

Why baseline urinary serotonin and dopamine testing is a fraud Page 1 of 2

Virtually 100% of the caregivers new to this approach ask, "Do we need to order (baseline) testing before we start the nutrients?" The answer to the question is, "No!" Since we had a front row seat to the marketing of baseline testing before starting nutrients, I would like to start by covering a brief history.

In 2001, quietly in the back ground, this research project was evaluating baseline urinary serotonin and dopamine testing. Before this, the only indication for baseline testing was as a screening tool used to establish the need for 24-hour urine to make the diagnosis of pheochromocytoma and carcinoid syndrome. As covered below, baseline testing results are random and not reproducible. Therefore, they have no diagnostic or predictive value.

Next came a lab claiming that baseline testing was not only required, but it could also do many marvelous things. Claims included baseline testing of serotonin and dopamine was needed to help select the nutrients required; baseline testing represents blood levels, baseline testing represented brain concentrations, and several other unsubstantiated claims. None of these fantastic myths were true.



**CAREGIVERS WERE
SHORN LIKE SHEEP**

Caregivers were lined up like shorn sheep. Without bothering to check the science, other labs began promoting fraudulent claims.

In 2011, we published a peer-reviewed paper posted on the National Institute of Health NCBI website. This paper fully discredits the use of baseline testing for all the applications claimed. The title of the paper is: **The validity of urinary monoamine assay sales under the "spot baseline urinary neurotransmitter testing marketing model."**

The original lab that promoted unsubstantiated baseline urinary serotonin and dopamine testing, have since paid over \$15 million in fines for mis-calibration of lab testing equipment and fraudulent billing for lab testing. But, the beat goes on. There are still labs out there promoting fraudulent baseline testing whose scientific foundation teaches away from the applications they are promoting.

To make things clear, baseline urinary serotonin and dopamine testing have no valid indications other than acting as a screening tool to determine which patient needs to collect a 24-hour urine. On the next page is the hard data supporting the claims made on this page.



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Once in this competitive inhibition state scientific observations of the endogenous state are no longer valid



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Baseline urinary testing is of no diagnostic value, it is random and not reproducible from one day to the next.

Early on, we told all caregivers, "Baseline testing is of no value, it should not be done." This had no effect. We received hundreds of baseline testing samples. Many sent in two baseline samples from the same patient obtained on different days. We received so many double baseline tests statistical validity was achieved.

Serial baseline-baseline serotonin assays same subject
Sort: High-low by Serotonin1 Sort: High-low by Serotonin2

# Days	Serotonin1	Serotonin2	# Days	Serotonin1	Serotonin2
42	9885.64	179.65	272	307.07	6,004.24
28	5178.39	415.45	79	1,159.95	5,194.81
32	3309.76	1191.05	41	2,451.00	4,049.95
41	2451.00	4049.95	41	96.77	3,655.97
98	2157.10	368.47	103	9,885.65	3,246.75
42	1569.16	432.35	217	828.22	2,275.38
79	1159.95	5194.81	204	276.97	2,183.79
29	1005.58	851.43	47	227.30	2,000.00
217	828.22	2275.38	383	60.32	1,996.24
19	763.47	31.14	32	3,309.76	1,191.05

Serial baseline-baseline dopamine assays same subject
Sort: High-low by Dopamine1 Sort: High-low by Dopamine2

# Days	Dopamine1	Dopamine2	# Days	Dopamine1	Dopamine2
46	7854.32	1884.932	41	1129.58	2891.23
41	1129.58	2891.234	98	300.37	2623.79
204	1034.63	71.759	6	138.81	2504.14
28	785.00	1806	103	164.50	2109.03
77	652.35	1288.474	46	7854.32	1884.93
27	498.23	68.802	28	785.00	1806.00
58	419.82	88.405	77	652.35	1288.48
168	405.20	180.509	314	197.72	1220.54
28	387.64	169.783	47	785.00	853.00
29	372.51	208.489	383	289.88	430.71



CAREGIVERS WERE SHORN LIKE SHEEP

Statistical analysis results

Baseline Serotonin
Dopamine
Norepinephrine
Epinephrine

are random and not reproducible, of no diagnostic value. Invalidity was demonstrated by the marched pairs T test. Testing is only valid in the competitive inhibition state when significant amounts of serotonin and dopamine precursors are administered simultaneously.

Spot Baseline Matched Pairs T-test	N	P Value
Serotonin	134	0.0080
Dopamine	138	0.0049
Norepinephrine	44	0.0399
Epinephrine	122	<0.0001

Serial baseline-baseline NE assays same subject
Sort: High-low by NE1 Sort: High-low by NE2

# Days	NE1	NE2	# Days	NE1	NE2
217	595.42	270.197	272	145.454	861.917
58	479.59	8.498	225	7.669	581.597
28	416.86	132.367	32	386.007	540.169
41	399.75	49.377	79	151.442	482.377
32	386.01	540.169	217	595.416	270.197
19	381.86	10.623	29	232.135	261.008
42	357.80	61.727	189	132.091	233.982
41	301.00	203.703	41	301.003	203.703
50	268.04	31.358	28	0.972	195.919
29	232.14	261.008	64	214.241	185.995

Serial baseline-baseline EPI assays same subject
Sort: High-low by EPI1 Sort: High-low by EPI2

# Days	EPI-1	EPI-2	# Days	EPI-1	EPI-2
43	36.06	3.90	77	8.98	29.09
22	24.83	9.58	272	13.09	16.37
364	22.81	11.99	104	8.43	15.34
27	21.37	3.22	35	8.62	15.01
46	20.44	14.76	42	14.80	14.99
49	18.80	6.69	46	20.43	14.76
380	18.59	13.83	98	6.39	14.10
185	16.49	4.87	380	18.59	13.83
42	14.80	8.43	225	6.16	13.42
41	12.86	6.57	22	24.83	13.02

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In the first decade of the twenty first century, numerous labs were claiming that urinary serotonin and dopamine had been strained from the system and placed directly into the urine without processing. None of this is true. The serotonin and dopamine filtered at the glomerulus are completely metabolized by the kidneys. What shows up in the urine is serotonin and dopamine newly synthesized by the kidneys that was not transported into the system to meet systemic needs. ¹



This research project was:

First to publish the course of serotonin and dopamine from the glomerulus to the final urine. ¹

The links of the chain were previously published, we put them together.

First to publish Glomerulus to final urine **These two columns are screen shots from reference 1**

- “Most of the serotonin or dopamine found in the urine is synthesized in the kidney. Therefore, the excreted neurotransmitters must be synthesized in the kidneys and escape reabsorption into the blood in order to be excreted in the urine”¹⁴
- “These findings provide further evidence that the increase in urine serotonin after administration of both serotonin precursors (5-HTP; glu-5-HTP) is largely due to serotonin synthesized within the kidney”¹³⁵
- “... free urine serotonin reflects actual biosynthesis by the kidney”¹³⁶
- “These results are consistent with the intrarenal formation of serotonin by renal decarboxylase with attendant alterations in renal hemodynamics and salt and water excretion”¹³⁷
- “Dopamine and serotonin in the urine are believed to reflect mainly the tubular decarboxylation of filtered or circulating L-dopa and L-5-HTP, respectively”¹³⁸

- “Intrarenal dopamine (3,4-dihydroxyphenethylamine; DA) and serotonin (5-hydroxytryptamine; 5-HT) are synthesized abundantly by renal proximal tubular cells from L-3,4-dihydroxyphenylalanine and 5-hydroxy-L-tryptophan, respectively”¹³⁹
- “These data indicate that urinary free dopamine is mainly derived from plasma dopa, which is converted by dopa decarboxylase in the kidney”¹⁴⁰
- “Urinary dopamine excretion was not diminished by sympathectomy, was increased by L-dopa (but not tyrosine or dopamine 4-Osulphate) in the perfusate and was virtually abolished by prior treatment with the dopa decarboxylase inhibitor, carbidopa. These results confirm the importance of renal extraneuronal dopamine production, from circulating L-dopa, as a contributor to urinary dopamine excretion”¹⁴¹
- “The data indicates that urinary free dopamine in a high sodium diet is mainly derived from the renal tubular cells”¹⁴²
- “Plasma dopa is the main source of urinary dopamine”¹⁴³
- “All of the components of a complete dopamine system are present within the kidney”¹⁴⁴
- “It is concluded that (urinary) dopamine and serotonin are accumulated and likely formed within proximal convoluted tubular cells”¹⁴⁵

¹ Stein A. et al Amino acid-responsive Crohn's disease: a case study Clinical and Experimental Gastroenterology 2010;3 171-177

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Testing overview

- ✓ Call DBS Labs and get sample kits 877-476-7229
- ✓ Collect sample, follow instructions
- ✓ Submit by second day FedEx
- ✓ Lab analysis (2 day process)
- ✓ Report raw results back in 7 to 10 days
- ✓ The following work day, if requested, transporter analysis and recommendations
- ✓ Check, "Request consult"

**THE FOLLOWING
DISCUSSION RELATES TO**

URINE

**LABORATORY
NEUROTRANSMITTER TESTING
METHODS**

SALIVA

SERUM

**VALIDITY OF TESTING
CENTRALLY ACTING MONOAMINES**

Salivary testing of monoamines are of no value. The values fluctuate from minute to minute.

Serum testing of centrally acting monoamine is not reproducible, therefore of no value. As soon as you introduce a needle for phlebotomy, the baseline serum levels change.

Spot baseline urinary monoamine testing of serotonin, dopamine, norepinephrine, and epinephrine in the endogenous state (taking no or one amino acid precursor) is of no diagnostic value. The only valid application is as a screening tool.

Urinary testing of monoamine is only valid in the competitive inhibition state while administering serotonin and dopamine precursors simultaneously. Monoamine assays are only of value when interpreted under the three-phase model.

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