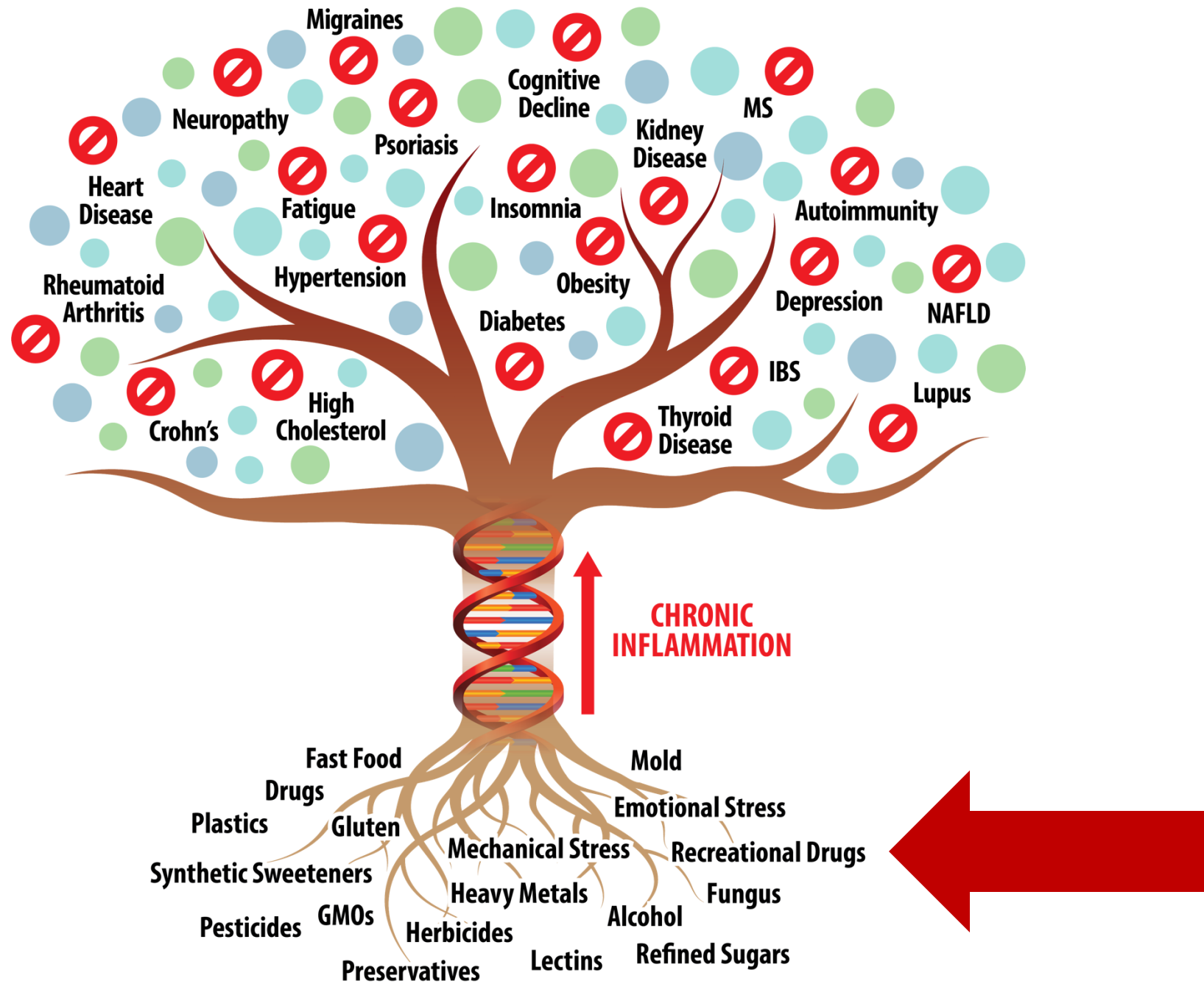


Casual Friday Series

DUTCH Test Applications

A BIOGENETIX CLINICAL PRESENTATION
biogenetix.com





5 Most Commonly Recommended Tests

**Biogenetix
General
Screen**

**Genova Dx
GI Effects**

**DUTCH
Complete**

**Vibrant
Wellness
Total Tox**

**Infinite
Allergy Labs
FAST88**



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DUTCH COMPLETE™

WHAT IS THE DUTCH COMPLETE?

The DUTCH Complete is our flagship test and takes hormone testing to a whole new level. This test looks at sex hormones and their metabolites, the overall diurnal pattern of free cortisol, and the total distribution of cortisol metabolites in addition to OATs, which provide insight into nutritional deficiencies, oxidative stress, gut dysbiosis, melatonin, neuroinflammation, and more.



Healthcare providers can use this valuable tool to optimize hormone health and address hormone-related symptoms such as fatigue, weight gain, hair loss, and mood swings.

FIND A PROVIDER 

www.DUTCHTest.com, → EvexiaDiagnostics.com



SEX HORMONES PANEL					
a-Pregnanediol*	✓	✓	✓*	✓*	✓*
b-Pregnanediol*	✓	✓	✓*	✓*	✓*
DHEA-S**	✓	✓		✓	✓
Androsterone	✓	✓		✓	✓
Etiocholanolone	✓	✓		✓	✓
Testosterone	✓	✓		✓	✓
5a-DHT	✓	✓		✓	✓
5a-Androstanediol	✓	✓		✓	✓
5b-Androstanediol	✓	✓		✓	✓
Epi-Testosterone	✓	✓		✓	✓
Estrone (E1)*	✓	✓	✓*	✓*	✓*
Estradiol (E2)*	✓	✓	✓*	✓*	✓*
Estriol (E3 aka 16-OHE2)	✓	✓		✓	✓
2-Hydroxyestrone (2-OHE1)	✓	✓		✓	✓
4-Hydroxyestrone (4-OHE1)	✓	✓		✓	✓
16-Hydroxyestrone (16-OHE1)	✓	✓		✓	✓
2-Methoxyestrone (2-MeOE1)	✓	✓		✓	✓
2-Hydroxyestradiol (2-OH-E2)	✓	✓		✓	✓
4-Hydroxyestradiol (4-OH-E2)	✓	✓		✓	✓

* Cyclemapping and its bundles include 9 targeted estrogen and progesterone measurements.

** DHEA-S is also included in the DUTCH Adrenal Panel.





ADRENAL PANEL						
Cortisol Awakening Response (CAR)***		✓	✓			✓
Diurnal Pattern of Free Cortisol	✓	✓	✓		✓	✓
Diurnal Pattern of Free Cortisone	✓	✓	✓		✓	✓
Optional Extra Cortisol Sample***		✓	✓			✓
a-Tetrahydrocortisol (a-THF)	✓		✓		✓	✓
b-Tetrahydrocortisol (b-THF)	✓		✓		✓	✓
b-Tetrahydrocortisone (b-THE)	✓		✓		✓	✓
Metabolized Cortisol (THF+THE)	✓		✓		✓	✓

*** The cortisol awakening response and optional extra cortisol sample are only available with the DUTCH CAR.

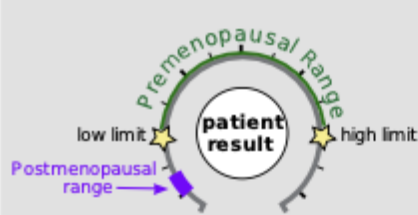


ORGANIC ACIDS TEST (OATS) PANEL					
Dopamine (Homovanillate or HVA)	✓		✓	✓	✓
Norepinephrine/Epinephrine (Vanilmandelate or VMA)	✓		✓	✓	✓
Vitamin B6 (Kynurenate or KYNA)	✓		✓	✓	✓
Vitamin B6 (Xanthurenate)	✓		✓	✓	✓
Vitamin B12 (Methylmalonate or MMA)	✓		✓	✓	✓
Glutathione (Pyroglutamate)	✓		✓	✓	✓
Neuroinflammation (Quinolate)	✓		✓	✓	✓
Gut Health (Indican)	✓		✓	✓	✓
Biotin (b-Hydroxyisovalerate)	✓		✓	✓	✓
8-OHdG (8-Hydroxy-2-deoxyguanosine)	✓		✓	✓	✓
Melatonin (6-OH-Melatonin-Sulfate)	✓		✓	✓	✓

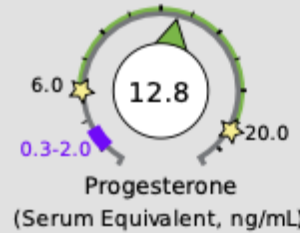


Hormone Testing Summary

Key (how to read the results):



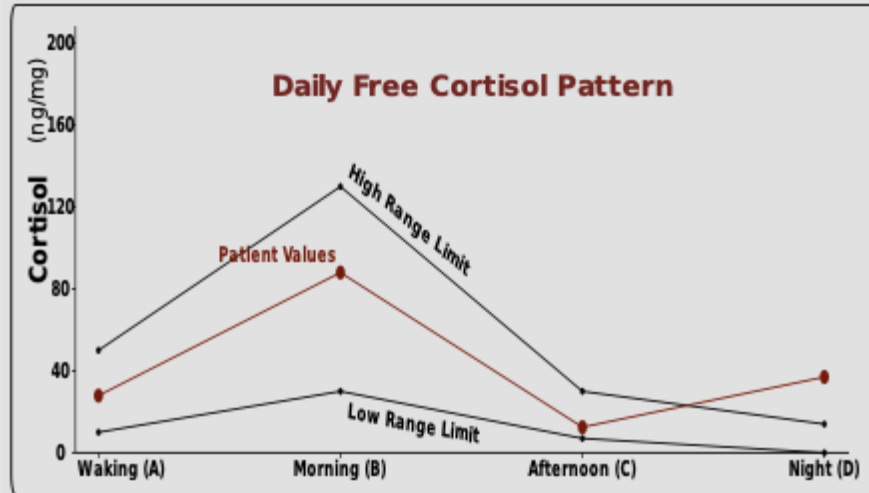
Sex Hormones See Pages 2 and 3 for a thorough breakdown of sex hormone metabolites



Progesterone Serum Equivalent is a calculated value based on urine pregnanediol.



Adrenal Hormones See pages 4 and 5 for a more complete breakdown of adrenal hormones



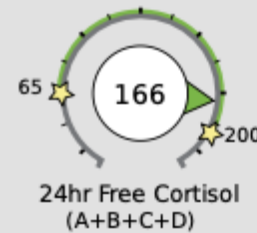
Free cortisol best reflects tissue levels. Metabolized cortisol best reflects total cortisol production.

Total DHEA Production

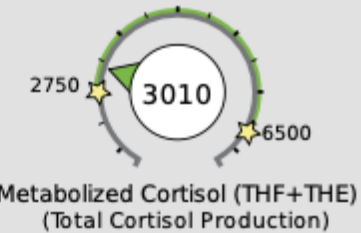
Age	Range
20-39	1300-3000
40-60	750-2000
>60	500-1200

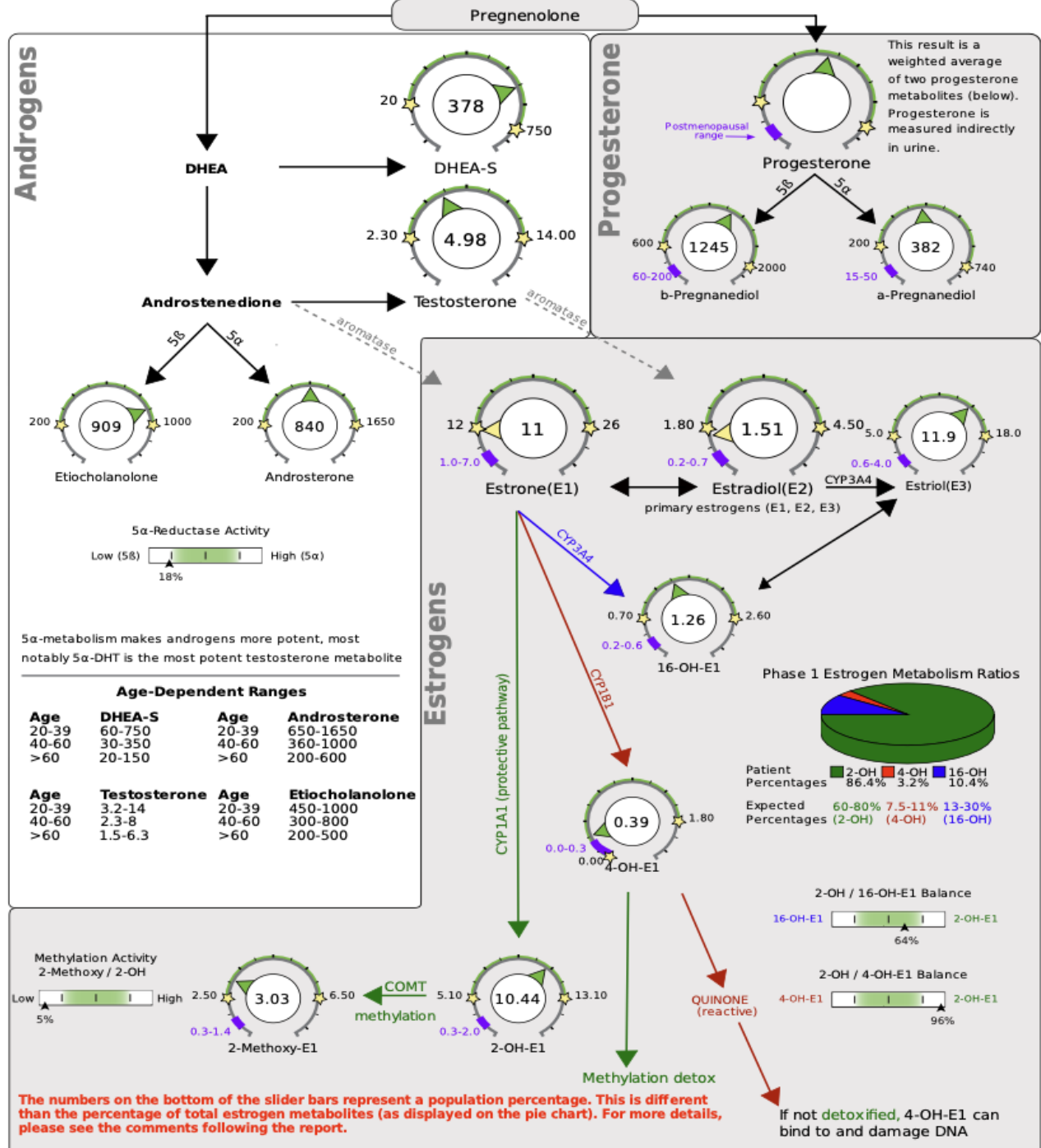


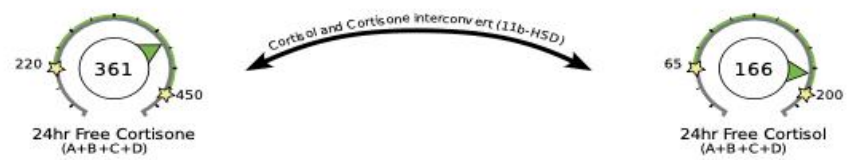
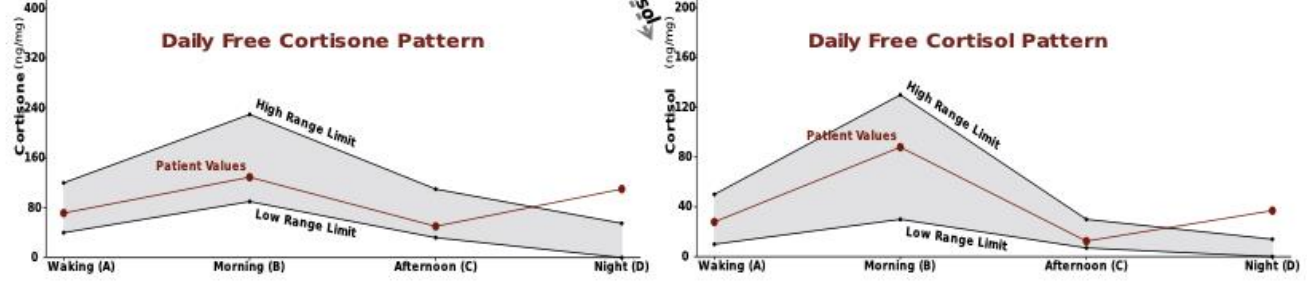
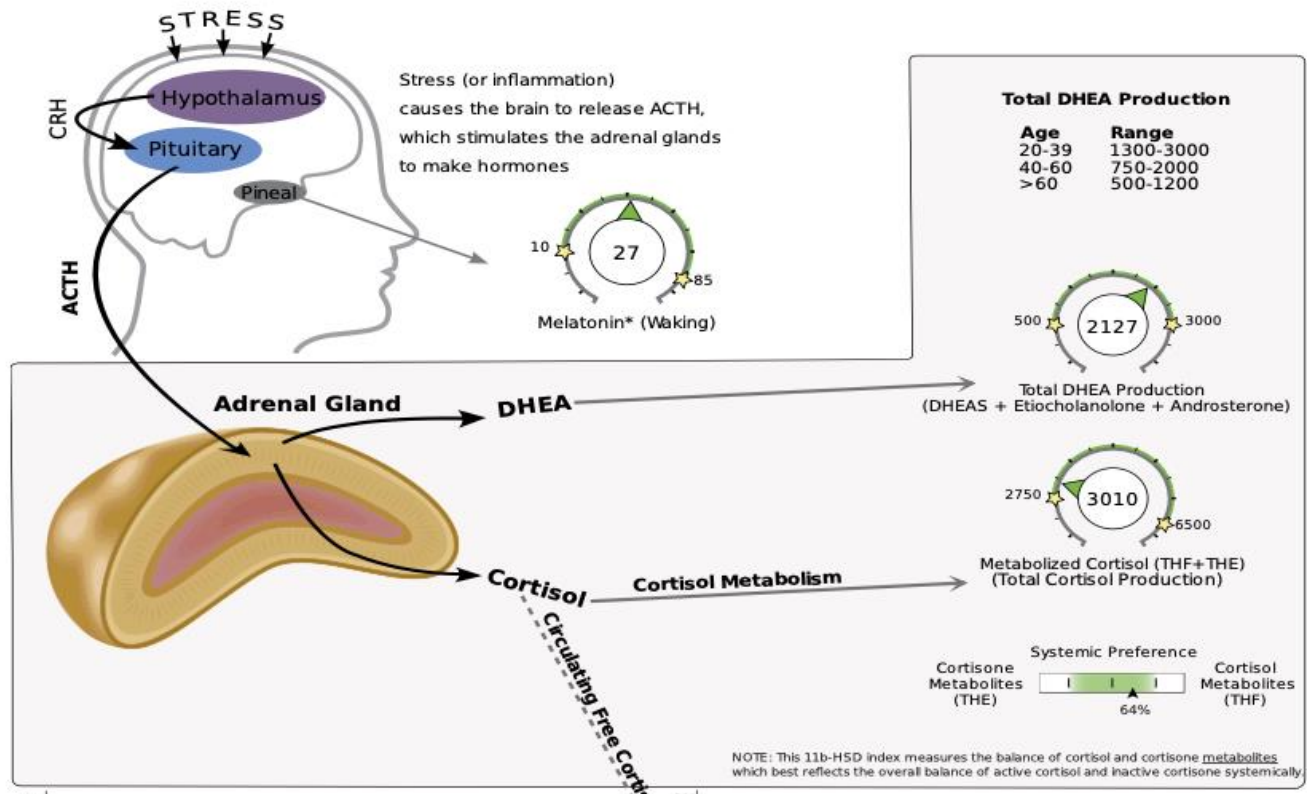
Total DHEA Production
(DHEAS + Etiocholanolone + Androsterone)



cortisol
metabolism

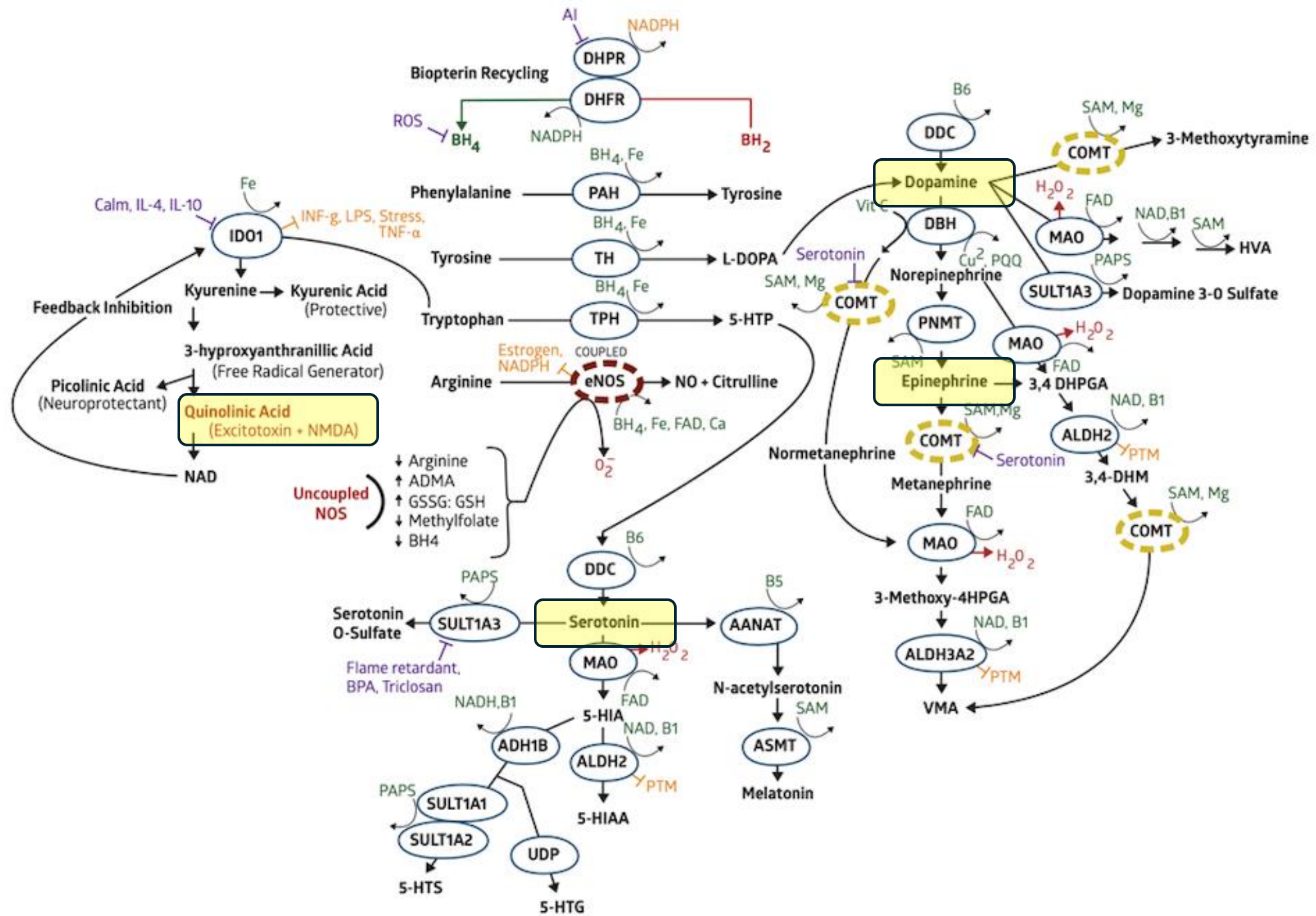


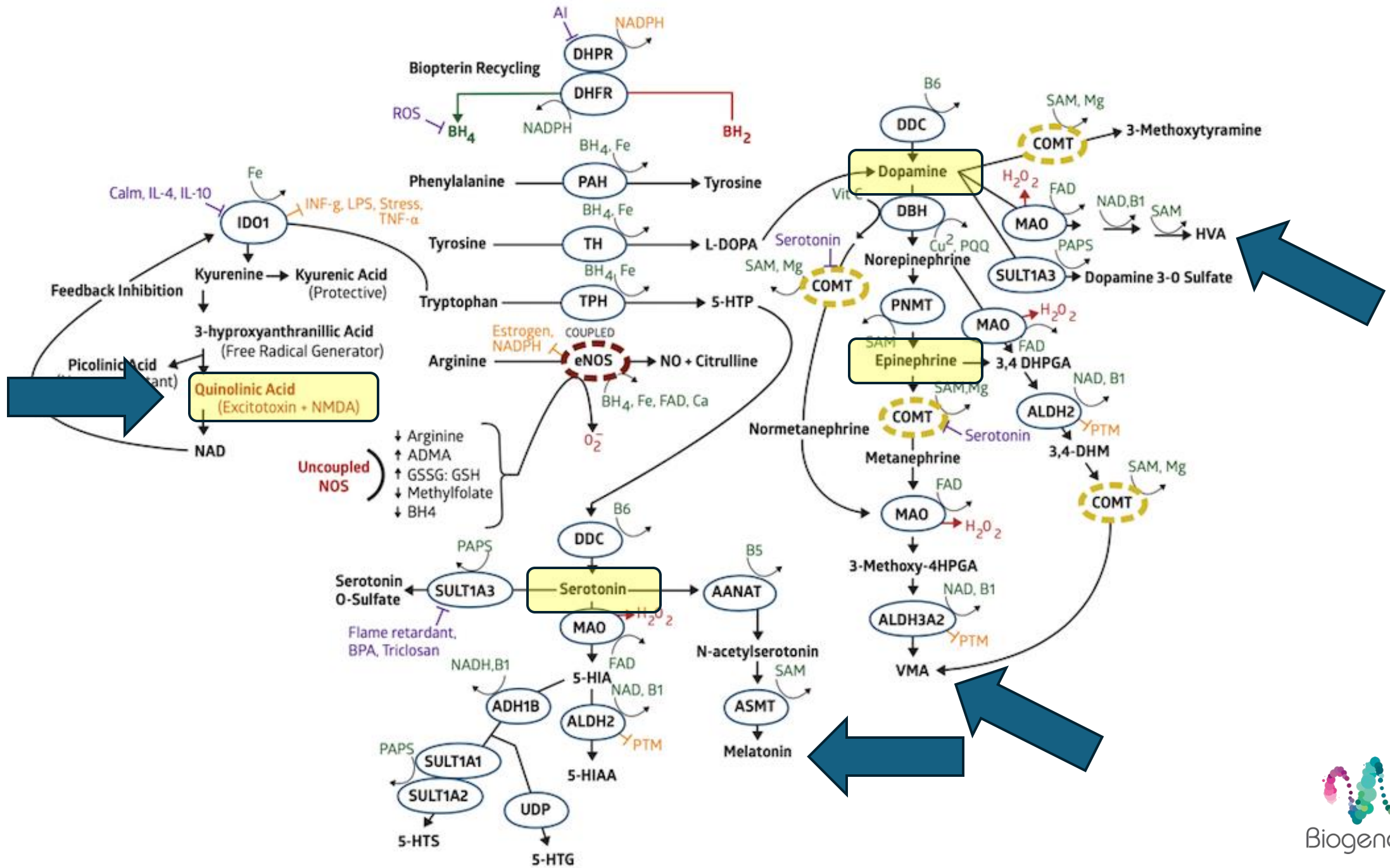




The first value reported (Waking "A") for cortisol is intended to represent the "overnight" period. When patients sleep through the night, they collect just one sample. In this case, the patient did not report waking up during the night to collect a sample, so the "Waking (A)" cortisol and cortisone values should accurately represent the entirety of the overnight period.

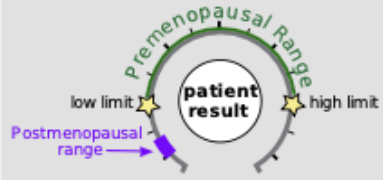
Category	Test		Result	Units	Normal Range
Nutritional Organic Acids					
Vitamin B12 Marker (may be deficient if high) - (Urine)					
	Methylmalonate (MMA)	Within range	1.5	ug/mg	0 - 2.5
Vitamin B6 Markers (may be deficient if high) - (Urine)					
	Xanthurenate	Within range	0.36	ug/mg	0.12 - 1.2
	Kynurenate	Within range	1.7	ug/mg	0.8 - 4.5
Biotin Marker (may be deficient if high) - (Urine)					
	b-Hydroxyisovalerate	Within range	11.0	ug/mg	0 - 12.5
Glutathione Marker (may be deficient if low or high) - (Urine)					
	Pyroglutamate	Within range	36.6	ug/mg	28 - 58
Gut Marker (potential gut putrefaction or dysbiosis if high) - (Urine)					
	Indican	Within range	89.4	ug/mg	0 - 100
Neuro-related Markers					
Dopamine Metabolite - (Urine)					
	Homovanillate (HVA)	Within range	4.9	ug/mg	3 - 11
Norepinephrine/Epinephrine Metabolite - (Urine)					
	Vanilmandelate (VMA)	Within range	3.2	ug/mg	2.2 - 5.5
Neuroinflammation Marker - (Urine)					
	Quinolate	Within range	5.0	ug/mg	0 - 9.6
Additional Markers					
Melatonin (*measured as 6-OH-Melatonin-Sulfate) - (Urine)					
	Melatonin* (Waking)	Within range	26.8	ng/mg	10 - 85
Oxidative Stress / DNA Damage, measured as 8-Hydroxy-2-deoxyguanosine (8-OHdG) - (Urine)					
	8-OHdG (Waking)	Within range	1.6	ng/mg	0 - 5.2



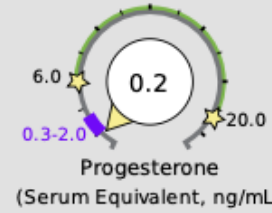
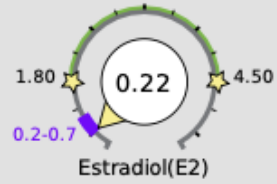


Hormone Testing Summary

Key (how to read the results):



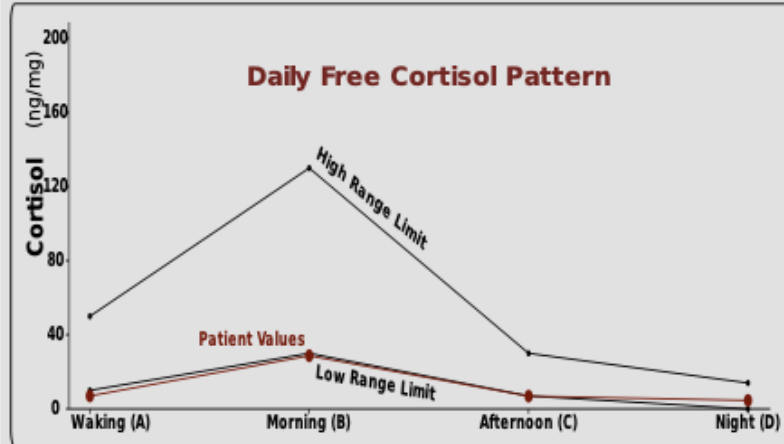
Sex Hormones See Pages 2 and 3 for a thorough breakdown of sex hormone metabolites



Progesterone Serum Equivalent is a calculated value based on urine pregnanediol.



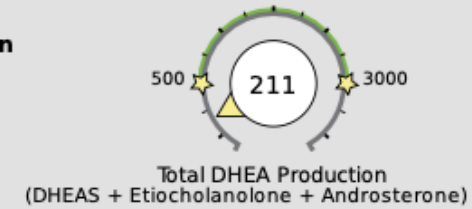
Adrenal Hormones See pages 4 and 5 for a more complete breakdown of adrenal hormones



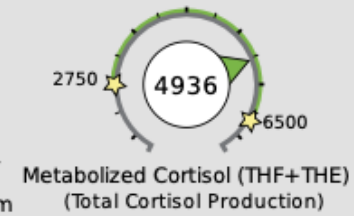
Free cortisol best reflects tissue levels. Metabolized cortisol best reflects total cortisol production.

Total DHEA Production

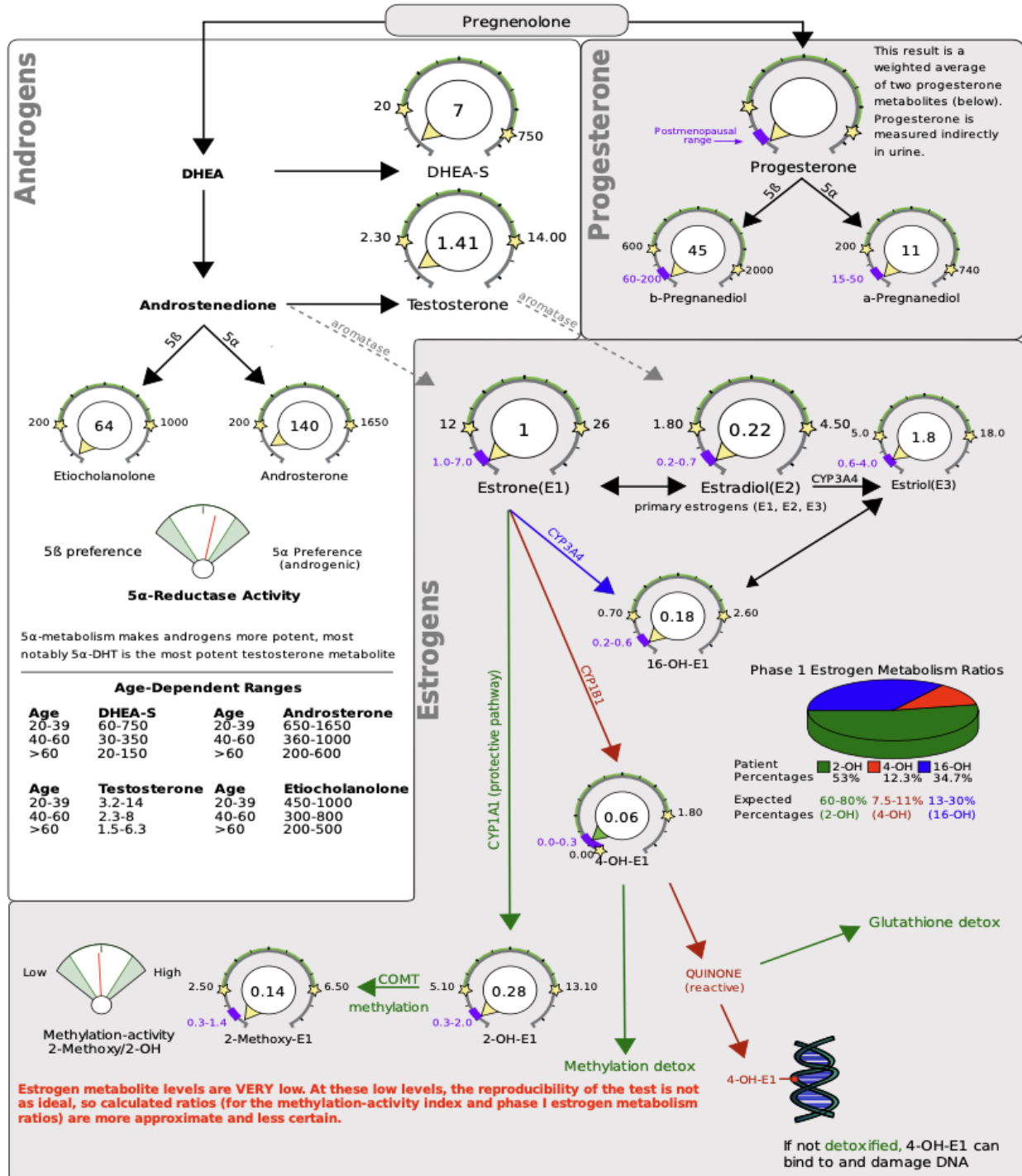
Age	Range
20-39	1300-3000
40-60	750-2000
>60	500-1200

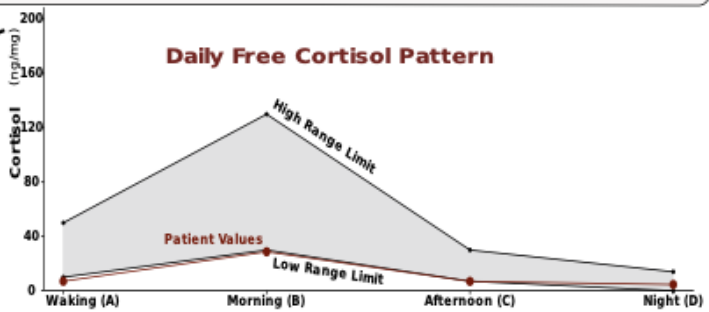
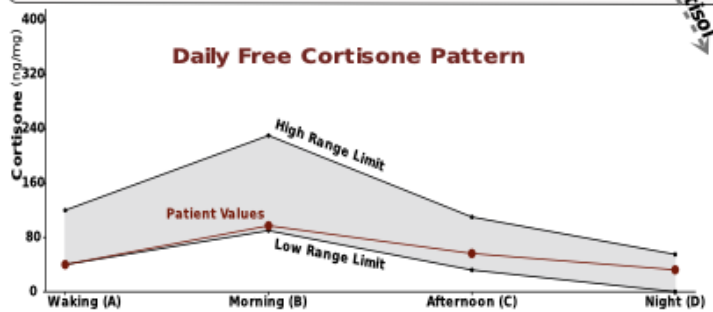
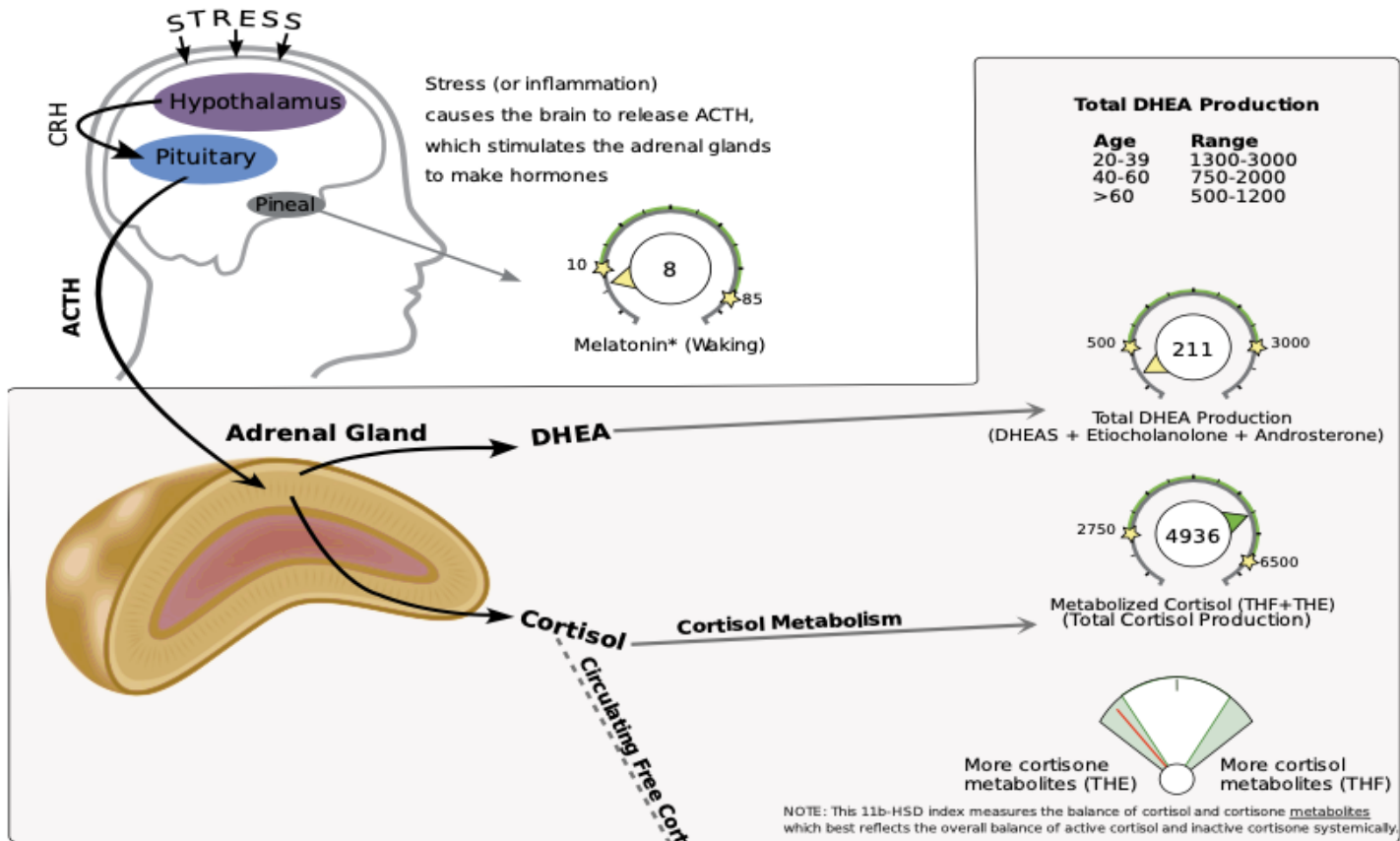


cortisol
metabolism



67 yo female

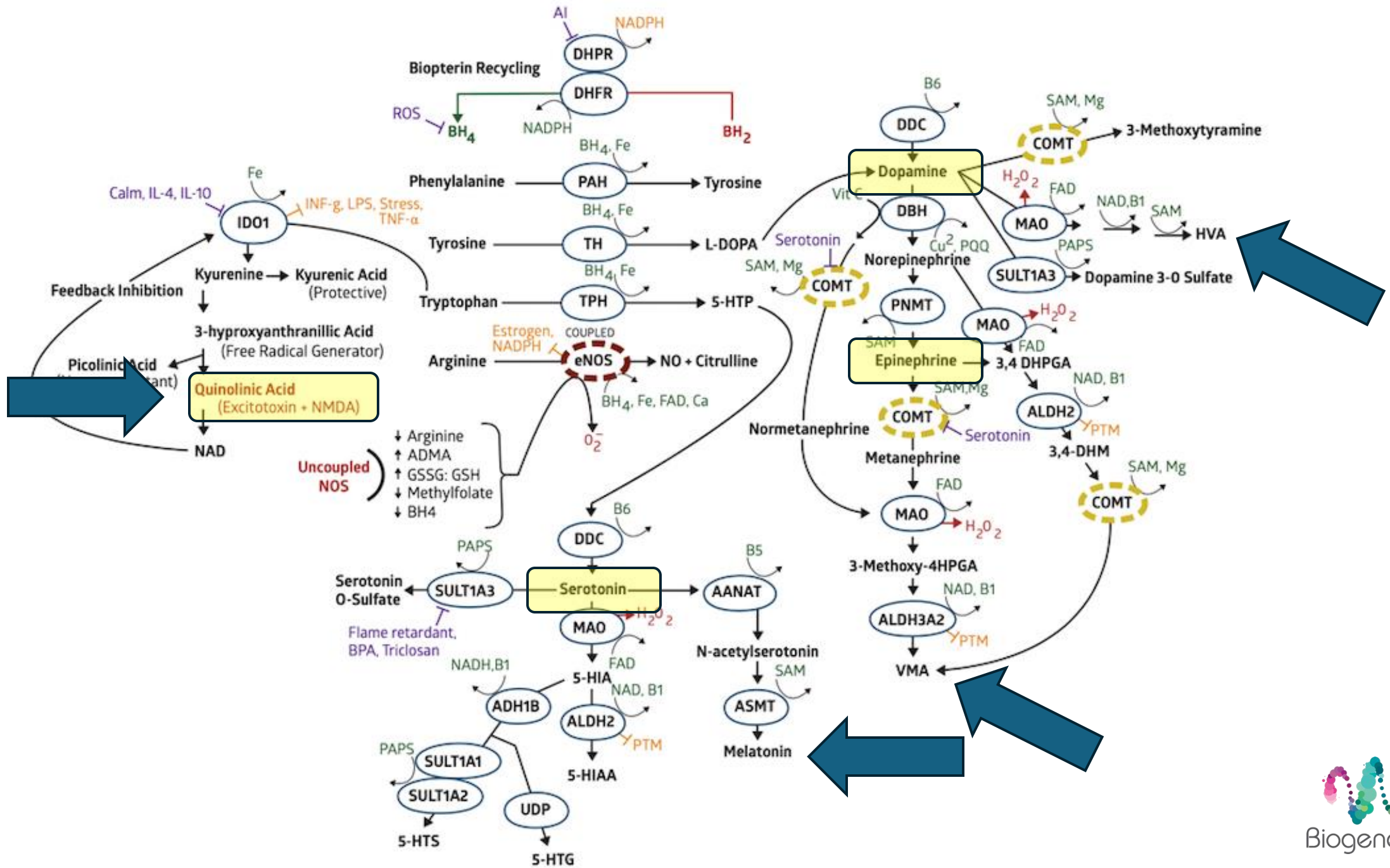




Cortisol and Cortisone Interconvert (11b-HSD)



Category	Test	Result	Units	Normal Range
Nutritional Organic Acids				
Vitamin B12 Marker (may be deficient if high) - (Urine)				
	Methylmalonate (MMA)	Within range	0.6	ug/mg 0 - 2.5
Vitamin B6 Markers (may be deficient if high) - (Urine)				
	Xanthurenate	Within range	0.40	ug/mg 0.12 - 1.2
	Kynurenate	Within range	2.2	ug/mg 0.8 - 4.5
Glutathione Marker (may be deficient if low or high) - (Urine)				
	Pyroglutamate	Low end of range	30.3	ug/mg 28 - 58
Biotin Marker (may be deficient if high) - (Urine)				
	b-Hydroxyisovalerate	Within range	8.4	ug/mg 0 - 12.5
Gut Marker (potential gut putrefaction or dysbiosis if high) - (Urine)				
	Indican	Within range	28.6	ug/mg 0 - 100
Neuro-related Markers				
Dopamine Metabolite - (Urine)				
	Homovanillate (HVA)	Low end of range	3.8	ug/mg 3 - 11
Norepinephrine/Epinephrine Metabolite - (Urine)				
	Vanilmandelate (VMA)	Within range	3.1	ug/mg 2.2 - 5.5
Neuroinflammation Marker - (Urine)				
	Quinolate	Within range	5.9	ug/mg 0 - 9.6
Additional Markers				
Melatonin (*measured as 6-OH-Melatonin-Sulfate) - (Urine)				
	Melatonin* (Waking)	Below range	8.2	ng/mg 10 - 85
Oxidative Stress / DNA Damage, measured as 8-Hydroxy-2-deoxyguanosine (8-OHdG) - (Urine)				
	8-OHdG (Waking)	Within range	2.2	ng/mg 0 - 5.2



Hormone Testing Summary

Key (how to read the results):



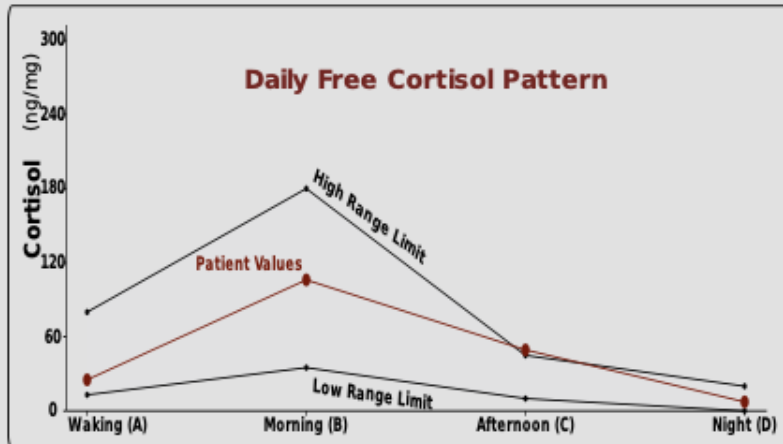
Sex Hormones



Testosterone

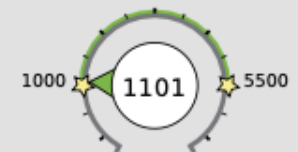
Age	Range
18-25	35-115
26-40	30-95
41-60	25-80
>60	20-60

Adrenal Hormones See pages 4 and 5 for a more complete breakdown of adrenal hormones



Total DHEA Production

Age	Range
20-39	3000-5500
40-60	2000-4000
>60	1000-2500



Total DHEA Production
(DHEAS + Etiocholanolone + Androsterone)



24hr Free Cortisol
(A+B+C+D)

cortisol
metabolism



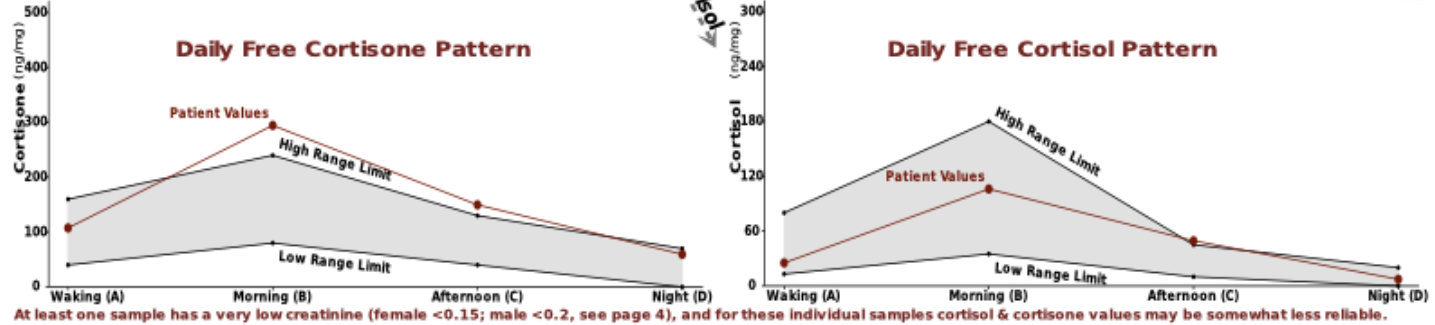
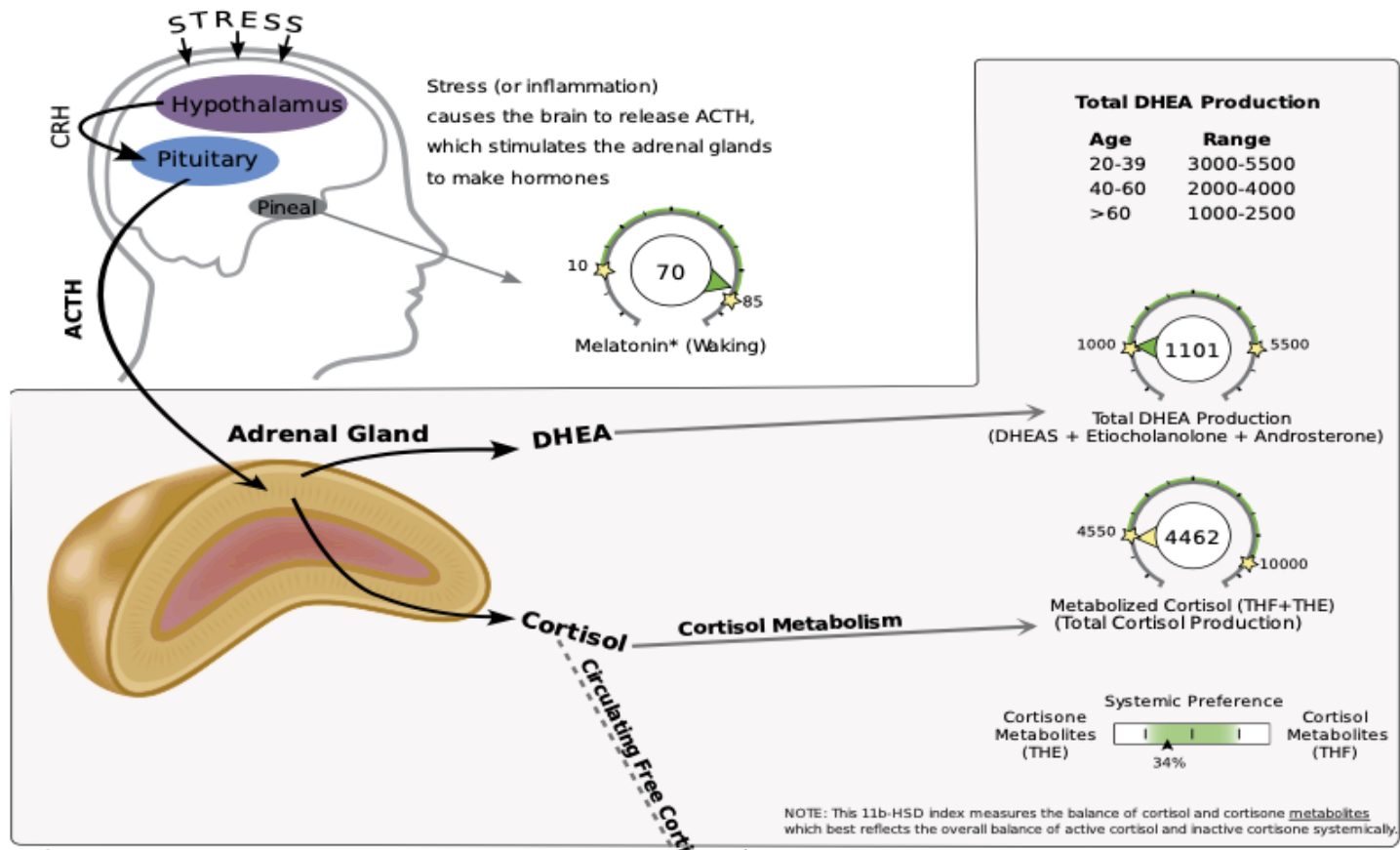
Metabolized Cortisol (THF+THE)
(Total Cortisol Production)

Free cortisol best reflects tissue levels. Metabolized cortisol best reflects total cortisol production.

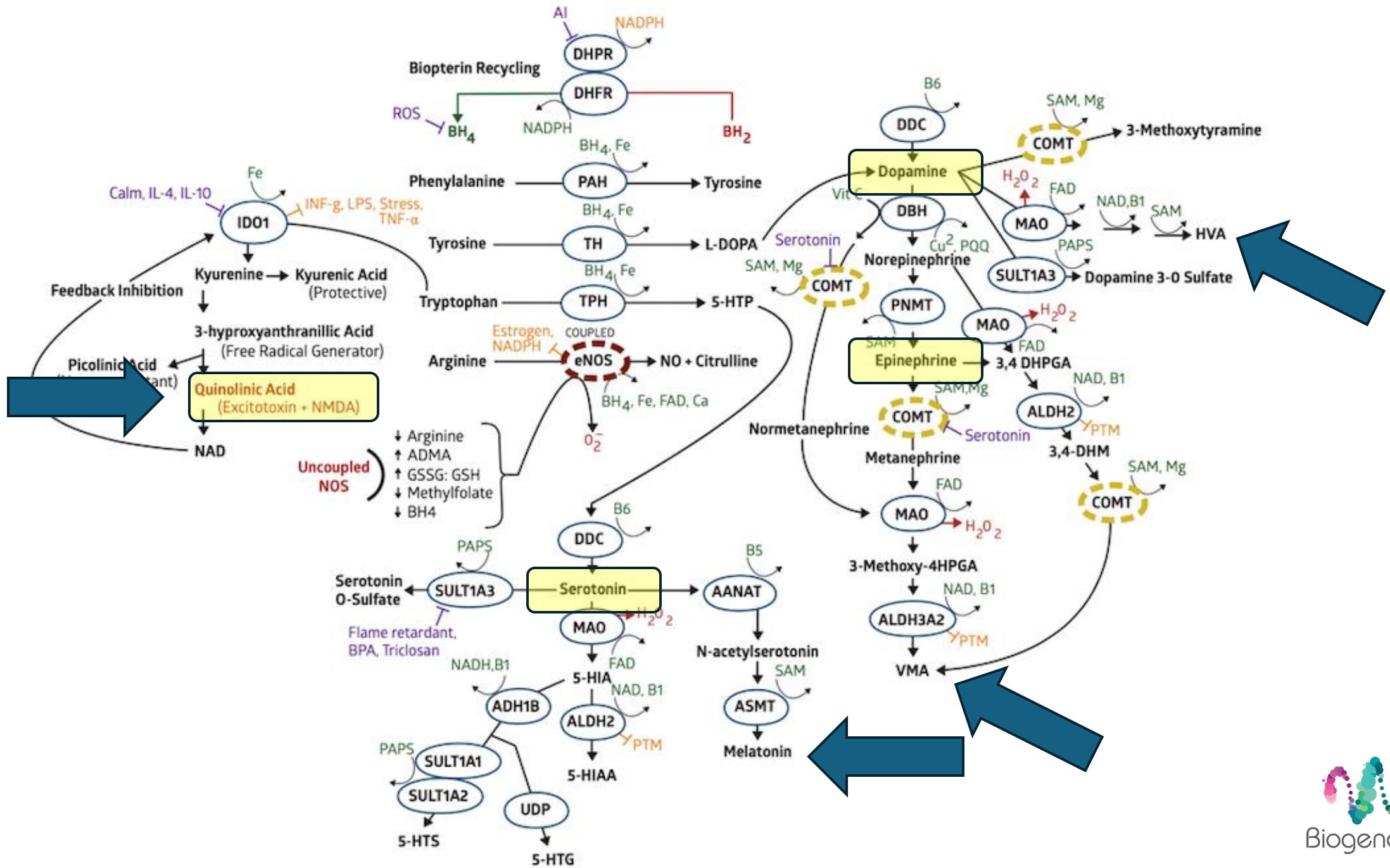
16 yo male



Biogenetix

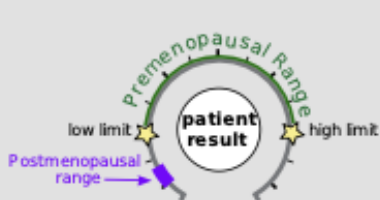


Category	Test	Result	Units	Normal Range
Nutritional Organic Acids				
Vitamin B12 Marker (may be deficient if high) - (Urine)				
	Methylmalonate (MMA)	Above range	3.7	ug/mg 0 - 3.5
Vitamin B6 Markers (may be deficient if high) - (Urine)				
	Xanthurenate	Above range	2.01	ug/mg 0.2 - 1.9
	Kynurenate	Above range	9.7	ug/mg 1 - 6.6
Biotin Marker (may be deficient if high) - (Urine)				
	b-Hydroxyisovalerate	Above range	26.8	ug/mg 0 - 18
Glutathione Marker (may be deficient if low or high) - (Urine)				
	Pyroglutamate	Above range	94.8	ug/mg 38 - 83
Gut Marker (potential gut putrefaction or dysbiosis if high) - (Urine)				
	Indican	Above range	131.1	ug/mg 0 - 131
Neuro-related Markers				
Dopamine Metabolite - (Urine)				
	Homovanillate (HVA)	Within range	8.5	ug/mg 4 - 16
Norepinephrine/Epinephrine Metabolite - (Urine)				
	Vanilmandelate (VMA)	Within range	6.4	ug/mg 2.5 - 7.5
Neuroinflammation Marker - (Urine)				
	Quinolate	High end of range	11.4	ug/mg 0 - 12.5
Additional Markers				
Melatonin (*measured as 6-OH-Melatonin-Sulfate) - (Urine)				
	Melatonin* (Waking)	High end of range	70.2	ng/mg 10 - 85
Oxidative Stress / DNA Damage, measured as 8-Hydroxy-2-deoxyguanosine (8-OHdG) - (Urine)				
	8-OHdG (Waking)	Within range	7.0	ng/mg 0 - 8.8



Hormone Testing Summary

Key (how to read the results):



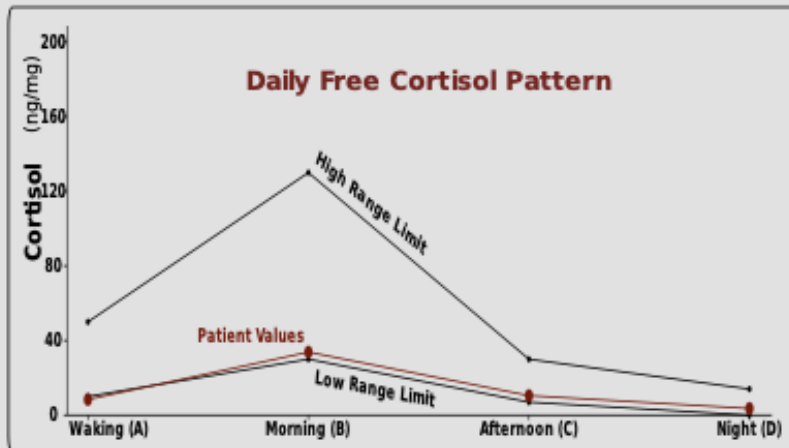
Sex Hormones See Pages 2 and 3 for a thorough breakdown of sex hormone metabolites



Progesterone Serum Equivalent is a calculated value based on urine pregnanediol.



Adrenal Hormones See pages 4 and 5 for a more complete breakdown of adrenal hormones



Free cortisol best reflects tissue levels. Metabolized cortisol best reflects total cortisol production.

Total DHEA Production

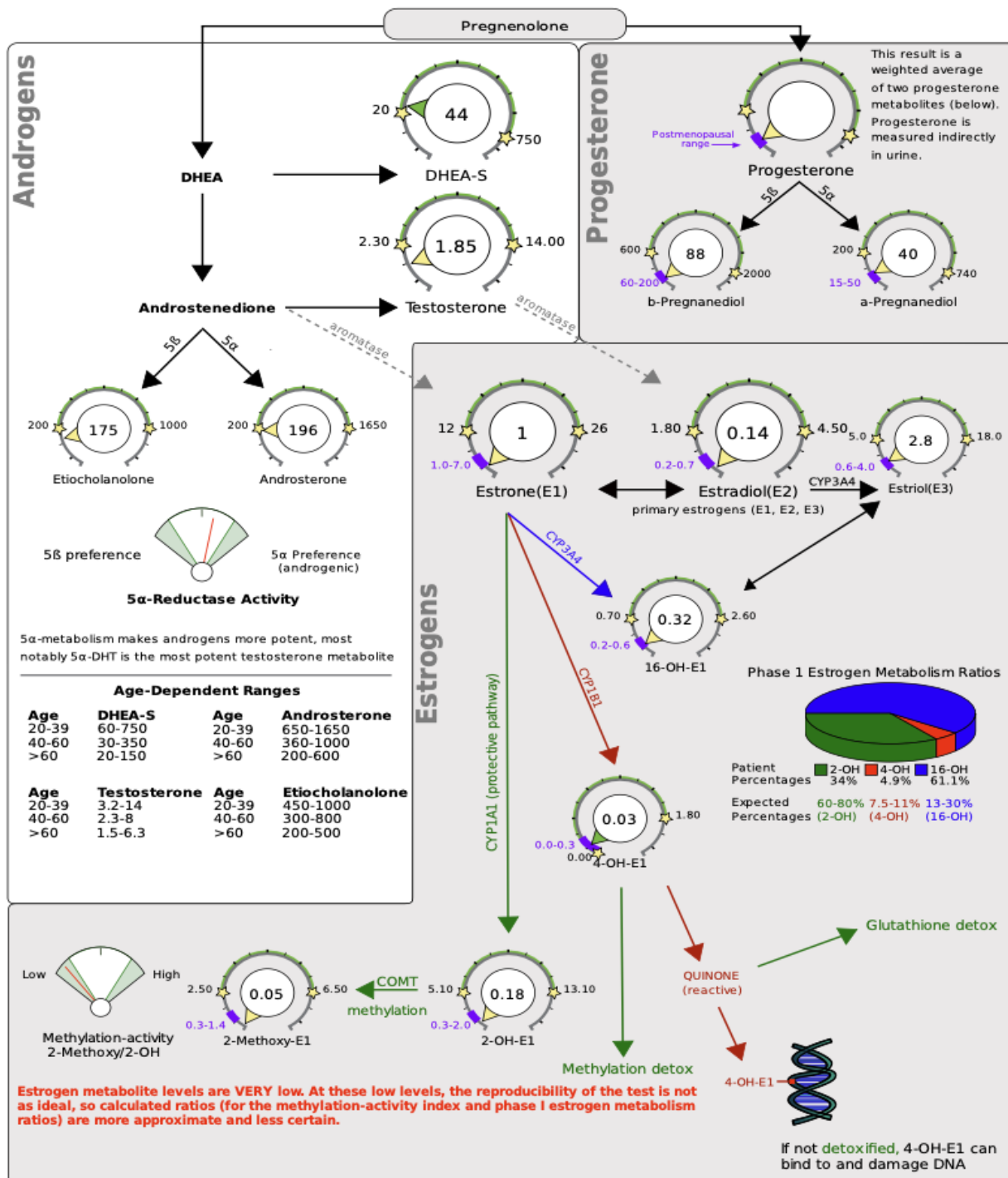
Age	Range
20-39	1300-3000
40-60	750-2000
>60	500-1200

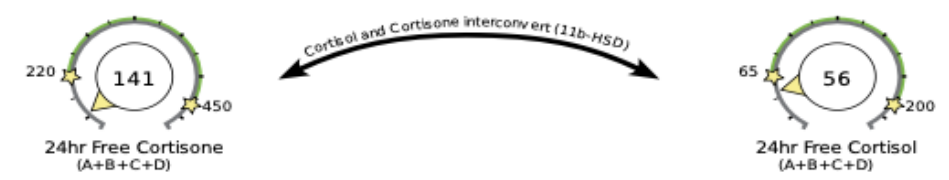
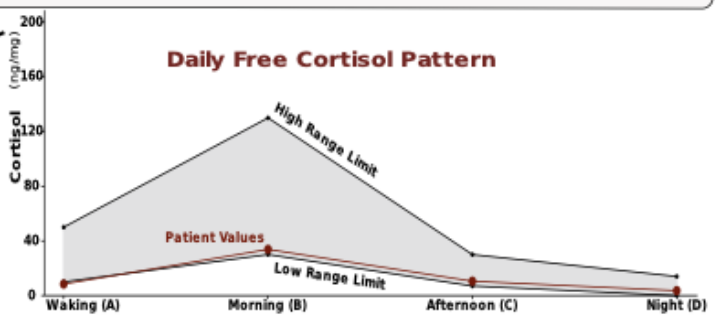
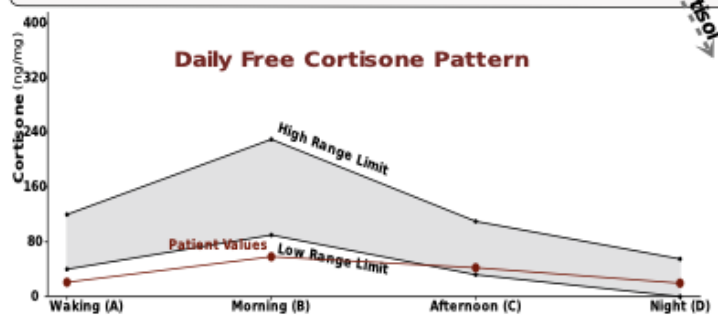
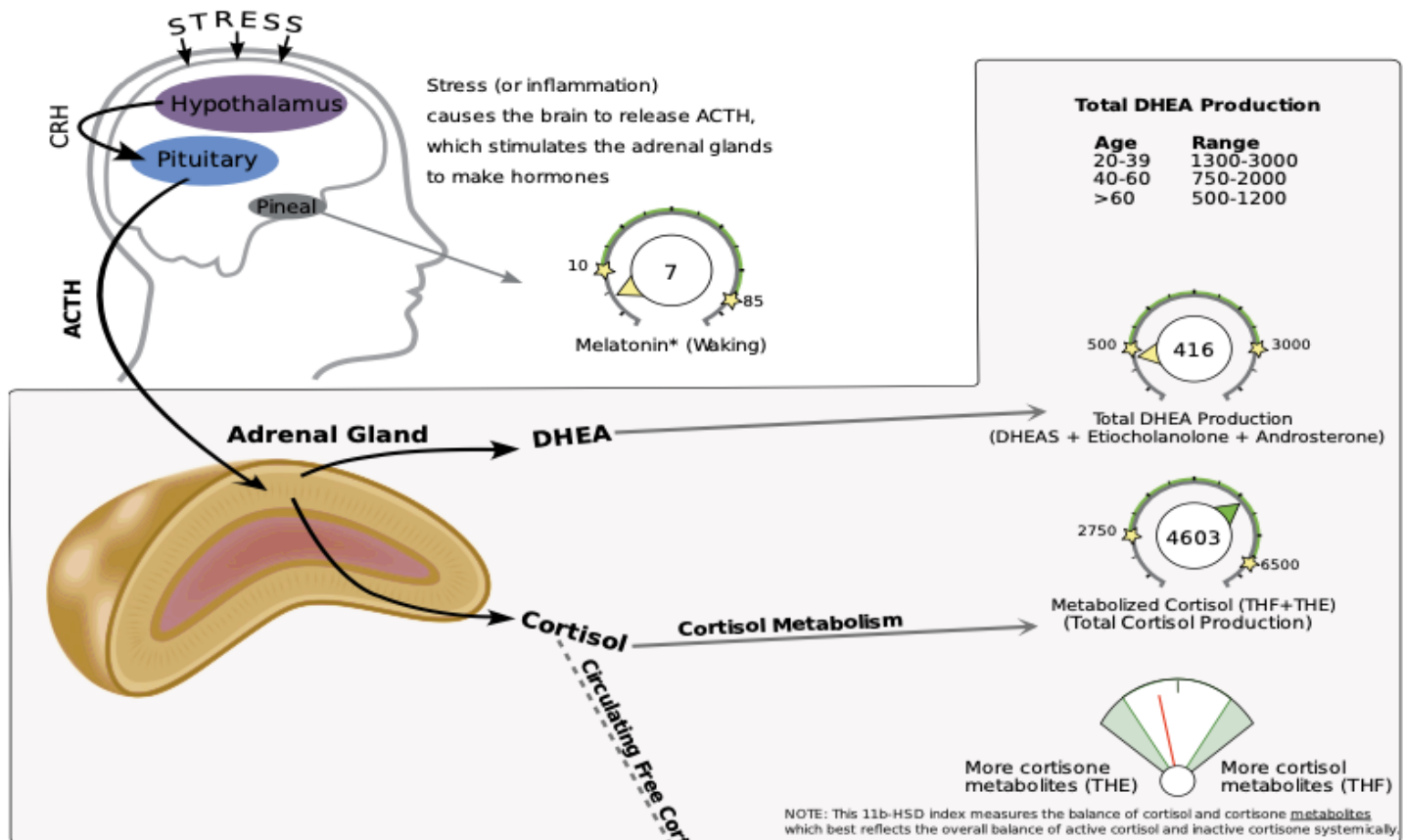


cortisol
metabolism



68 yo female





Category	Test		Result	Units	Normal Range
Nutritional Organic Acids					
Vitamin B12 Marker (may be deficient if high) - (Urine)					
	Methylmalonate (MMA)	Within range	1.3	ug/mg	0 - 2.5
Vitamin B6 Markers (may be deficient if high) - (Urine)					
	Xanthurenate	Below range	0.07	ug/mg	0.12 - 1.2
	Kynurenate	Within range	0.9	ug/mg	0.8 - 4.5
Glutathione Marker (may be deficient if low or high) - (Urine)					
	Pyroglutamate	Below range	26.0	ug/mg	28 - 58
Neurotransmitter Metabolites					
Dopamine Metabolite - (Urine)					
	Homovanillate (HVA)	Low end of range	4.0	ug/mg	3 - 11
Norepinephrine/Epinephrine Metabolite - (Urine)					
	Vanilmandelate (VMA)	Below range	1.8	ug/mg	2.2 - 5.5
Melatonin (*measured as 6-OH-Melatonin-Sulfate) - (Urine)					
	Melatonin* (Waking)	Below range	6.5	ng/mg	10 - 85
Oxidative Stress / DNA Damage, measured as 8-Hydroxy-2-deoxyguanosine (8-OHdG) - (Urine)					
	8-OHdG (Waking)	Within range	3.1	ng/mg	0 - 5.2

