

Everyday Epigenetics

Small choices, big outcomes.

A Biogenetix Clinical Presentation

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- *Information in this presentation is not intended to diagnose, treat, reverse, cure, or prevent any disease. While this presentation is based on medical literature, findings, and text, The following statements have not been evaluated by the FDA.*
- *The information provided in this presentation is for your consideration only as a practicing health care provider. Ultimately you are responsible for exercising professional judgment in the care of your own patients.*



Epigenetics:

Study of changes in the DNA that do not involve changes in the DNA sequence.





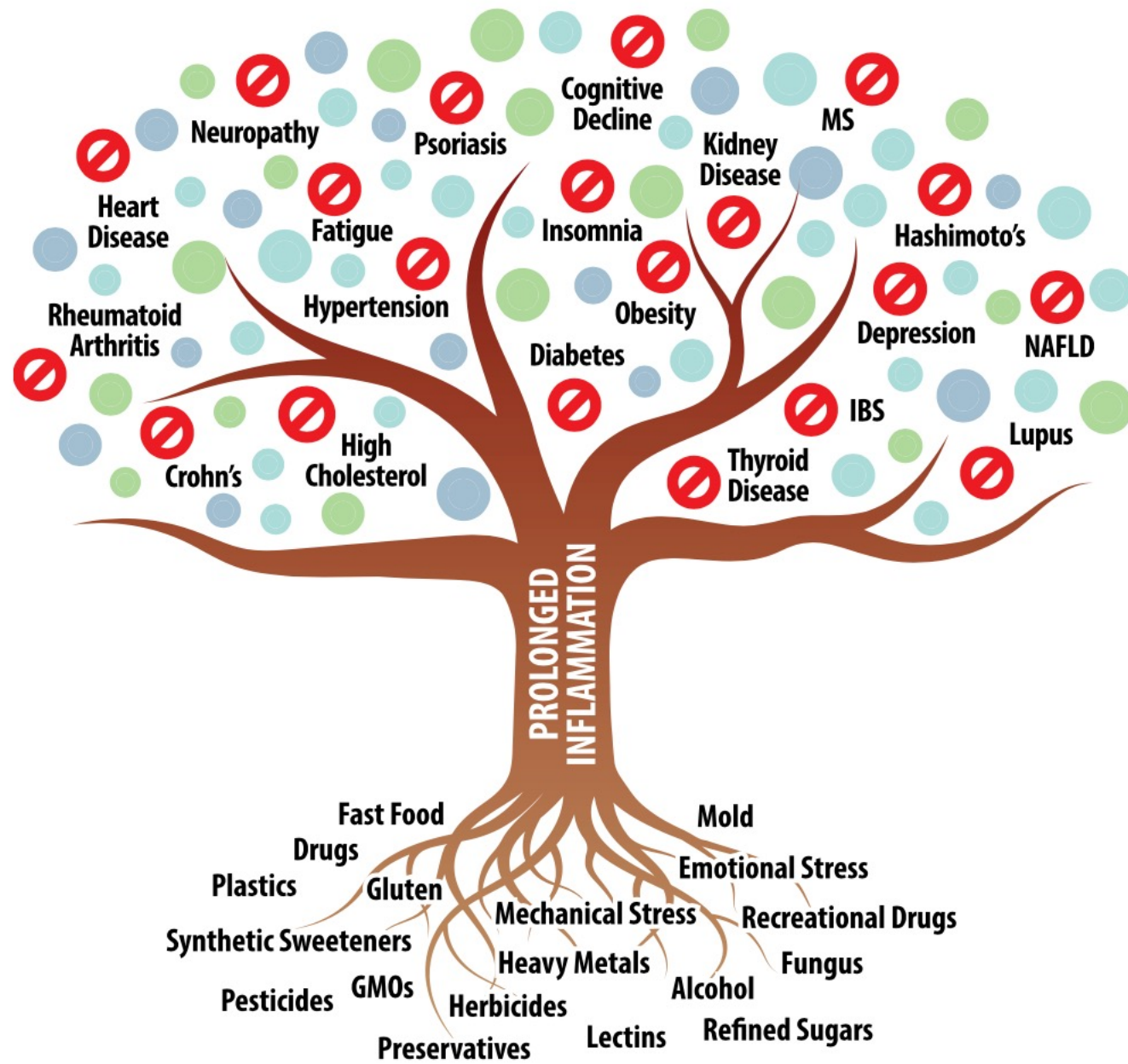
Environment + Genetics = Chronic Health Condition

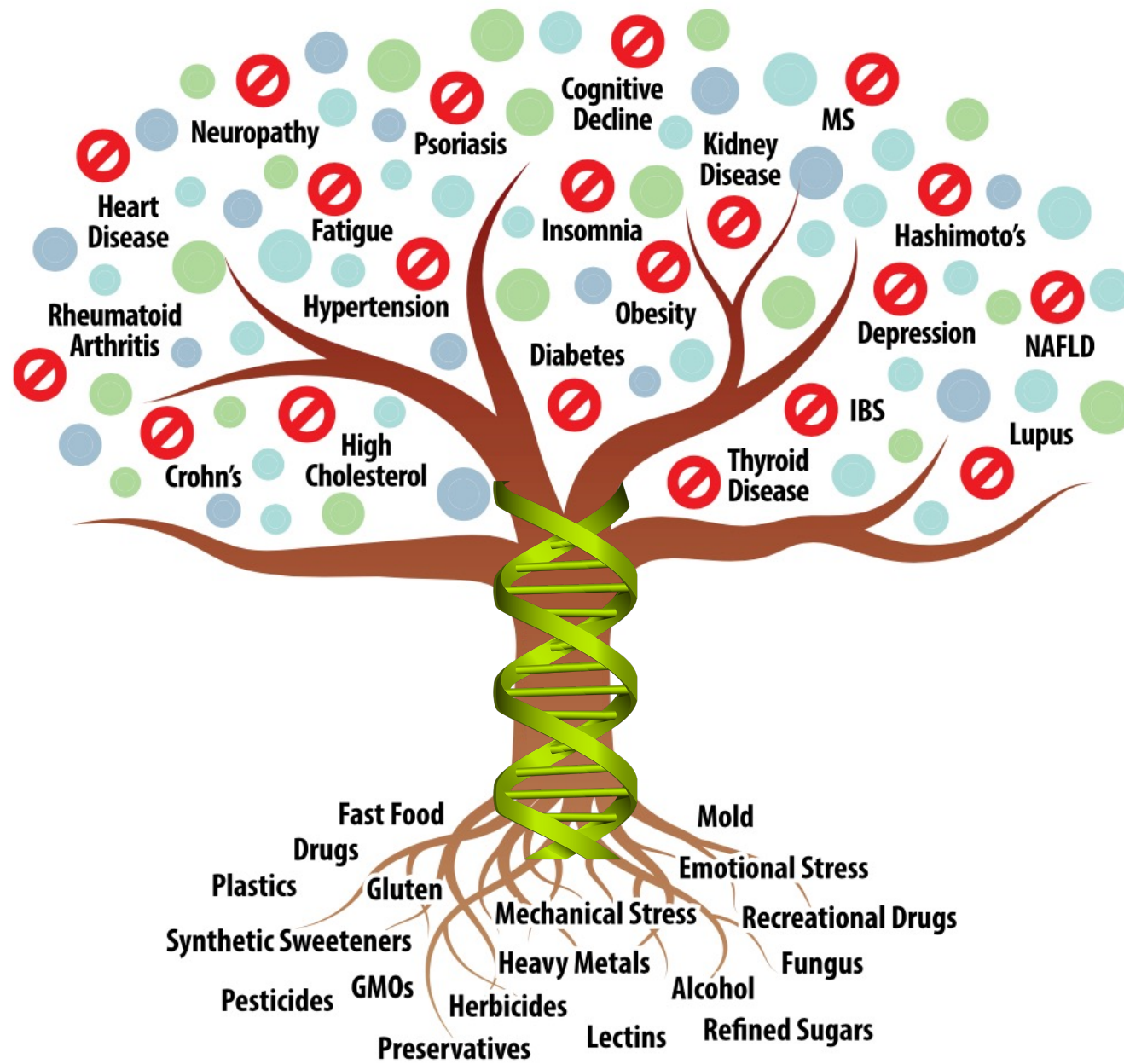


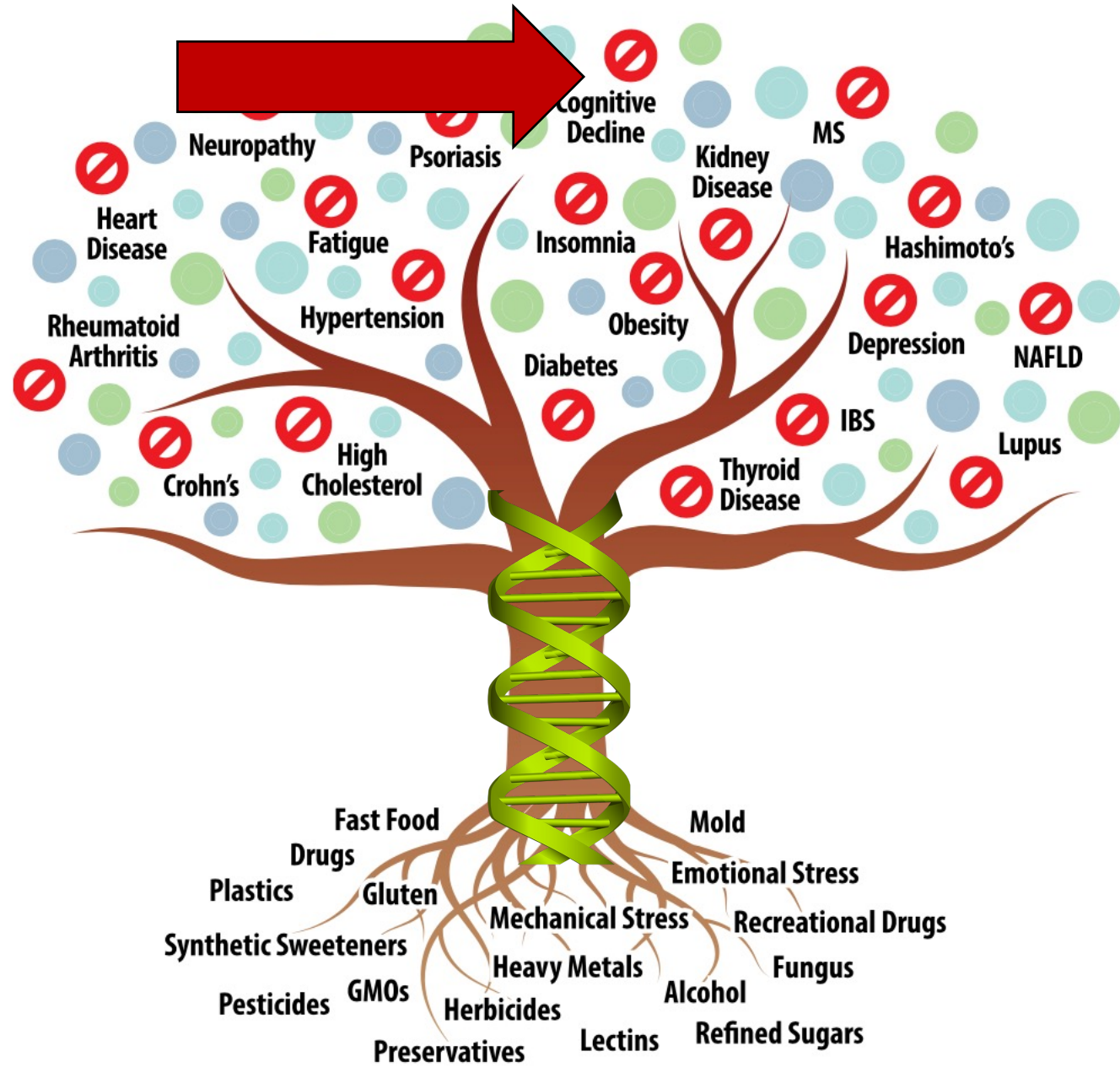


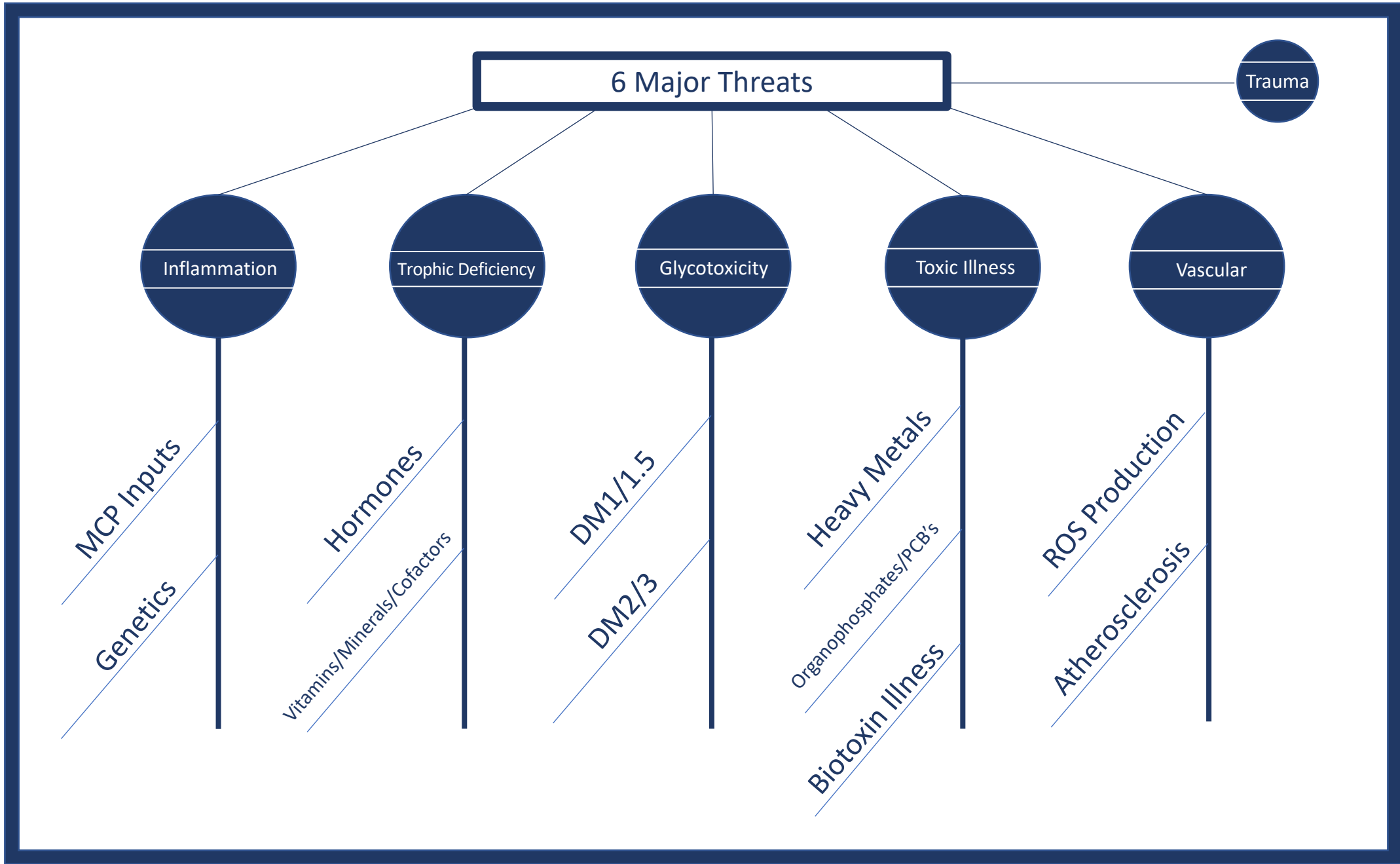
Environment + Genetics = Chronic Health IMPROVEMENT





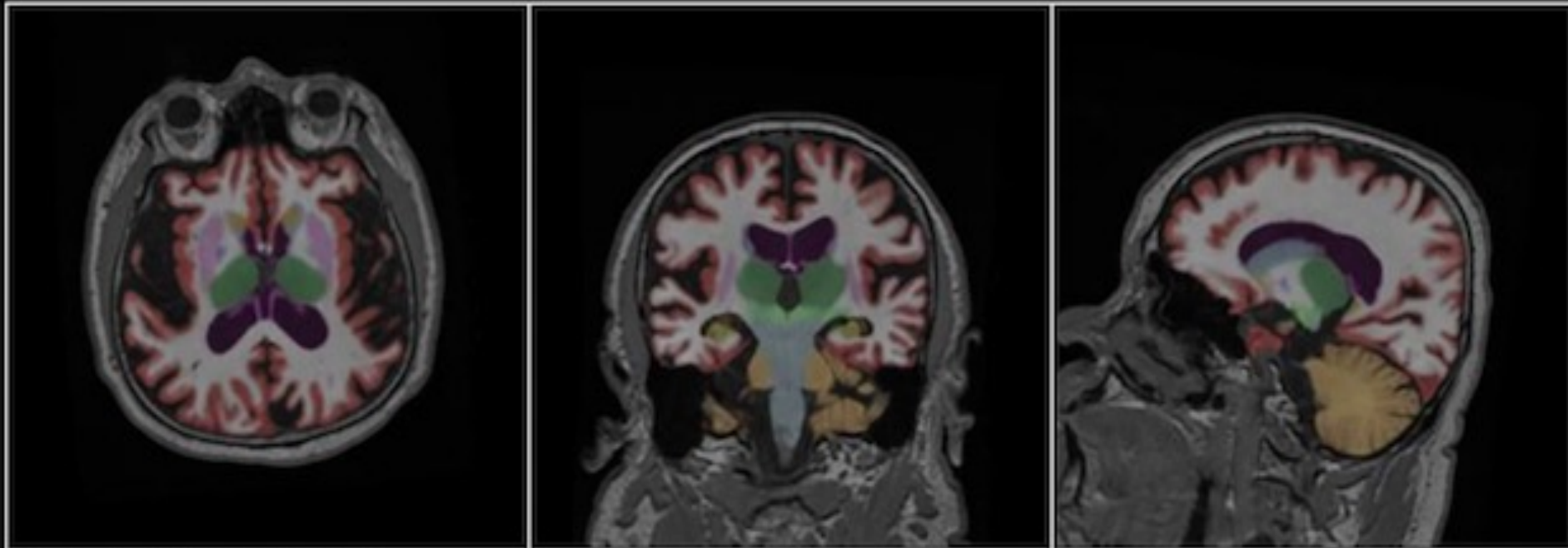






68 yo male, DM2, CD. MRI 1

MORPHOMETRY RESULTS



Intracranial Volume (ICV) (cm ³)	ICV Percentile			Cortical Brain Regions	Percentiles		
1664.83	60				Left	Right	Total
Total Volumes	Percentiles						
	Left	Right	Total				
Cerebral White Matter	91	89	90	Frontal Lobes	19	11	14
Cortical Gray Matter	1	1	1	Superior Frontal	60	24	39
Ventricles	96	95	95	Middle Frontal	52	58	55
Subcortical Structures				Inferior Frontal	2	12	4
Cerebellar White Matter	98	97	98	Lateral Orbitofrontal	6	1	2
Cerebellar Gray Matter	63	85	75	Medial Orbitofrontal	23	16	17
Brainstem	-	-	19	Paracentral	72	74	75
Thalamus	99	99	99	Primary Motor	24	15	17
Ventral Diencephalon	36	53	44	Parietal Lobes	1	3	2
				Primary Sensory	1	1	1
				Medial Parietal	8	40	18
				Superior Parietal	1	5	2



68 yo male, DM2, CD. MRI 1

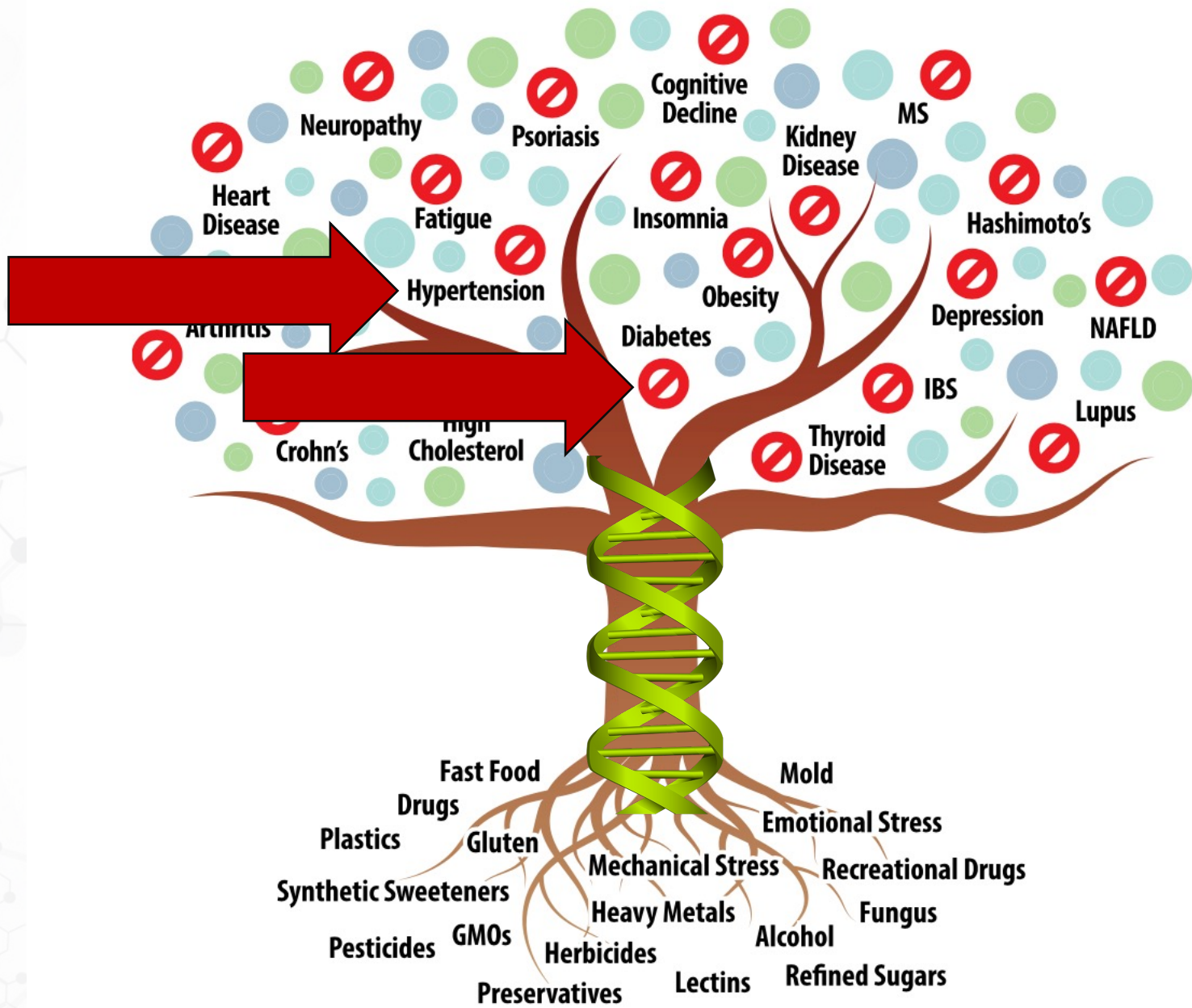
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Ventral Diencephalon	36	53	44	Parietal Lobes	1	3	2
Basal Ganglia				Primary Sensory	1	1	1
Putamen	67	82	75	Medial Parietal	8	40	18
Caudate	91	96	95	Superior Parietal	1	5	2
Nucleus Accumbens	98	95	98	Inferior Parietal	44	53	49
Pallidum	7	6	6	Supramarginal	5	2	2
Cingulate	50	55	53	Occipital Lobes	1	1	1
Anterior Cingulate	91	70	83	Medial Occipital	1	2	1
Posterior Cingulate	73	81	79	Lateral Occipital	1	1	1
Isthmus Cingulate	2	9	3	Temporal Lobes	1	1	1
				Transverse Temporal + Superior Temporal	1	1	1
				Posterior Superior Temporal Sulcus	69	33	49
				Middle Temporal	1	1	1
				Inferior Temporal	1	11	3
				Fusiform	8	17	10
				Parahippocampal	98	48	87
				Entorhinal Cortex	1	8	2
				Temporal Pole	1	1	1
				Amygdala	52	23	35
				Hippocampus	16	26	19



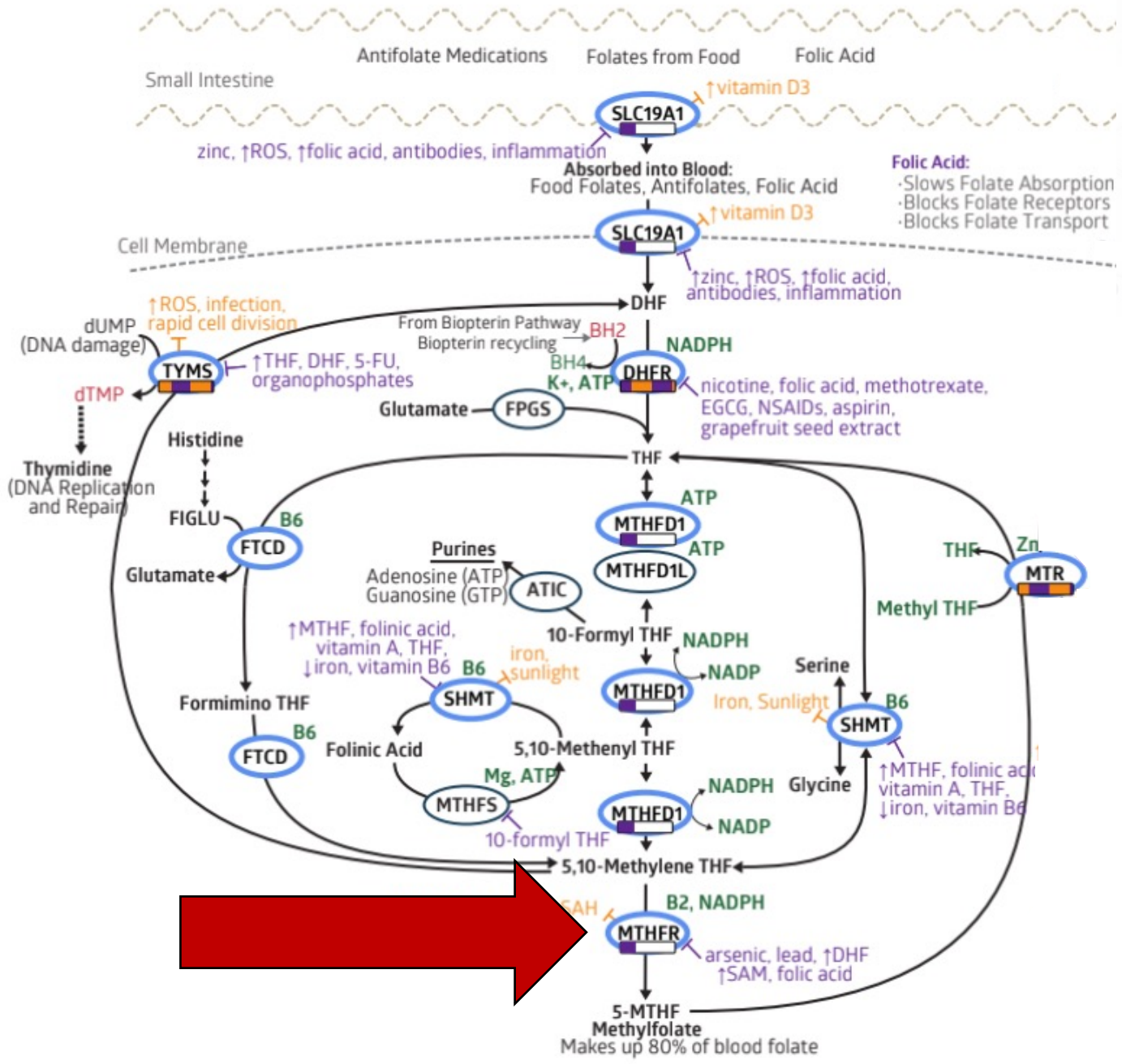
69 yo male, DM2, CD. MRI 2

Structure	Total Volume (cm ³)	Percentile		
		Left	Right	Total
Intracranial Volume	1521	-	-	-
Whole Brain	1049	1	1	1
Forebrain Parenchyma	900	1	1	1
Total Volumes	Percentiles			
Cerebral White Matter	1	1	1	
Cortical Gray Matter	42	36	39	
Ventricles	98	96	97	
Cerebral WM Hypointensities*	70	75	77	
Subcortical Structures				
Cerebellar White Matter	40	39	39	
Cerebellar Gray Matter	50	42	46	
Brainstem	-	-	46	
Thalamus	72	57	64	
Ventral Diencephalon	77	84	82	
Basal Ganglia				
Putamen	23	29	25	
Caudate	72	74	74	
Nucleus Accumbens	63	88	79	
Pallidum	16	12	12	
Cingulate	18	63	41	
Anterior Cingulate	75	86	85	
Posterior Cingulate	10	16	11	
Isthmus Cingulate	10	33	16	
Cortical Brain Regions	Percentiles			
Frontal Lobes	84	73	79	
Superior Frontal	92	71	86	
Middle Frontal	42	47	43	
Inferior Frontal	39	89	71	
Lateral Orbitofrontal	59	18	37	
Medial Orbitofrontal	50	26	33	
Paracentral	71	75	75	
Primary Motor	96	87	94	
Parietal Lobes	43	53	48	
Primary Sensory	39	28	31	
Medial Parietal	36	42	38	
Superior Parietal	76	90	87	
Inferior Parietal	75	80	81	
Supramarginal	7	1	1	
Occipital Lobes	1	1	1	
Medial Occipital	2	4	2	
Lateral Occipital	6	4	3	
Temporal Lobes	47	23	34	
Transverse Temporal + Superior Temporal	27	15	18	
Posterior Superior Temporal Sulcus	40	16	21	
Middle Temporal	42	13	22	
Inferior Temporal	85	76	84	
Fusiform	42	18	27	
Parahippocampal	99	97	99	
Entorhinal Cortex	23	64	40	
Temporal Pole	52	25	36	
Amygdala	74	80	78	
Hippocampus	27	53	40	





46 YO male, DM2



Comp. Metabolic Panel (14)

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▲ Glucose ⁰¹	282 High		mg/dL	65-99
BUN ⁰¹	16		mg/dL	6-24
Creatinine ⁰¹	0.94		mg/dL	0.76-1.27
eGFR If NonAfrican Am	97		mL/min/1.73	>59
▼ Carbon Dioxide, Total ⁰¹	19 Low		mmol/L	20-29
Calcium ⁰¹	9.1		mg/dL	8.7-10.2
Protein, Total ⁰¹	6.3		g/dL	6.0-8.5

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Lipids ⁰¹				
▲ Cholesterol, Total ⁰¹	222 High		mg/dL	100-199
Triglycerides ⁰¹	120		mg/dL	0-149
▼ HDL Cholesterol ⁰¹	38 Low		mg/dL	>39
VLDL Cholesterol Cal	22		mg/dL	5-40
▲ LDL Chol Calc (NIH)	162 High		mg/dL	0-99
▲ T. Chol/HDL Ratio	5.8 High		ratio	0.0-5.0

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▼ C-Peptide, Serum ⁰¹	1.0 Low		ng/mL	1.1-4.4
C-Peptide reference interval is for fasting patients.				

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▲ Hemoglobin A1c ⁰¹	14.6 High		%	4.8-5.6
Verified by repeat analysis				

Please Note:⁰¹

Prediabetes: 5.7 - 6.4

Diabetes: >6.4

Glycemic control for adults with diabetes: <7.0

Estim. Avg Glu (eAG)	372		mg/dL	
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Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▲ Ferritin ⁰¹	690 High		ng/mL	30-400



7/5 update

LP+Chol/HDL+LDL/HDL+CHD Risk

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Lipids ⁰¹				
Cholesterol, Total ⁰¹	170	222 02/11/2022	mg/dL	100-199
Triglycerides ⁰¹	82	120 02/11/2022	mg/dL	0-149
HDL Cholesterol ⁰¹	55	38 02/11/2022	mg/dL	>39
VLDL Cholesterol Cal	15	22 02/11/2022	mg/dL	5-40
▲ LDL Chol Calc (NIH)	100 High	162 02/11/2022	mg/dL	0-99
T. Chol/HDL Ratio	3.1	5.8 02/11/2022	ratio	0.0-5.0

Please Note:⁰¹

T. Chol/HDL Ratio		
	Men	Women
1/2 Avg. Risk	3.4	3.3
Avg. Risk	5.0	4.4
2X Avg. Risk	9.6	7.1
3X Avg. Risk	23.4	11.0

Estimated CHD Risk	<0.5	1.2 02/11/2022	times avg.	0.0-1.0
The CHD Risk is based on the T. Chol/HDL ratio. Other factors affect CHD Risk such as hypertension, smoking, diabetes, severe obesity, and family history of premature CHD.				

LDL/HDL Ratio	1.8	4.3 02/11/2022	ratio	0.0-3.6
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Please Note:⁰¹

LDL/HDL Ratio		
	Men	Women
1/2 Avg. Risk	1.0	1.5
Avg. Risk	3.6	3.2
2X Avg. Risk	6.2	5.0
3X Avg. Risk	8.0	6.1

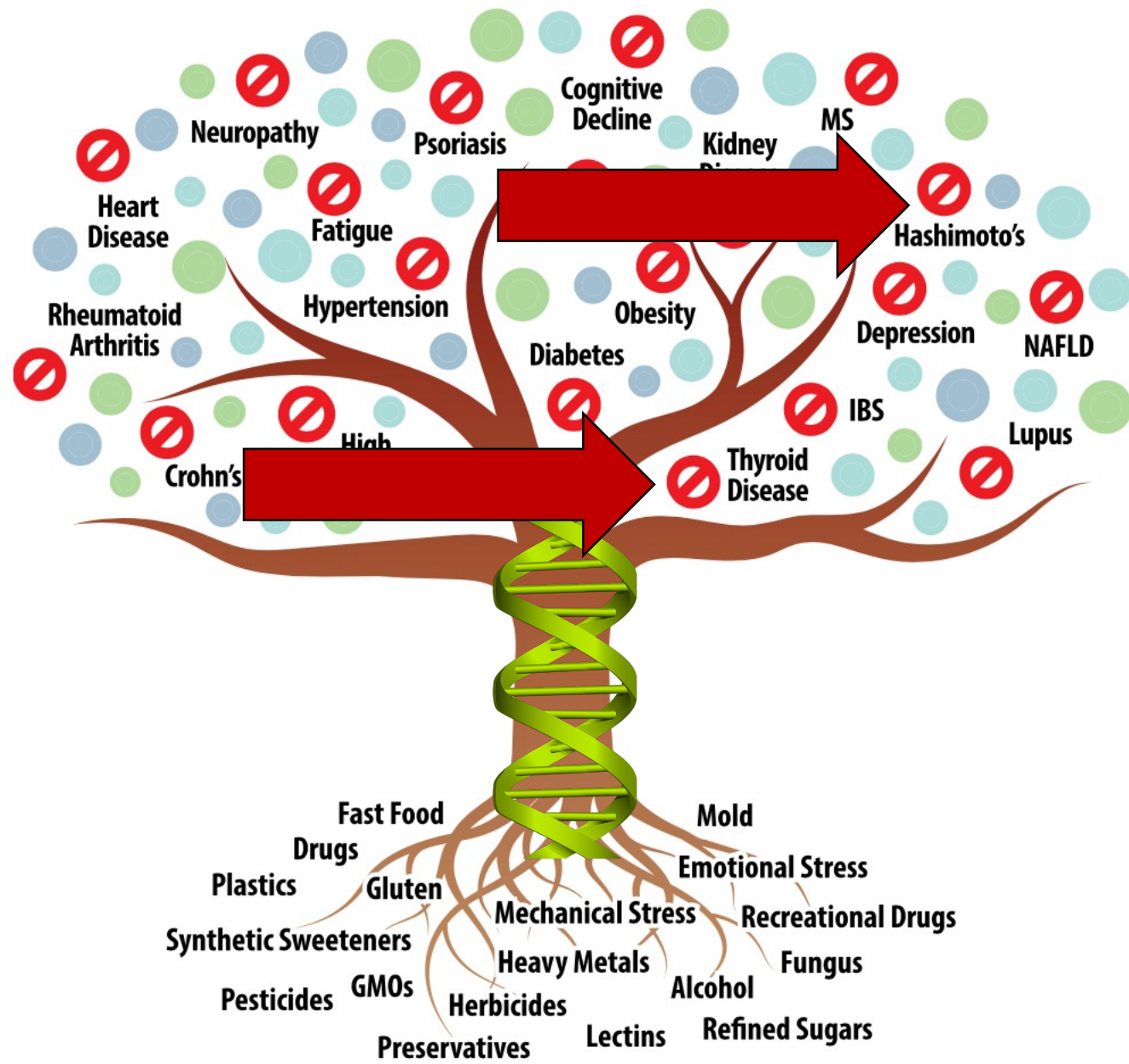
Hemoglobin A1c

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▲ Hemoglobin A1c⁰¹	7.2 High	12.0 04/27/2022	%	4.8-5.6

Please Note:⁰¹

Prediabetes: 5.7 - 6.4
 Diabetes: >6.4
 Glycemic control for adults with diabetes: <7.0





75 yo female. Hypothyroidism.

LP+Chol/HDL+LDL/HDL+CHD Risk

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Lipids ⁰¹				
Cholesterol, Total ⁰¹	173	181 09/02/2021	mg/dL	100-199
▲ Triglycerides⁰¹	186 High	319 09/02/2021	mg/dL	0-149
HDL Cholesterol ⁰¹	68	43 09/02/2021	mg/dL	>39
VLDL Cholesterol Cal	31	52 09/02/2021	mg/dL	5-40
LDL Chol Calc (NIH)	74	86 09/02/2021	mg/dL	0-99
T. Chol/HDL Ratio	2.5	4.2* 09/02/2021	ratio	0.0-5.0

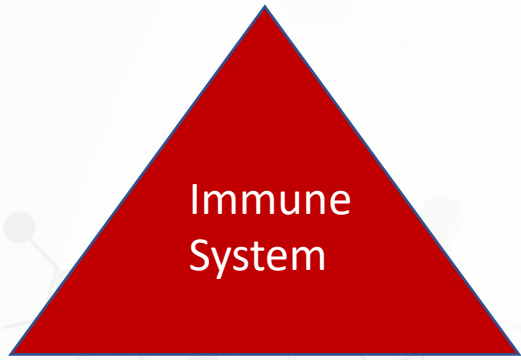
Thyroid Panel With TSH

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▲ TSH⁰¹	7.440 High	4.22 09/02/2021	uIU/mL	0.450-4.500
Thyroxine (T4) ⁰¹	6.5	6.5 09/02/2021	ug/dL	4.5-12.0
T3 Uptake ⁰¹	24	26 09/02/2021	%	24-39
Free Thyroxine Index	1.6	1.7 09/02/2021		1.2-4.9

Thyroid Antibodies

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Thyroid Peroxidase (TPO) Ab ⁰¹	9	10 09/02/2021	IU/mL	0-34
▲ Thyroglobulin Antibody⁰¹	58.8 High	180.3 09/02/2021	IU/mL	0.0-0.9

Thyroglobulin Antibody measured by Beckman Coulter Methodology

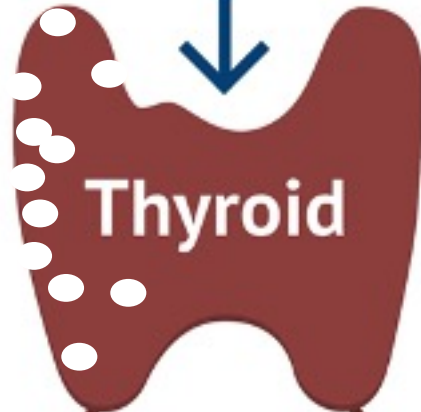


- Lifestyle + Genetics:
- Mercury
- Mold
- LPS
- Blood Sugar Balance
- Inflammation
- Total Tox Panel



Anterior Pituitary

TSH



Thyroid

T3 T4 T3
T3 T4 T4
T3 T4 T4

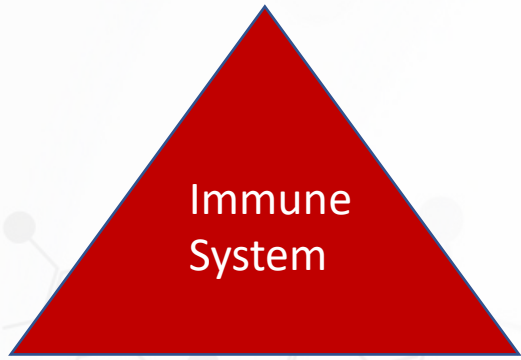
T4 → T3

+ Levothyroxine

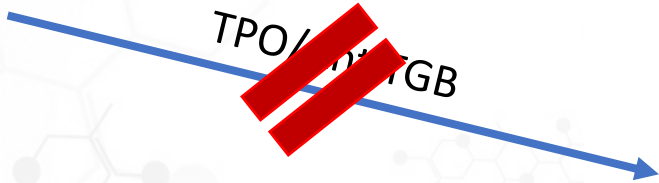


TSH

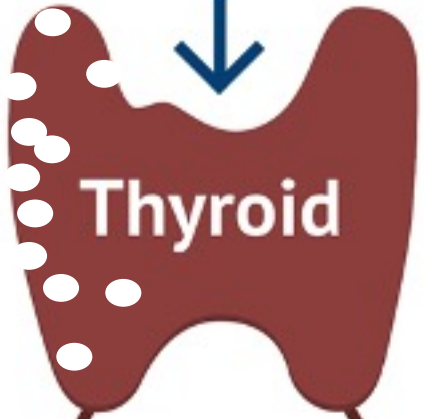




- Lifestyle + Genetics:
- Mercury
- Mold
- LPS
- Blood Sugar Balance
- Inflammation
- Total Tox Panel



TSH



Thyroid

T4 → T3

++ Levothyroxine



TSH

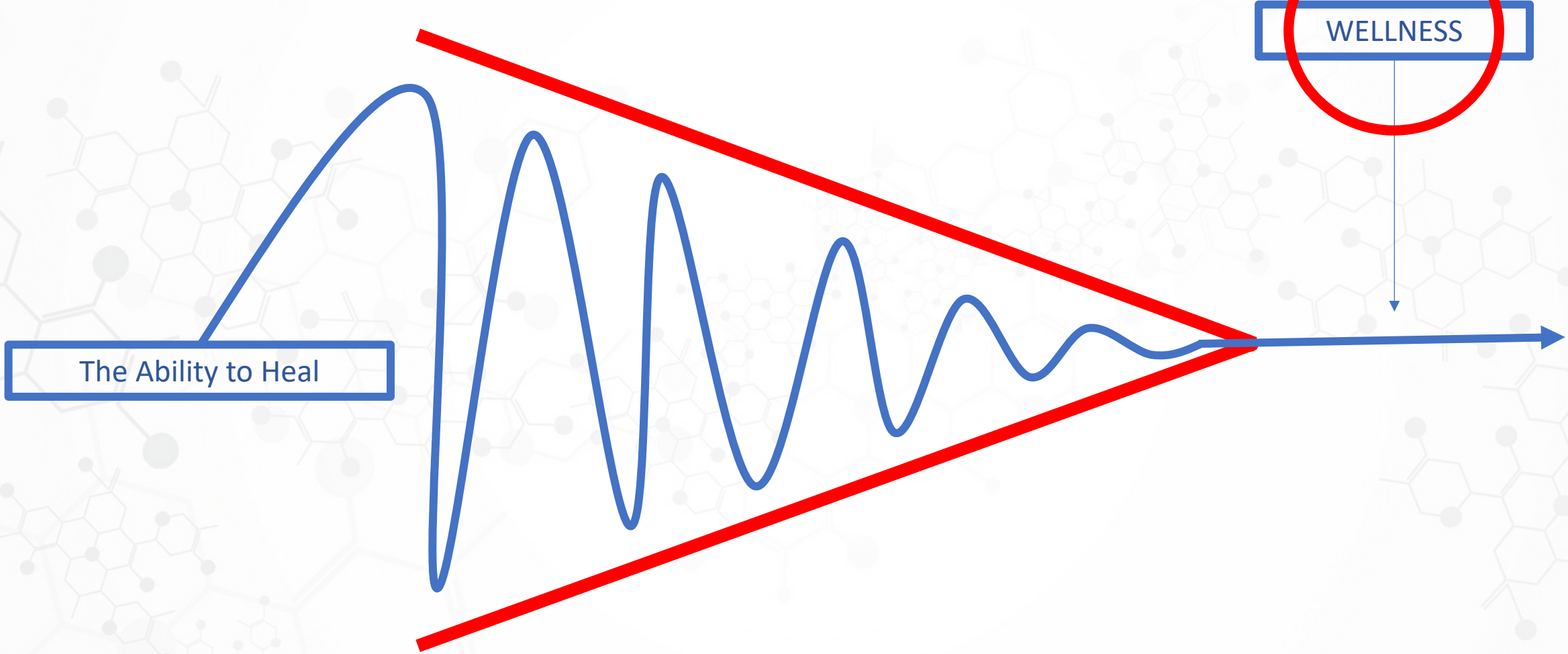


Epigenetics:

Study of changes in the DNA that do not involve changes in the DNA sequence.



The Wedge



NeuroQuant MRI

Blood Chemistry

Hormones

Stool

Viral Screen

Tox Panels

DNA

ERMI



Customizable Treatment Protocols

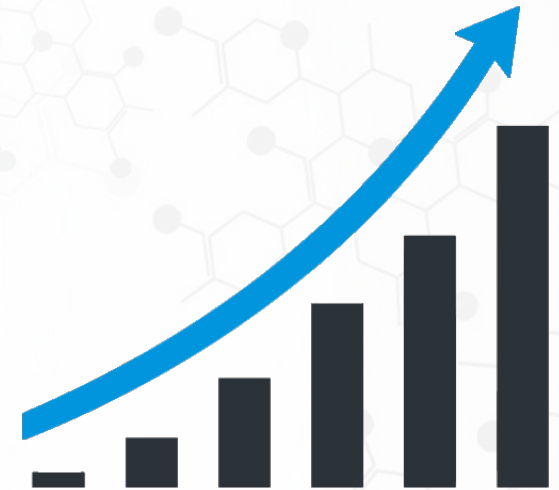




Your Workup



Our Know-How



Outcomes





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