Alzheimer's Disease

The brain: Use it or lose it! Just like the rest of our body, our brains change as we age, but serious memory loss, confusion or personality changes could be signs of cellular damage.

Initial Symptoms-

- ✓ *Diagnosed With Alzheimer's 6 Months. Ago*
- ✓ *Lost job/Unable To Work*
- ✓ *Depressed/Stressed*
- ✓ *Drivers License Was Revoked Due To Alzheimer's*
- ✓ *Personality Changes*
- ✓ *Taking Aricept And Zoloft*

In just 4 months- *Improvements Across The Board*

- ✓ *Memory Improving*
- ✓ *Anxiety/Stress Reduced*
- ✓ *Able to Concentrate*
- ✓ *Sense Of Humor Returning*
- ✓ *No Longer Depressed*
- ✓ *More Animated*

"More than 5 million Americans suffer from Alzheimer's and it remains the seventh leading cause of death in the nation. Sadly, this disease is often as emotionally debilitating for family members and loved ones as the patient themselves."

-Dr. Van D. Merkle

Patient Profile:

04-18-06 – For 32 years, this 56 year old patient worked dumping solvents into groundwater in a very toxic environment. About five years ago, he and his wife started noticing mild memory problems and as his symptoms progressed he was forced to leave work, being unable to safely complete day to day tasks. A PET scan six months ago returned positive for Alzheimer's and he lost all driving privileges. He has both good days and bad, sometimes being unable to recall names or recent events and is more passive with family and friends. This memory loss and inability to concentrate brought on depression, anxiety and stress. Doctors placed him on Aricept for Alzheimer's and Zoloft to calm his anxiety. At the time of his initial visit at Back To Health Center, he weighed 163 lbs at 5'8" and his blood pressure was 115/65. His heart rate was below average at just 45 beats per minute.

Patient's tests results:

04-23-06 – There were several values that were too high or low in his blood work, most significantly the low T4 and T7 indicating a low

functioning thyroid and slow metabolism, and the high MCV, MCH and MCHC which show possible anemia.

Results of Initial Blood Test:

Test Description	Date:	Current Result 04/19/2006	Current Rating	Prior Result	Delta	Healthy	Clinical
Uric Acid		6.60	hi			4.10 - 6.00	2.40 - 8.20
BUN (Blood Urea Nitrogen)		24.00	hi			13.10 - 18.00	5.00 - 26.00
Creatinine		1.20	hi			0.61 - 0.90	0.50 - 1.50
BUN / Creatinine Ratio		20.00	hi			13.10 - 20.00	8.00 - 27.00
Sodium		139.00	lo			140.10 - 144.00	135.00 - 148.00
Alkaline Phosphatase 25-150		76.00	Opt			65.00 - 108.00	25.00 - 160.00
Creatine Kinase		96.00	Opt			64.00 - 133.00	24.00 - 173.00
LDH		210.00	hi			120.10 - 160.00	100.00 - 250.00
SGOT (AST) (AST)		26.00	hi			18.10 - 26.00	6.00 - 40.00
SGPT (ALT) (ALT)		26.00	Opt			18.10 - 26.10	6.00 - 40.00
GGT		17.00	lo			22.00 - 39.00	6.00 - 55.00
T4 Thyroxine		6.10	lo			7.10 - 9.00	4.50 - 12.00
T3 Uptake		30.00	Opt			29.10 - 35.10	24.00 - 39.00
T7 Free Thyroxine Index (FTI)		1.80	lo			2.61 - 3.60	1.20 - 4.90
White Blood Count		4.60	lo			5.10 - 8.00	4.00 - 10.50
Red Blood Count		3.76	LO			4.51 - 5.50	3.80 - 5.60
MCV		107.00	HI			85.10 - 97.00	80.00 - 98.00
MCH		37.50	HI			28.10 - 32.00	27.00 - 34.00
MCHC		35.00	hi			33.10 - 34.99	32.00 - 36.00
Platelets		337.00	hi			175.10 - 250.00	140.00 - 415.00
Polys/Neutrophils (SEGS-PMNS)		71.00	hi			55.10 - 65.00	40.00 - 74.00
Lymphocytes		20.00	lo			25.10 - 40.00	14.00 - 46.00
Monocytes		8.00	hi			5.10 - 7.10	4.90 - 13.00

Blue = clinically very high or clinically very low
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Very few toxic elements showed signs of elimination in the tissue mineral analysis yet every essential element tested returned either too low or high. This usually means the body is not efficiently eliminating heavy toxic metals and is instead storing them in the body.

Results of Initial Tissue Mineral Analysis:

Test Description	Date:	Current Result 04/18/2006	Current Rating	Prior Result	Delta	Healthy	Clinical
Toxic Elements							
Aluminum		6.90	hi			0- 2.20	2.21- 7.00
Antimony		0.01	Opt			0- 0.03	0.04- 0.07
Arsenic		0.04	hi			0- 0.03	0.04- 0.08
Lead		0.06	Opt			0- 0.20	0.21- 2.00
Mercury		0.08	Opt			0- 0.50	0.51- 1.10
Nickel		0.05	Opt			0- 0.20	0.21- 0.40
Silver		0.02	Opt			0- 0.06	0.07- 0.12
Tin		0.12	Opt			0- 0.15	0.16- 0.30
Titanium		0.45	Opt			0- 0.50	0.51- 1.00
Total Toxic Representation		1.00	Opt			0- 2.00	2.01- 3.00

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Tissue Mineral Analysis Cont:

Test Description	Date:	Current Result 04/18/2006	Current Rating	Prior Result	Delta	Healthy		Clinical	
Essential Elements									
Calcium		227.00	lo			362.00-	417.00	200.00-	750.00
Magnesium		57.00	hi			43.00-	48.00	25.00-	75.00
Sodium		270.00	HI			37.00-	45.00	12.00-	90.00
Potassium		56.00	HI			19.00-	22.00	9.00-	40.00
Copper		9.40	LO			12.00-	15.00	10.00-	28.00
Zinc		170.00	hi			150.00-	165.00	130.00-	200.00
Manganese		0.04	LO			0.22-	0.31	0.15-	0.65
Chromium		0.34	hi			0.25-	0.31	0.20-	0.40
Vanadium		0.01	LO			0.04-	0.05	0.02-	0.06

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We were able to determine the extent of these stores through a chelation challenge. The column labeled "Pre-Chall" shows the body's ability to flush out toxins while the heading "DMSA" represents toxins eliminated with the help of a chelating agent. Both Mercury and Lead significantly increased with this test.

Results of Chelation Challenge:

Test Description	Date:	Current Result 04/23/2006	Current Rating	Prior Result 04/22/2006	Delta	Healthy		Clinical	
Agent		DMSA		Pre-Chall					
Dose		2000mg							
Interval		6		6					
Toxic Elements									
Lead (UA)		29.00	HI	0.90	⊗	0-	4.00	4.01-	5.00
Mercury (UA)		3.00	HI	0.90	⊗	0-	2.00	2.01-	3.00

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The final test preformed on the patient was a metabolic urinalysis. This showed signs of adrenal fatigue, digestive problems and low vitamin C and calcium. Also the longer a person is in adrenal fatigue, the more de-mineralized they become, so we needed to start him on a supplement program right away to increase his mineral stores.

Doctor analysis:

04-26-06 – Mercury is well known for its degenerative properties and toxicity, but can also be a contributing or causative factor in Alzheimer's disease. Within minutes of exposure, even small amounts of this toxin can cause rapid damage to nerve cells, destroying microtubules and disrupting communication abilities. High levels of lead in combination with mercury cause further chemical toxicity, possible organ dysfunction and make

Alzheimer's symptoms seem worse. I placed the patient on a 10 week DMSA cycle to assist his body in eliminating stores of toxins and added a supplement regimen to boost essential element and mineral levels. In this list I also included a few digestive enzymes and made some dietary recommendations to help with his indigestion and acid reflux.

Patient assessment:

08-16-06 - After just *four months* under our care, the patient's Lead levels dropped significantly from 29 to 10 and his mercury level climbed from 3 to 13. This is a good thing as the chelating agent DMSA eliminates toxins by weight. Lead is the heaviest, so as it is reduced the next heaviest (mercury) should show increased elimination. I spoke with the patient and though we did not see many changes in the blood, he is feeling better with increasing memory, less anxiousness/depression and fewer struggles with finding the right words. This patient worked in a very toxic environment for decades and I reminded him it will take time to turn his health around.

Results of 2nd Chelation Challenge:

Test Description / Date:	Current Result 07/21/2006	Current Rating	Prior Result 04/23/2006	Delta	Healthy	Clinical
Agent	DMSA		DMSA			
Dose	2000mg		2000mg			
Interval	6		6			
Toxic Elements						
Lead (UA)	10.00	HI	29.00	☺	0- 4.00	4.01- 5.00
Mercury (UA)	19.00	HI	3.00	☹	0- 2.00	2.01- 3.00

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We did not see any changes with the low functioning thyroid and the white blood count dropped into the clinical range; however this was likely due to the high volume of toxins being pulled out of the body. Several areas did improve including the high MCV, MCH and MCHC indicating reduced anemia.

Results of 2nd Blood Test:

Test Description / Date:	Current Result 08/11/2006	Current Rating	Prior Result 04/19/2006	Delta	Healthy	Clinical
Uric Acid	4.90	Opt	6.60	☺	4.10 - 6.00	2.40 - 8.20
BUN (Blood Urea Nitrogen)	25.00	hi	24.00	☹	13.10 - 18.00	5.00 - 26.00
Creatinine	1.20	hi	1.20	😐	0.61 - 0.90	0.50 - 1.50
BUN / Creatinine Ratio	21.00	hi	20.00	☹	13.10 - 20.00	8.00 - 27.00
Sodium	141.00	Opt	139.00	☺	140.10 - 144.00	135.00 - 148.00

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2nd Blood Test Cont:

Test Description	Date:	Current Result 08/11/2006	Current Rating	Prior Result 04/19/2006	Delta	Healthy	Clinical
Alkaline Phosphatase 25-150		69.00	Opt	76.00		65.00 - 108.00	25.00 - 160.00
Creatine Kinase		80.00	Opt	96.00		64.00 - 133.00	24.00 - 173.00
LDH		189.00	hi	210.00	☺	120.10 - 160.00	100.00 - 250.00
SGOT (AST) (AST)		27.00	hi	26.00	☹	18.10 - 26.00	6.00 - 40.00
SGPT (ALT) (ALT)		42.00	HI	26.00	☹	18.10 - 26.10	6.00 - 40.00
GGT		24.00	Opt	17.00	☺	22.00 - 39.00	6.00 - 55.00
T4 Thyroxine		6.10	lo	6.10	😐	7.10 - 9.00	4.50 - 12.00
T3 Uptake		30.00	Opt	30.00		29.10 - 35.10	24.00 - 39.00
T7 Free Thyroxine Index (FTI)		1.80	lo	1.80	😐	2.61 - 3.60	1.20 - 4.90
White Blood Count		3.30	LO	4.60	☹	5.10 - 8.00	4.00 - 10.50
Red Blood Count		3.90	lo	3.76	☺	4.51 - 5.50	3.80 - 5.60
MCV		106.00	HI	107.00	☺	85.10 - 97.00	80.00 - 98.00
MCH		36.90	HI	37.50	☺	28.10 - 32.00	27.00 - 34.00
MCHC		34.80	Opt	35.00	☺	33.10 - 34.99	32.00 - 36.00
Platelets		265.00	hi	337.00	☺	175.10 - 250.00	140.00 - 415.00
Polys/Neutrophils (SEGS-PMNS)		59.00	Opt	71.00	☺	55.10 - 65.00	40.00 - 74.00
Lymphocytes		30.00	Opt	20.00	☺	25.10 - 40.00	14.00 - 46.00
Monocytes		9.00	hi	8.00	☹	5.10 - 7.10	4.90 - 13.00

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10-18-06 – We did another chelation challenge two months later to retest his toxin levels and they remained virtually the same showing that we still have a long way to go. We also rechecked the white blood count which improved to 4.70.

12-12-06 – When putting patients on chelating cycles it's very important to monitor their progress because overuse can produce mineral deficiencies. After the third round of DMSA, we not only ran another chelation challenge, but also did a hair test to analyze the levels of essential elements. In the chelation results we can see the lead and mercury levels are finally starting to come down by the increased elimination of the next heaviest metal, nickel.

Results of 4th Chelation Challenge:

Test Description	Date:	Current Result 12/12/2006	Current Rating	Prior Result 10/18/2006	Delta	Healthy	Clinical
Agent		DMSA		DMSA			
Dose		2000mg		2000mg			
Interval		6		6			
Toxic Elements							
Lead (UA)		9.20	HI	11.00	☺	0- 4.00	4.01- 5.00
Mercury (UA)		7.20	HI	20.00	☺	0- 2.00	2.01- 3.00
Nickel (UA)		5.40	hi	0.90	☹	0- 5.00	5.01- 10.00

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In the first hair test, every essential element was imbalanced, but now some are beginning to move toward optimal ranges.

The calcium actually went from being clinically low to clinically high. This nutrient is one of the elements depleted by toxins, so as lead and mercury are reduced, calcium levels should rise.

Results of 2nd Tissue Mineral Analysis:

Test Description	Date:	Current Result 11/17/2006	Current Rating	Prior Result 04/18/2006	Delta	Healthy		Clinical	
Essential Elements									
Calcium		1190.00	HI	227.00	☹	0-	417.00	417.01-	1100.00
Magnesium		85.00	hi	57.00	☹	0-	48.00	48.01-	140.00
Sodium		8.00	LO	270.00	☺	0-	45.00	45.01-	180.00
Potassium		18.00	LO	56.00	☺	0-	22.00	22.01-	90.00
Copper		8.30	LO	9.40	☹	0-	15.00	15.01-	26.00
Zinc		160.00	Opt	170.00	☺	0-	165.00	165.01-	200.00
Manganese		0.04	LO	0.04	😐	0-	0.31	0.32-	0.65
Chromium		0.36	hi	0.34	☹	0-	0.31	0.32-	0.45
Vanadium		0.01	LO	0.01	☺	0-	0.05	0.06-	0.06

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01-18-07 – Over the next few months, we closely monitored the patient's toxicity level and those results are shown below. As stores of lead and mercury were reduced other metals showed increased elimination. With the out-poring of toxic elements, we did not see many major changes within the blood tests. The white blood count did improve slightly, but the thyroid and anemia remained the same.

Still, the patient is progressing nicely. He's noticed continued improvement with concentration and memory, is more engaging and animated and even joked around with me during his office visit. He feels really good, can carry on a good conversation with his wife and would like to start reducing his medications. Most importantly, the patient recently failed two Alzheimer's tests allowing him to regain his driver's license which was revoked shortly after his diagnosis.

Results of Ongoing Chelation Challenges:

Date:	09/29/2007	04/07/2007	12/12/2006	10/18/2006	07/21/2006	04/23/2006
Toxic Elements						
Aluminum (UA)	16.00	7.20	0.00	0.00	0.00	0.00
Antimony (UA)	0.00	0.06	0.00	0.00	0.00	0.00
Arsenic (UA)	16.00	25.00	9.90	30.00	19.00	13.00
Beryllium (UA)	0.00	0.00	0.00	0.00	0.00	0.00
Bismuth (UA)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (UA)	0.30	0.40	0.60	0.70	0.50	0.50
Lead (UA)	6.20	7.90	9.20	11.00	10.00	29.00
Mercury (UA)	6.10	5.90	7.20	20.00	19.00	3.00
Nickel (UA)	2.00	4.10	5.40	0.90	3.00	0.00

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Dr. Merkle's Final Thoughts:

Not long after his test in January, the patient cut his medications (Zoloft and Aricept) in half. He struggled a bit at first finding it hard once again to form sentences. We increased some vitamins and minerals that aid with brain function such as Brain Sustain, Calcium and Magnesium and switched him to a slower chelating agent called PCA-Rx. As we saw in the blood work, flushing toxic elements out of the system can sometimes cause disruptions if it happens too fast. That's why we monitor patients closely. What is the other option, to leave toxic heavy metals in the system? How much worse would that disruption be? By August 2007, we started seeing good progress in the blood with kidney function and anemia both improving.

Pulling toxic metals out of his system allowed us to slow any further damage to the delicate neurons in the brain. An adult brain contains approximately 100 billion nerve cells with branches that allow communications to travel across more than 100 trillion points. Toxins like lead and mercury destroy these neuron paths disrupting the routes of electrical charges which allow the brain to store and retrieve memories, thoughts and feelings.

Now that most of these toxins are out, it's time to focus on regeneration. The brain is like a muscle, if you work it, it will improve. Juggling is a great exercise for the brain because it requires simultaneous use of a variety of skills (i.e. hand/eye coordination, spatial orientation, depth perception, quick adjustments). The patient also enjoys gardening so I recommended planting different bulbs then learning and memorizing their names. These exercises will help regenerate communication paths within the brain which were affected by the high levels of toxic elements and Alzheimer's disease.

-Dr. Van D. Merkle