norepinephrine. Clinical signs include depression, sleep disturbances, and the inability to handle stress and fatigue.

Drugs which may have an adverse affect:
Clonidine, Imipramine, MAO Inhibitors, Methyldopa, Reserpine

Homovanillate (-59.52%)

Low levels of this organic acid may be related to low CNS levels of epinephrine and norepinephrine. Clinical signs include depression, sleep disturbances, and the inability to handle stress and fatigue.

Drugs which may have an adverse affect:
Haloperidol

Succinate (55.88%)

A high reading of this organic acid may be indicative of poor amino acid metabolism and could indicate a need for additional magnesium, riboflavin and Coenzyme Q10. It is also suggestive of mitochondrial dysfunction leading to symptoms of fatigue and possibly myocardial and/or neurological degeneration.

Drugs which may have an adverse affect:
Lithium Carbonate

Phenylglyoxylate (55.88%)

Phenylglyoxylic acid, along with Mandelate is a marker for styrene exposure. Primarily used in packaging, this petrochemical is made from a combination of benzene and ethylene. Styrene is also found in cigarette smoke making smokers more likely to suffer side-effects.
Some health effects include dizziness, lightheadedness, headache, drowsiness, nausea, impaired balance and manual dexterity along with difficulty concentrating and poor reaction time. Irritation of mucous membranes, dermatitis, nausea and fatigue are other potential effects of styrene exposure. Styrene is also known to be genotoxic and hepatotoxic. It has been suggested that this toxin may also increase the risk for a number of cancers including leukemia. In animal models, low levels can be extremely hepatotoxic to some while not to others. This suggests a genetic component to styrene excretion.
In order to help the body excrete styrene it is suggested to increase intake of glutathione as styrene oxides conjugate with this tripeptide.

5-Hydroxyindoleacetate (-55.71%)

A metabolite of serotonin, this organic acid may be indicative of low tryptophan. Clinical signs include depression, fatigue, insomnia, ADD, and other behavioral disorders.

Drugs which may have an adverse affect:
Imipramine, MAO Inhibitors, Methyldopa

Fumarate (50.00%)

Elevated fumarate may be indicative of a Coenzyme Q10 deficiency or if citrate, malate, and a-ketoglutarate are also elevated then suspect a cytochrome C oxidase deficiency.

Drugs which may have an adverse affect:
Lithium Carbonate

Additional Tests

The following additional lab tests may help in diagnosis.

Consider ordering prostate specific antigen (PSA)

Rationale: Age is >= 40
Sex is Male

Nutritional and herbal information contained in this report is based upon research related to imbalances in your chemistry. The recommendations are based upon the information provided, without interpretation. This must be done with the help of a qualified health care professional.

1-CoEnzyme Q10 2x daily 50 mg

Rationale

COENZYME Q10

CoEnzyme Q10 is an essential component of the mitochondria of the energy producing unit of the cell. Its beneficial effects include increased energy, as well as prevention of cardiovascular disease and cancer. Clinical responses may take up to 8 weeks according to some research so patience is necessary during supplementation.

Decreased	Normal	Increased
Hydroxymethylglutarate		Succinate
		Malate

1-Phthalate Reduction Protocol See Nutrition Detail

PHTHALATE REDUCTION PROTOCOL

Phthalates are ubiquitous chemicals found wherever plastics are found. They are powerful endocrine disruptors as well as potentially damaging to developing fetuses. Avoidance of plastics while very difficult is an important first step in lowering body burden. Never microwave or heat food in a plastic container. Improving both phase I and phase II detoxification is also critical.

Recommendations:

Adults

Amino Acids - 5-10 grams of a broad spectrum supplement with glycine
Broad Spectrum Antioxidants - 2x daily
Increased Fluid Intake preferably with an electrolyte added
Avoid Salicylates
VItamin E - 400 IU 2x daily (mixed tocopherols)
Magnesium - 200 mg daily
Zinc - 25 mg daily

Children

Amino Acids - 2 grams of a broad spectrum supplement with glycine
Broad Spectrum Antioxidants - 1x daily
Increased Fluid Intake preferably with an electrolyte added
Avoid Salicylates
VItamin E - 400 IU 1x daily (mixed tocopherols)
Magnesium - 125 mg daily
Zinc - 15 mg daily

Decreased	Normal	Increased
		Phthalate
		Monoethyl Phthalate

1-Styrene Detoxification Protocol See Nutrition Detail

STYRENE DETOXIFICATION PROTOCOL

Styrene detoxification requires an increased level of glutathione. In order to effectively increase glutathione levels it is necessary to supply both the necessary amino acids (cysteine, glutamic acid and glycine) as well as the nutrients (pyridoxine, riboflavin and folic acid) to make the conversion.

Adult

Broad Spectrum Amino Acid - 5-10 grams daily
Glycine - 500 mg twice daily
N-acetyl-cysteine - 500 mg twice daily
B-complex - twice daily
Vitamin E - 400 IU once daily (mixed tocopherols)
Vitamin C - 500 mg twice daily
Selenium - 200 mcg once daily

Children

Broad Spectrum Amino Acid - 2 grams daily
Glycine - 250 mg twice daily
N-acetyl-cysteine - 250 mg once daily
B-complex - 1 time daily
Vitamin E - 200 IU once daily (mixed tocopherols)
Vitamin C - 500 mg 1 time daily

Decreased	Normal	Increased
		M + P
		Mandelate
		Phenylglyoxylate

Nutritional and herbal information contained in this report is based upon research related to imbalances in your chemistry. The recommendations are based upon the information provided, without interpretation. This must be done with the help of a qualified health care professional.

1-Tyrosine 2x daily 500 mg

TYROSINE

An amino acid which is essential to the synthesis of protein, catecholamines, melanin, and thyroid hormones. Vitamin C and folic acid are essential to its metabolism. The formation of thyroid hormone is dependent upon the absorption and sequestering of iodine which then attaches to tyrosine to form thyroxine.

Rationale

Decreased	Normal	Increased
Vanilmandelate Homovanillate		

2-5-Hydroxytryptophan 2x daily 50 mg

5-HYDROXYTRYPTOPHAN

Serotonin is an important neurotransmitter made from the amino acid Tryptophan. 5-Hydroxyindolacetate is a metabolite of serotonin so a low result of this organic acid may indicate a tryptophan deficiency.

Decreased	Normal	Increased
5-Hydroxyindoleacetate		

2-Glycine 2x daily 500 mg

GLYCINE

Glycine is an important amino acid and it is helpful in lowering the levels of Benzoate and Hippurate.

Decreased	Normal	Increased
	Hippurate	Benzoate

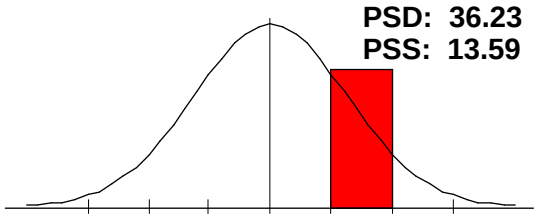
Drugs listed below tend to further aggravate elements of blood chemistry that are out of range (H or L). The (#) after each drug denotes the number of times that drug is flagged as being potentially harmful.

Acetaminophen	Clonidine	Haloperidol	Imipramine(2)
Lithium Carbonate(3)	MAO Inhibitors(2)	Methyldopa(2)	Reserpine
Time-Released Meds(2)			

Automotive Sources

2-Methylhippurate[L], 3-Methylhippurate[L], Mandelate[H], Phenylglyoxylate[H], M + P[H], t,t-Muconic Acid.

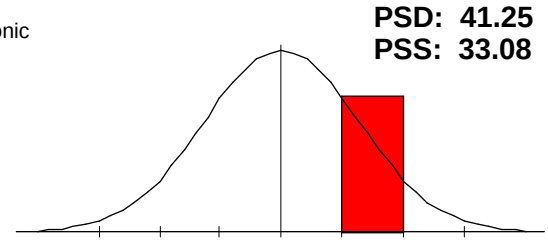
Car exhaust is a leading source of environmental solvent exposure. Running on busy streets next to traffic, commuting in heavy traffic, and living in large urban areas are sources of exposure.



Cosmetic Sources

Phthalate[H], Monoethyl Phthalate[H], p-Hydroxybenzoate, t,t-Muconic Acid.

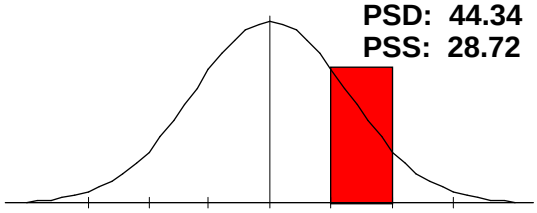
A number of cosmetics are made using parabens, phthalates and benzene derivatives. Careful avoidance of those cosmetics is warranted if this panel is elevated. A resource to find out more about this topic is the website run by the Environmental Working Group, www.ewg.org and their report Skin Deep.



Paint and Solvents

3-Methylhippurate[L], Mandelate[H], Phenylglyoxylate[H], M + P[H].

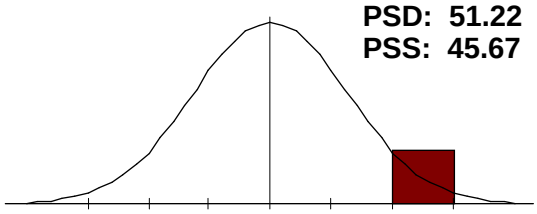
Paints and solvents are often found with styrene and xylene. Airing out a newly painted house is advisable. Also, for anyone using paints and solvents, make sure the place they are using them is well-ventilated.



Phthalates

Phthalate[H], Monoethyl Phthalate[H], Quinolinate.

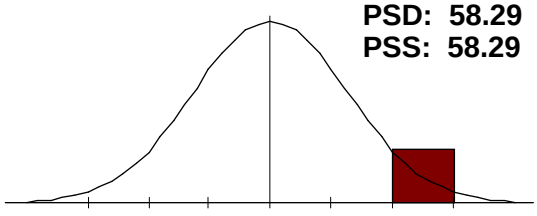
High levels of phthalates have been connected to a number of health issues. Avoidance is critical and detoxification may be necessary.



Plastic Sources

Phthalate[H], Monoethyl Phthalate[H], Mandelate[H], Phenylglyoxylate[H], M + P[H].

Plastics are often made with styrene and phthalates. If this panel is elevated, it is suggested that the patient should avoid heating plastics in the microwave, leaving plastic water bottles in the car, and drinking hot liquids out of styrofoam cups.

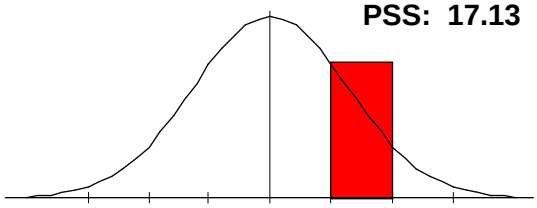


Water Sources

t,t-Muconic Acid, Mandelate[H], Phenylglyoxylate[H], M + P[H], 2-Methylhippurate[L], 3,4-Dimethylhippurate.

According to research, many water supplies worldwide are tainted with a number of petrochemicals including, but not limited to trimethylbenzene, toluene, styrene, and benzene. A high reading of this panel may warrent testing of the patient's water supply.

PSD: 32.69
PSS: 17.13

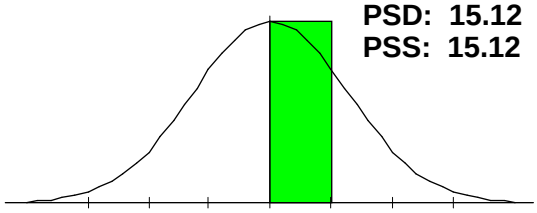


B-Complex Markers

b-Hydroxyisovalerate[H], a-Ketoisovalerate, a-Ketoisocaproate, a-Keto-b-methylvalerate, Methylmalonate.

A normal panel profile such as this is an indicator of adequate intake of B-complex vitamins.

PSD: 15.12
PSS: 15.12

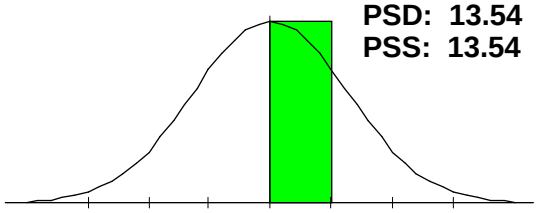


BCAA Catabolism

a-Ketoisovalerate, a-Ketoisocaproate, a-Keto-b-methylvalerate.

A normal reading in this panel suggest proper amino acid stores.

PSD: 13.54
PSS: 13.54

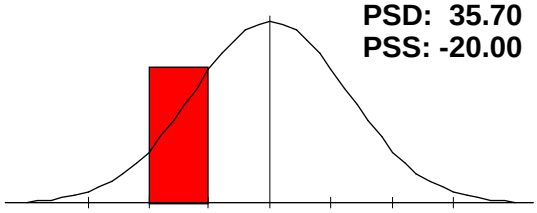


CAC Cycle Ratios

CA Cycle Phase 1, CA Cycle Phase 2, CA Cycle Phase 3[H], CA Cycle Phase 4[L], CA Cycle Phase 5[L], CA Cycle Phase 6[L], CA Cycle Return[L].

This panel reflects steps of the citric acid cycle. A low reading may be indicative of poor energy production and/or vitamin, mineral and amino acid deficiencies.

PSD: 35.70
PSS: -20.00

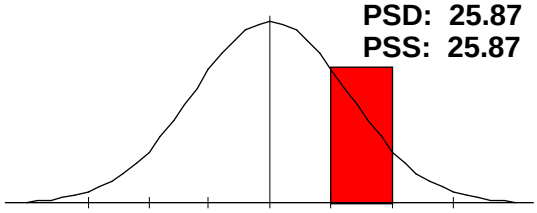


Carbohydrate Metabolism

Lactate, Pyruvate[H], a-Hydroxybutyrate[H], b-Hydroxybutyrate.

The panel profile seen here may be due to impaired carbohydrate metabolism, inefficient utilization or poor mobilization of carbohydrates. Often, B-complex vitamins are helpful in balancing these results. See Nutritional Support for further details.

PSD: 25.87
PSS: 25.87

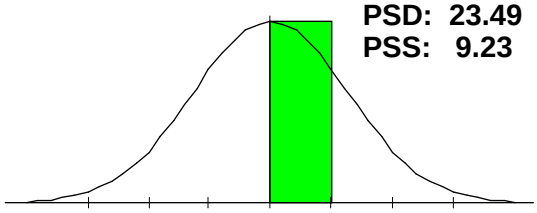


Energy Production

Citrate, cis-Aconitate[L], Isocitrate, a-Ketoglutarate, Succinate[H], Fumarate[H], Malate[H], Hydroxymethylglutarate.

A normal reading such as this is consistant with a properly functioning citric acid cycle.

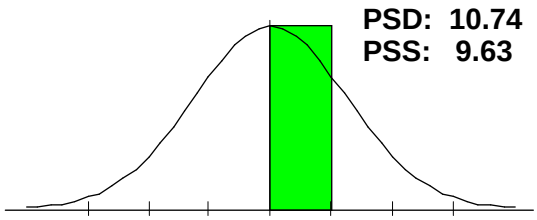
PSD: 23.49
PSS: 9.23



Fatty Acid Metabolism

Adipate, Suberate[H], Ethylmalonate.

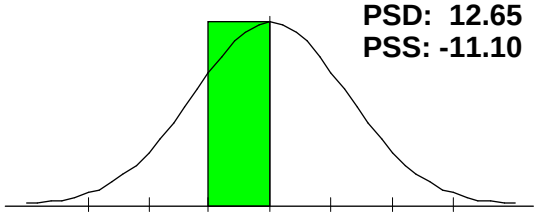
These urinary markers give us a picture into the metabolism of fatty acids.



Intestinal Dysbiosis

p-Hydroxyphenyllactate, Tricarballylate[L], Citramalate, p-Hydroxybenzoate.

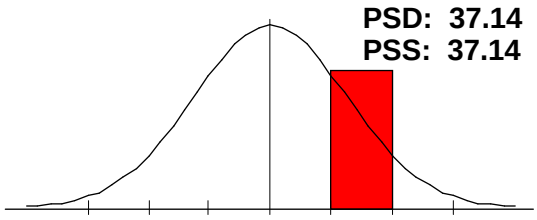
A normal panel profile such as this is consistant with good intestinal health but further investigation may be necessary depending on clinical symptoms.



Liver Detox Indicators

Orotate, Pyroglutamate[H], a-Hydroxybutyrate[H].

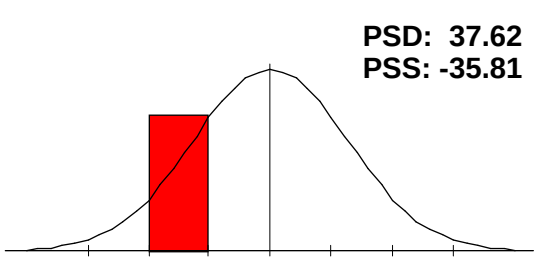
This panel profile may be due in part to environmental toxins, improper regulation of cell growth, hereditary deficiencies, and a depressed ability of the liver to detoxify itself. A program of detoxification may be helpful in this case. Review Nutritional Status for additional recommendations.



Neurotransmitters

Vanilmandelate[L], Homovanillate[L], 5-Hydroxyindoleacetate[L], Kynurenate, Quinolinate.

The panel profile seen here may be indicative of low levels of the neurotransmitters, serotonin, epinephrine and norepinephrine. See Nutritional Support section for recommended nutrients, especially amino acid precursors like 5-HTP, tyrosine and phenylalanine.



This report "MATCHES" clinical observations with the lab test. Elements shown, normal and abnormal, tend to characterize the observation. Highlighted elements are those reported to "MATCH" the characteristics of the clinical observation. Others are NOT matches but are elements in the observation.

Catecholamine Dysfunction () 66.67% (2 of 3)

Decreased	*Normal*	*Increased*
-59.52 Homovanillate		
-60.00 Vanilmandelate		
50.00 Fumarate		

A "+" change is toward optimal % Status of zero. A "-" change is away from optimal % Status of zero.

Status % on:	2/1/2007		8/1/2007		+/- change
t,t-Muconic Acid	**93.33**	**H**	3.33		+ 90.00
3,4-Dimethylhippurate	**-50.00**	**L**	-10.00		+ 40.00
Hippurate	**-28.02**	**L**	0.00		+ 28.02
Monoethyl Phthalate	**40.00**	**H**	**102.00**	**H**	**- 62.00**
Phthalate	16.67		**43.33**	**H**	**- 26.67**

Comparison Report

Sample Report — **Organic Acids & Environmental Pollutants Date: 8/1/2007**

Male / Age: 48 — Integrative Health Care (6087)

The arrow's length is proportional to change. Left to right is increase. Right to left is decrease.
Green is improvement. Red is decline.

	+/-	Status % on:	2/1/2007		8/1/2007	
-50.00 → **-36.67**	+	2-Methylhippurate	**-50.00**	**L**	**-36.67**	**L**
-50.00 → -10.00	+	3,4-Dimethylhippurate	**-50.00**	**L**	-10.00	
-43.75 → **-31.25**	+	3-Methylhippurate	**-43.75**	**L**	**-31.25**	**L**
-2.50 → **25.00**	-	Benzoate	-2.50		**25.00**	**H**
-28.02 → 0.00	+	Hippurate	**-28.02**	**L**	0.00	
48.57 ← **60.00**	+	M + P	**60.00**	**H**	**48.57**	**H**
41.67 ← **50.00**	+	Mandelate	**50.00**	**H**	**41.67**	**H**
40.00 → **102.00**	-	Monoethyl Phthalate	**40.00**	**H**	**102.00**	**H**
55.88 ← **70.59**	+	Phenylglyoxylate	**70.59**	**H**	**55.88**	**H**
16.67 → **43.33**	-	Phthalate	16.67		**43.33**	**H**
		p-Hydroxybenzoate	-10.33		-16.33	
-8.33 ← 0.00	-	Quinolinate	0.00		-8.33	
3.33 ← **93.33**	+	t,t-Muconic Acid	**93.33**	**H**	3.33	
		Total Status Deviation	**39.63**		**32.49**	
		Total Status Skew	**11.23**		**16.71**	

A "+" change is toward optimal % Status of zero. A "-" change is away from optimal % Status of zero.

Status % on:	2/1/2007		8/1/2007		+/- change
Pyroglutamate	**235.71**	**H**	**64.29**	**H**	**+ 171.43**
Methylmalonate	**80.00**	**H**	10.00		+ 70.00
Hydroxymethylglutarate	**50.00**	**H**	0.00		+ 50.00
3-Indoleacetate	**51.82**	**H**	6.36		+ 45.45
Kynurenate	**50.00**	**H**	4.55		+ 45.45
a-Hydroxybutyrate	**64.29**	**H**	**35.71**	**H**	**+ 28.57**
Vanilmandelate	0.00		**-60.00**	**L**	**- 60.00**
Homovanillate	2.38		**-59.52**	**L**	**- 57.14**
Fumarate	0.00		**50.00**	**H**	**- 50.00**
Pyruvate	0.00		**35.00**	**H**	**- 35.00**

Comparison Report

Sample Report — **Organic Acids & Environmental Pollutants Date: 8/1/2007**

Male / Age: 48 — Integrative Health Care (6087)

The arrow's length is proportional to change. Left to right is increase. Right to left is decrease.
Green is improvement. Red is decline.

	+/-	Status % on:	2/1/2007		8/1/2007	
19.23 → **26.92**	-	2-Hydroxyphenylacetate	19.23		**26.92**	**H**
6.36 ← **51.82**	+	3-Indoleacetate	**51.82**	**H**	6.36	
-70.00 → **-55.71**	+	5-Hydroxyindoleacetate	**-70.00**	**L**	**-55.71**	**L**
		Adipate	5.56		5.56	
35.71 ← **64.29**	+	a-Hydroxybutyrate	**64.29**	**H**	**35.71**	**H**
		a-Keto-b-methylvalerate	24.55		17.27	
-5.56 ← 14.44	+	a-Ketoglutarate	14.44		-5.56	
10.00 ← **30.00**	+	a-Ketoisocaproate	**30.00**	**H**	10.00	
13.33 ← **26.67**	+	a-Ketoisovalerate	**26.67**	**H**	13.33	
-2.50 → **25.00**	-	Benzoate	-2.50		**25.00**	**H**
15.00 ← **30.00**	+	b-Hydroxybutyrate	**30.00**	**H**	15.00	
		b-Hydroxyisovalerate	18.75		**25.00**	**H**
		CA Cycle Return	**-34.58**	**L**	**-42.08**	**L**
-25.00 ← 16.67	-	cis-Aconitate	16.67		**-25.00**	**L**
-17.50 ← 5.00	-	Citramalate	5.00		-17.50	
-11.46 ← -2.68	-	Citrate	-2.68		-11.46	
-1.67 ← **25.00**	+	Ethylmalonate	**25.00**	**H**	-1.67	
0.00 → **50.00**	-	Fumarate	0.00		**50.00**	**H**
		Hippurate	1.28		0.00	
-59.52 ← 2.38	-	Homovanillate	2.38		**-59.52**	**L**
0.00 ← **50.00**	+	Hydroxymethylglutarate	**50.00**	**H**	0.00	
		Isocitrate	20.00		-15.00	
4.55 ← **50.00**	+	Kynurenate	**50.00**	**H**	4.55	
		Lactate	13.33		17.78	
		Malate	**25.00**	**H**	**25.00**	**H**
10.00 ← **80.00**	+	Methylmalonate	**80.00**	**H**	10.00	
		Methylsuccinate	-7.69		-3.85	
11.43 ← 22.86	+	Orotate	22.86		11.43	
2.00 ← 16.00	+	Oxalate	16.00		2.00	
2.33 ← 11.66	+	p-Hydroxybenzoate	11.66		2.33	
29.14 ← **51.75**	+	P-Hydroxyphenylacetate	**51.75**	**H**	**29.14**	**H**
0.77 ← 11.54	+	p-Hydroxyphenyllactate	11.54		0.77	
64.29 ← **235.71**	+	Pyroglutamate	**235.71**	**H**	**64.29**	**H**
0.00 → **35.00**	-	Pyruvate	0.00		**35.00**	**H**
-8.33 ← 0.00	-	Quinolinate	0.00		-8.33	
16.67 → **25.00**	-	Suberate	16.67		**25.00**	**H**
		Succinate	**55.88**	**H**	**55.88**	**H**
		Tartarate	-3.85		0.00	
-30.00 ← 10.00	-	Tricarballylate	10.00		**-30.00**	**L**
-60.00 ← 0.00	-	Vanilmandelate	0.00		**-60.00**	**L**
		Total Status Deviation	**28.88**		**22.97**	
		Total Status Skew	**17.09**		**1.73**	

Automotive Sources	2/1/2007		8/1/2007		+/-
2-Methylhippurate	**-50.00**	**L**	**-36.67**	**L**	+
3-Methylhippurate	**-43.75**	**L**	**-31.25**	**L**	+
Mandelate	**50.00**	**H**	**41.67**	**H**	+
Phenylglyoxylate	**70.59**	**H**	**55.88**	**H**	+
M + P	**60.00**	**H**	**48.57**	**H**	+
t,t-Muconic Acid	**93.33**	**H**	3.33		+
PSS / PSD	30.03 / 61.28		13.59 / 36.23		

Cosmetic Sources	2/1/2007		8/1/2007		+/-
Phthalate	16.67		**43.33**	**H**	-
Monoethyl Phthalate	**40.00**	**H**	**102.00**	**H**	-
p-Hydroxybenzoate	-10.33		-16.33		
t,t-Muconic Acid	**93.33**	**H**	3.33		+
PSS / PSD	34.92 / 40.08		33.08 / 41.25		

Paint and Solvents	2/1/2007		8/1/2007		+/-
3-Methylhippurate	**-43.75**	**L**	**-31.25**	**L**	+
Mandelate	**50.00**	**H**	**41.67**	**H**	+
Phenylglyoxylate	**70.59**	**H**	**55.88**	**H**	+
M + P	**60.00**	**H**	**48.57**	**H**	+
PSS / PSD	34.21 / 56.08		28.72 / 44.34		

Phthalates	2/1/2007		8/1/2007		+/-
Phthalate	16.67		**43.33**	**H**	-
Monoethyl Phthalate	**40.00**	**H**	**102.00**	**H**	-
Quinolinate	0.00		-8.33		-
PSS / PSD	18.89 / 18.89		45.67 / 51.22		

Plastic Sources	2/1/2007		8/1/2007		+/-
Phthalate	16.67		**43.33**	**H**	-
Monoethyl Phthalate	**40.00**	**H**	**102.00**	**H**	-
Mandelate	**50.00**	**H**	**41.67**	**H**	+
Phenylglyoxylate	**70.59**	**H**	**55.88**	**H**	+
M + P	**60.00**	**H**	**48.57**	**H**	+
PSS / PSD	47.45 / 47.45		58.29 / 58.29		

Water Sources	2/1/2007		8/1/2007		+/-
t,t-Muconic Acid	**93.33**	**H**	3.33		+
Mandelate	**50.00**	**H**	**41.67**	**H**	+
Phenylglyoxylate	**70.59**	**H**	**55.88**	**H**	+
M + P	**60.00**	**H**	**48.57**	**H**	+
2-Methylhippurate	**-50.00**	**L**	**-36.67**	**L**	+
3,4-Dimethylhippurate	**-50.00**	**L**	-10.00		+
PSS / PSD	28.99 / 62.32		17.13 / 32.69		

B-Complex Markers	2/1/2007		8/1/2007		+/-
b-Hydroxyisovalerate	18.75		**25.00**	H	
a-Ketoisovalerate	**26.67**	H	13.33		+
a-Ketoisocaproate	**30.00**	H	10.00		+
a-Keto-b-methylvalerate	24.55		17.27		
Methylmalonate	**80.00**	H	10.00		+
PSS / PSD	35.99 / 35.99		15.12 / 15.12		

BCAA Catabolism	2/1/2007		8/1/2007		+/-
a-Ketoisovalerate	**26.67**	H	13.33		+
a-Ketoisocaproate	**30.00**	H	10.00		+
a-Keto-b-methylvalerate	24.55		17.27		
PSS / PSD	27.07 / 27.07		13.54 / 13.54		

CAC Cycle Ratios	2/1/2007		8/1/2007		+/-
CA Cycle Phase 1	17.81		23.70		
CA Cycle Phase 2	-14.06		-13.89		
CA Cycle Phase 3	**33.33**	H	**31.25**	H	
CA Cycle Phase 4	**-40.58**	L	**-39.17**	L	
CA Cycle Phase 5	**-35.14**	L	**-39.60**	L	
CA Cycle Phase 6	**-60.10**	L	**-60.18**	L	
CA Cycle Return	**-34.58**	L	**-42.08**	L	
PSS / PSD	-19.05 / 33.66		-20.00 / 35.70		

Carbohydrate Metabolism	2/1/2007		8/1/2007		+/-
Lactate	13.33		17.78		
Pyruvate	0.00		**35.00**	H	-
a-Hydroxybutyrate	**64.29**	H	**35.71**	H	+
b-Hydroxybutyrate	**30.00**	H	15.00		+
PSS / PSD	26.90 / 26.90		25.87 / 25.87		

Energy Production	2/1/2007		8/1/2007		+/-
Citrate	-2.68		-11.46		-
cis-Aconitate	16.67		**-25.00**	L	-
Isocitrate	20.00		-15.00		
a-Ketoglutarate	14.44		-5.56		+
Succinate	**55.88**	H	**55.88**	H	
Fumarate	0.00		**50.00**	H	-
Malate	**25.00**	H	**25.00**	H	
Hydroxymethylglutarate	**50.00**	H	0.00		+
PSS / PSD	22.41 / 23.08		9.23 / 23.49		

Fatty Acid Metabolism	2/1/2007		8/1/2007		+/-
Adipate	5.56		5.56		
Suberate	16.67		**25.00**	H	-
Ethylmalonate	**25.00**	H	-1.67		+
PSS / PSD	15.74 / 15.74		9.63 / 10.74		

Intestinal Dysbiosis	2/1/2007		8/1/2007		+/-	
p-Hydroxyphenyllactate	11.54		0.77		+	0.77 ← 11.54
Tricarballylate	10.00		**-30.00**	**L**	-	**-30.00** ← 10.00
Citramalate	5.00		-17.50		-	-17.50 ← 5.00
p-Hydroxybenzoate	11.66		2.33		+	2.33 ← 11.66
PSS / PSD	9.55 / 9.55		-11.10 / 12.65			

Liver Detox Indicators	2/1/2007		8/1/2007		+/-	
Orotate	22.86		11.43		+	11.43 ← 22.86
Pyroglutamate	**235.71**	**H**	**64.29**	**H**	+	**64.29** ← **235.71**
a-Hydroxybutyrate	**64.29**	**H**	**35.71**	**H**	+	**35.71** ← **64.29**
PSS / PSD	107.62 / 107.62		37.14 / 37.14			

Neurotransmitters	2/1/2007		8/1/2007		+/-	
Vanilmandelate	0.00		**-60.00**	**L**	-	**-60.00** ← 0.00
Homovanillate	2.38		**-59.52**	**L**	-	**-59.52** ← 2.38
5-Hydroxyindoleacetate	**-70.00**	**L**	**-55.71**	**L**	+	**-70.00** → **-55.71**
Kynurenate	**50.00**	**H**	4.55		+	4.55 ← **50.00**
Quinolinate	0.00		-8.33		-	-8.33 ← 0.00
PSS / PSD	-3.52 / 24.48		-35.81 / 37.62			