



Accession # 01134858

Female Sample

Collection Times:

2026-02-10 11:00PM (U0)
 2026-02-11 05:33AM (U1)
 2026-02-11 07:45AM (U2)
 2026-02-10 06:30PM (U3)
 2026-02-10 08:31PM (U4)

DOB: 1967-09-01

Age: 58

Sex: Female

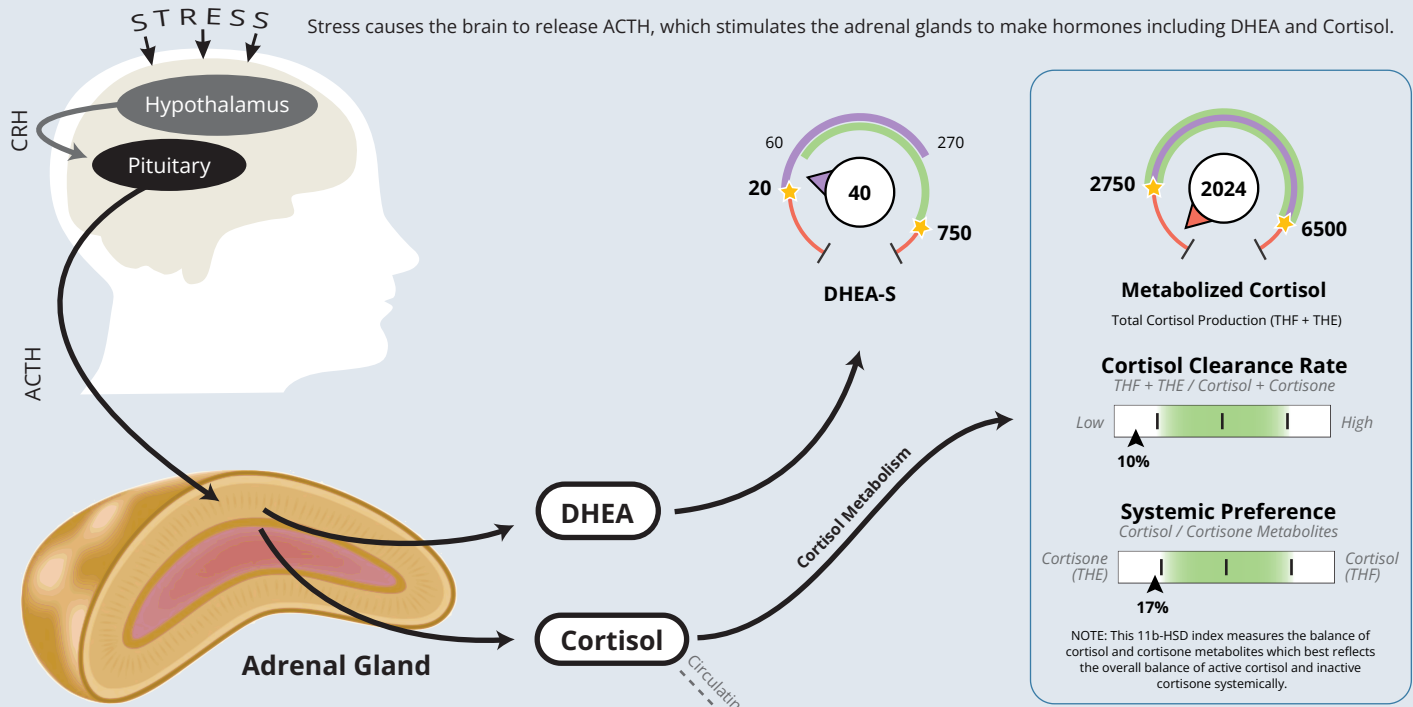
Last Menstrual Period:

Ordering Provider:

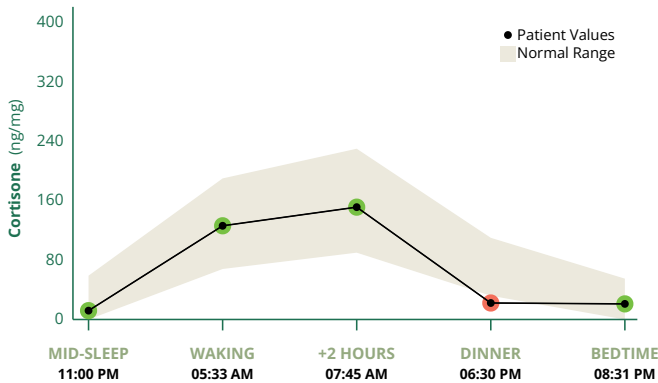
Test Provider MD

Adrenal Hormones & Metabolites

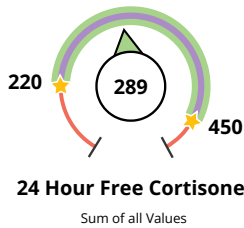
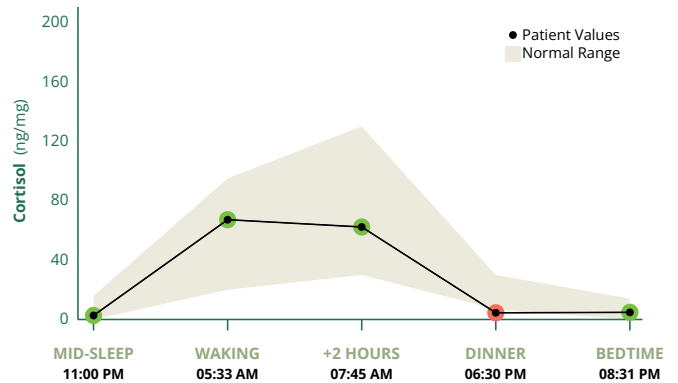
TEST		RESULT	UNITS	NORMAL RANGE
Daily Free Cortisol and Cortisone (Urine)				
Cortisol (U0) - Mid-Sleep	Low end of range	2.7	ng/mg	0 - 16
Cortisol (U1) - Waking	Within range	67.2	ng/mg	20 - 95
Cortisol (U2) - +2 Hours	Within range	62.3	ng/mg	30 - 130
Cortisol (U3) - Dinner	Below range	4.5	ng/mg	7 - 30
Cortisol (U4) - Bedtime	Within range	4.8	ng/mg	0 - 14
Cortisone (U0) - Mid-Sleep	Within range	11.9	ng/mg	0 - 59
Cortisone (U1) - Waking	Within range	126.2	ng/mg	68 - 190
Cortisone (U2) - +2 Hours	Within range	151.3	ng/mg	90 - 230
Cortisone (U3) - Dinner	Below range	22.2	ng/mg	32 - 110
Cortisone (U4) - Bedtime	Within range	21.0	ng/mg	0 - 55
24 Hour Free Cortisol (Sum of all Values)	Within range	121.0	ng/mg	65 - 200
24 Hour Free Cortisone (Sum of all Values)	Within range	289.2	ng/mg	220 - 450
Creatinine (Urine)				
Creatinine (U0) - Mid-Sleep	Low end of range	0.21	mg/ml	0.2 - 2
Creatinine (U1) - Waking	Within range	0.72	mg/ml	0.2 - 2
Creatinine (U2) - +2 Hours	Within range	0.42	mg/ml	0.2 - 2
Creatinine (U3) - Dinner	Within range	1.11	mg/ml	0.2 - 2
Creatinine (U4) - Bedtime	Within range	0.62	mg/ml	0.2 - 2
Cortisol Metabolites and DHEA-S (Urine)				
a-Tetrahydrocortisol (a-THF)	Within range	142.5	ng/mg	75 - 370
b-Tetrahydrocortisol (b-THF)	Below range	618.0	ng/mg	1050 - 2500
b-Tetrahydrocortisone (b-THE)	Below range	1263.9	ng/mg	1550 - 3800
Metabolized Cortisol (THF + THE)	Below range	2024.0	ng/mg	2750 - 6500
DHEA-S	Within range	40.0	ng/mg	20 - 750
Cortisol Clearance Rate (CCR)	Below range	4.9		6 - 13.5



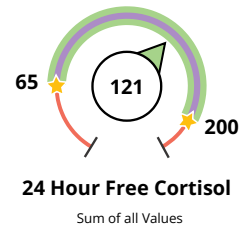
Daily Free Cortisone Pattern

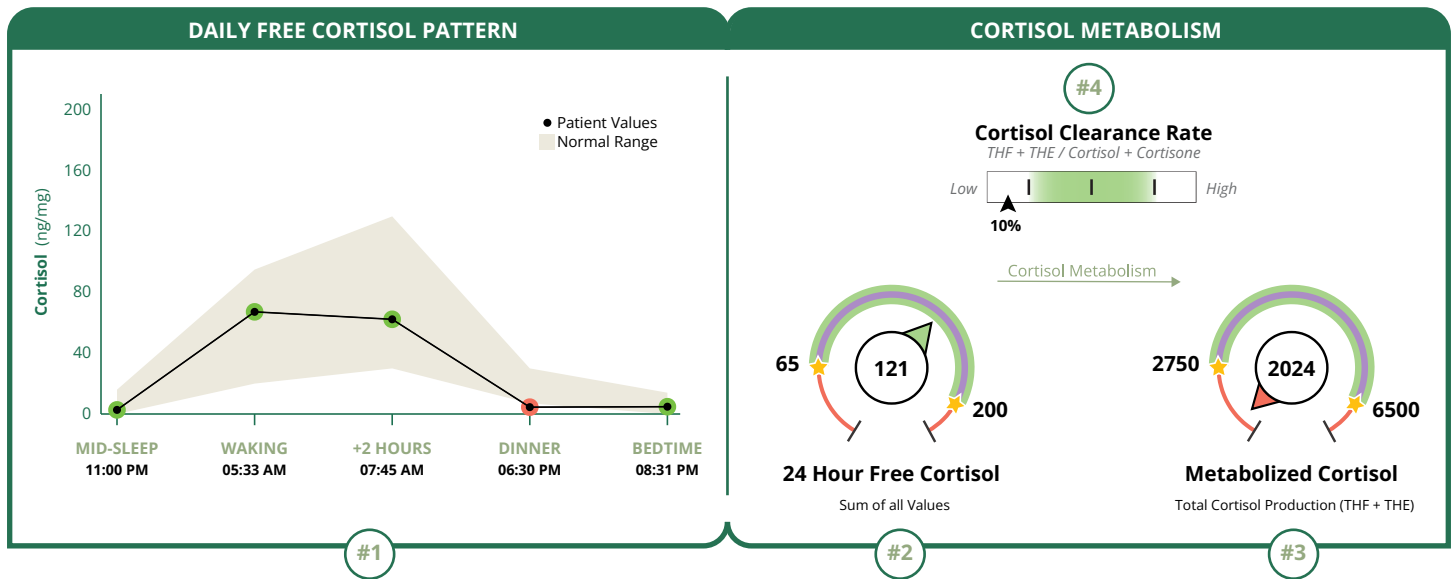


Daily Free Cortisol Pattern



Cortisol and Cortisone interconvert (11b-HSD)





Cortisol-related Patient or Sample Comments:

- The patient reported significant fatigue in both the AM and PM.
- The patient reported using a glucocorticoid medication. These medications may suppress the brain's ACTH signal that tells the adrenal glands to produce cortisol. Low free cortisol and cortisol metabolites are common with this therapy. The amount of suppression depends on the type of glucocorticoid, dose, and duration of use. It may take 4 to 12 weeks after discontinuation for adrenal hormones to return to baseline. Other adrenal hormones, such as DHEA and androgens, may also be suppressed.

#1. Assess the daily free cortisol pattern. i

- One or more points on the Daily Free Cortisol Pattern are out of the optimal range. Note the time of day and whether out-of-range results are low or high at each point.

#2. Assess the daily total of free cortisol in circulation (24hr Free Cortisol). i

- The 24hr Free Cortisol is **121 ng/mg**, which is within the optimal range.
- Please be advised that when a patient takes a mid-sleep sample, the 24 Hour Free Cortisol result includes a time-weighted average of the UO and U1 sample, plus the other available samples (U2-4).

#3. Assess the total cortisol produced by the adrenal glands (Metabolized Cortisol). i

- The Metabolized Cortisol, which reflects the total cortisol output for the day, is **2,024 ng/mg**, which is below the optimal range.

#4. Assess the rate of cortisol clearance from the body. i

- The Cortisol Clearance Rate is higher than only **10.0%** of the population, which is below the optimal range. This indicates that cortisol and cortisone are being metabolized at a slower rate than expected. If paired with high free cortisol, this can contribute to high cortisol symptoms.

#5. Assess adrenal androgen levels (DHEA-S).

- The DHEA-S is **40.0 ng/mg**, which is within the postmenopausal range, but towards the lower end.

ADRENAL

#1. Assess if cortisone (inactive) adds more insight to the free cortisol assessment.

Cortisol is an active adrenal glucocorticoid, while cortisone is an inactive "storage" form. In the kidney, a significant amount of cortisol is converted to cortisone before excretion into urine. Therefore, urinary cortisone should be considered a reflection or "shadow" of systemic cortisol. The degree to which this happens in an individual may vary. If free cortisone is significantly higher than free cortisol, it may indicate free cortisol levels were higher in circulation (serum) than the urinary free cortisol implies. If free cortisone is lower than free cortisol, this may indicate free cortisol levels were not as high in circulation (serum) as urinary free cortisol implies.

If the cortisone is significantly different from cortisol, there will be a bulleted comment below.

#2. Assess if there is a whole-body preference for (inactive) cortisone or (active) cortisol.

The Systemic Preference slider reflects the balance between cortisol (THF) and cortisone (THE) metabolites and is influenced by systemic cortisol needs. The balance between THF and THE is the best estimation of the systemic balance of cortisol to cortisone. As these metabolites are processed through the liver, the body may shift to cortisol (THF) in response to acute stressors (e.g., immune activation or infection), or toward cortisone (THE) with chronic stress (e.g., long-term inflammation or illness). Review the patient's result to determine if they are out of range.

- The Systemic Preference slider is higher than only **17.0%** of the population, which is below the optimal range. This indicates significantly higher levels of cortisone metabolites compared to cortisol metabolites. If free cortisol levels are robust, this may be protective by turning off excess cortisol to balance tissue levels. If cortisol levels are low, this may contribute to low cortisol symptoms.

#3. Assess for anabolic-catabolic balance.

Androgens such as DHEA-S support tissue growth and repair, while cortisol promotes tissue breakdown. When DHEA-S is significantly higher than cortisol, it may suggest an anabolic state (favoring tissue building and repair). When DHEA-S is significantly lower than cortisol, it may suggest a catabolic state (favoring tissue breakdown). Review the dials for DHEA-S and Total Cortisol Metabolites to consider if it favors a catabolic or anabolic state.

Thank you for choosing DUTCH for your functional endocrinology testing needs!

Please review our DUTCH resources for information on reading the DUTCH test:

For DUTCH Overviews and Tutorials, click here: <https://dutchtest.com/tutorials>

To view the steroid pathway chart, click here: <https://dutchtest.com/steroid-pathway>

Finally, please review the patient's results along with their requisition form. It is designed to capture relevant medications, symptoms, diagnoses, sample collection, and notes that may be helpful in interpreting the results.

Additional Comments

Reference Range Percentiles

Reference ranges are developed by testing thousands of healthy individuals, while excluding results from outliers or those on impactful medications. A percentile approach is applied, as is done with most labs. Classic reference ranges use the 95th percentile as the upper end of range and the 5th percentile as the lower end of range. Our DUTCH ranges uses the percentiles found in the table below. We feel these ranges reflect the more optimal range sought in functional medicine practices. The table below shows the percentiles used for the reference range of each analyte on the DUTCH report:

Female Reference Ranges (Updated 6.24.2026)									
	Low%	High%	Low	High		Low%	High%	Low	High
b-Pregnanediol	20%	90%	600	2000	Cortisol U0 (Mid-Sleep)	0	90%	0	16
a-Pregnanediol	20%	90%	200	740	Cortisol U1 (Waking)	20%	90%	10	50
Estrone (E1)	20%	80%	12	26	Cortisol U2 (+2 Hours)	20%	90%	30	130
Estradiol (E2)	20%	80%	1.8	4.5	Cortisol U3 (Dinner)	20%	90%	7	30
Estriol (E3)	20%	80%	5	18	Cortisol U4 (Bedtime)	0	90%	0	14
2-OH-E1	20%	80%	5.1	13.1	Cortisone U0 (Mid-Sleep)	0	90%	0	59
4-OH-E1	0	80%	0	1.8	Cortisone U1 (Waking)	20%	90%	40	120
16-OH-E1	20%	80%	0.7	2.6	Cortisone U2 (+2 Hours)	20%	90%	90	230
2-Methoxy-E1	20%	80%	2.5	6.5	Cortisone U3 (Dinner)	20%	90%	32	110
2-OH-E2	0	80%	0	3.1	Cortisone U4 (Bedtime)	0	90%	0	55
4-OH-E2	0	80%	0	0.52	Cortisol Clearance Rate (CCR)	20%	80%	6	13.5
2-16-ratio	20%	80%	2.69	11.83	Melatonin (6-OHMS)	20%	90%	10	85
2-4-ratio	20%	80%	5.4	12.62	8-OHdG	0	90%	0	5.2
2Me-2OH-ratio	20%	80%	0.39	0.67	Methylmalonate	0	90%	0	2.5
DHEA-S	20%	90%	20	750	Xanthurenate	0	90%	0.12	1.2
Androsterone	20%	80%	200	1650	Kynurenate	0	90%	0.8	4.5
Etiocholanolone	20%	80%	200	1000	b-Hydroxyisovalerate	0	90%	0	12.5
Testosterone	20%	80%	2.3	14	Pyroglutamate	10%	90%	28	58
5a-DHT	0	80%	0	6.6	Indican	0	90%	0	100
5a-Androstanediol	20%	80%	6	30	Homovanillate	10%	95%	3	11
5b-Androstanediol	20%	80%	12	75	Vanilmandelate	10%	95%	2.2	5.5
Epi-Testosterone	20%	80%	2.3	14	Quinolate	0	90%	0	9.6
a-THF	20%	90%	75	370	Calculated Values				
b-THF	20%	90%	1050	2500	Total DHEA Production	20%	80%	500	3000
b-THE	20%	90%	1550	3800	Total Estrogens	20%	80%	35	70
					Metabolized Cortisol	20%	90%	2750	6500
					24hr Free Cortisol	20%	90%	65	200
					24hr Free Cortisone	20%	90%	220	450

% = population percentile: Example - a high limit of 90% means results higher than 90% of the women tested for the reference range will be designated as "high."



Accession # 01134870

Male Sample Report
 123 A Street
 Sometown , CA 90266

DOB: 1966-05-06

Age: 59

Sex: Male

Collection Times:

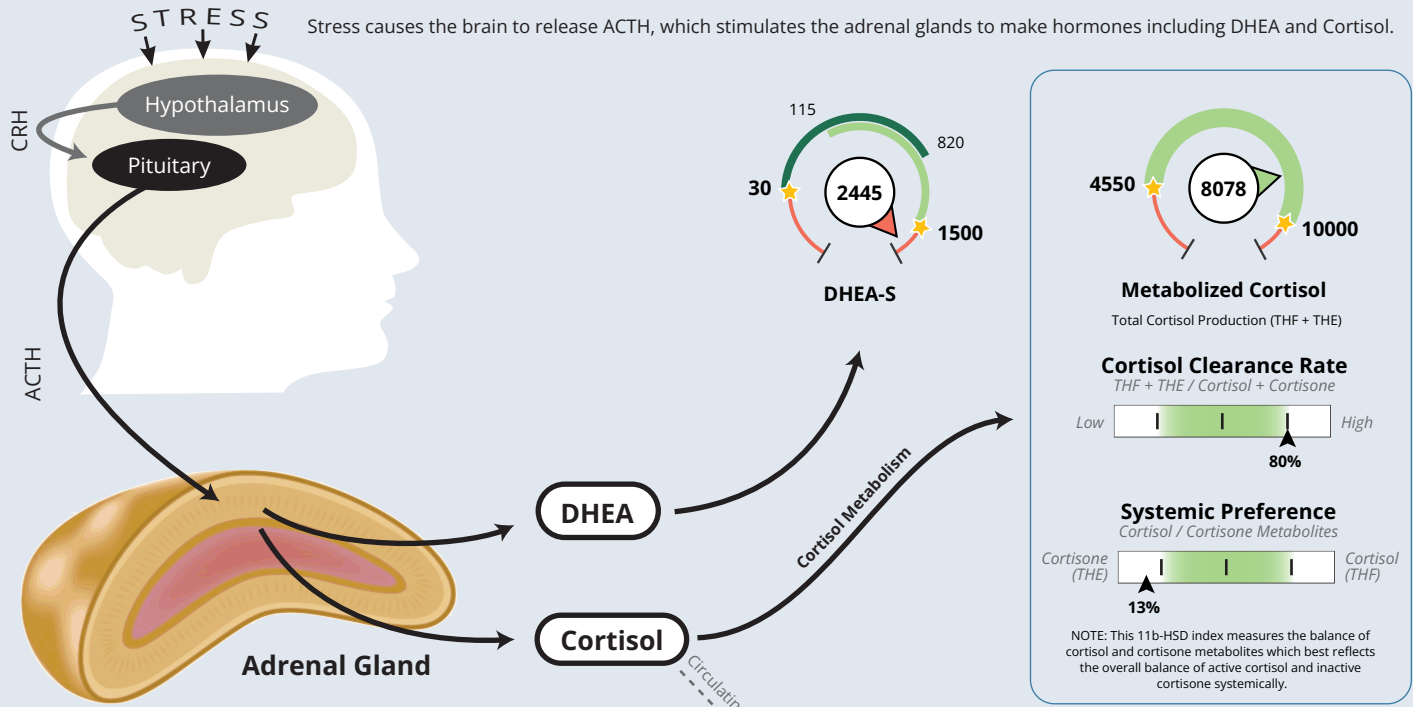
2026-01-19 04:00AM (U1)
 2026-01-19 06:00AM (U2)
 2026-01-18 03:00PM (U3)
 2026-01-18 08:00PM (U4)

Ordering Provider:

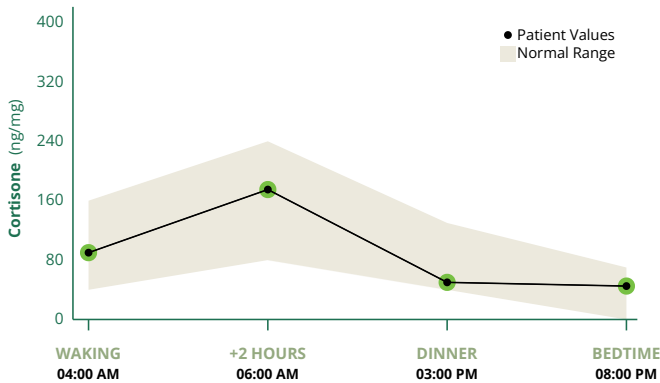
Test Provider MD

Adrenal Hormones & Metabolites

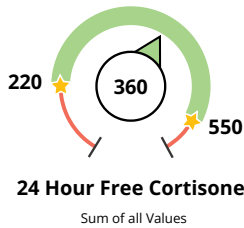
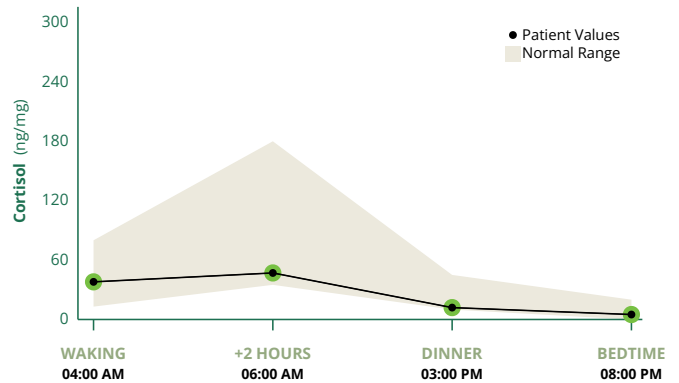
TEST		RESULT	UNITS	NORMAL RANGE
Daily Free Cortisol and Cortisone (Urine)				
Cortisol (U1) - Waking	Within range	38.0	ng/mg	13 - 80
Cortisol (U2) - +2 Hours	Low end of range	47.0	ng/mg	35 - 180
Cortisol (U3) - Dinner	Low end of range	12.0	ng/mg	10 - 45
Cortisol (U4) - Bedtime	Within range	5.0	ng/mg	0 - 20
Cortisone (U1) - Waking	Within range	90.0	ng/mg	40 - 160
Cortisone (U2) - +2 Hours	Within range	175.0	ng/mg	80 - 240
Cortisone (U3) - Dinner	Low end of range	50.0	ng/mg	40 - 130
Cortisone (U4) - Bedtime	Within range	45.0	ng/mg	0 - 70
24 Hour Free Cortisol (Sum of all Values)	Low end of range	102.0	ng/mg	75 - 300
24 Hour Free Cortisone (Sum of all Values)	Within range	360.0	ng/mg	220 - 550
Creatinine (Urine)				
Creatinine (U1) - Waking	Within range	0.50	mg/ml	0.3 - 3
Creatinine (U2) - +2 Hours	Within range	0.72	mg/ml	0.3 - 3
Creatinine (U3) - Dinner	Within range	0.48	mg/ml	0.3 - 3
Creatinine (U4) - Bedtime	Within range	0.34	mg/ml	0.3 - 3
Cortisol Metabolites and DHEA-S (Urine)				
a-Tetrahydrocortisol (a-THF)	Within range	364.0	ng/mg	175 - 700
b-Tetrahydrocortisol (b-THF)	Within range	2619.0	ng/mg	1750 - 4000
b-Tetrahydrocortisone (b-THE)	Within range	5095.0	ng/mg	2350 - 5800
Metabolized Cortisol (THF + THE)	Within range	8078.0	ng/mg	4550 - 10000
DHEA-S	Above range	2445.4	ng/mg	30 - 1500
Cortisol Clearance Rate (CCR)	High end of range	18.5		8.5 - 18.5



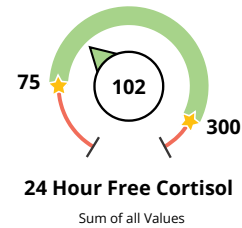
Daily Free Cortisone Pattern

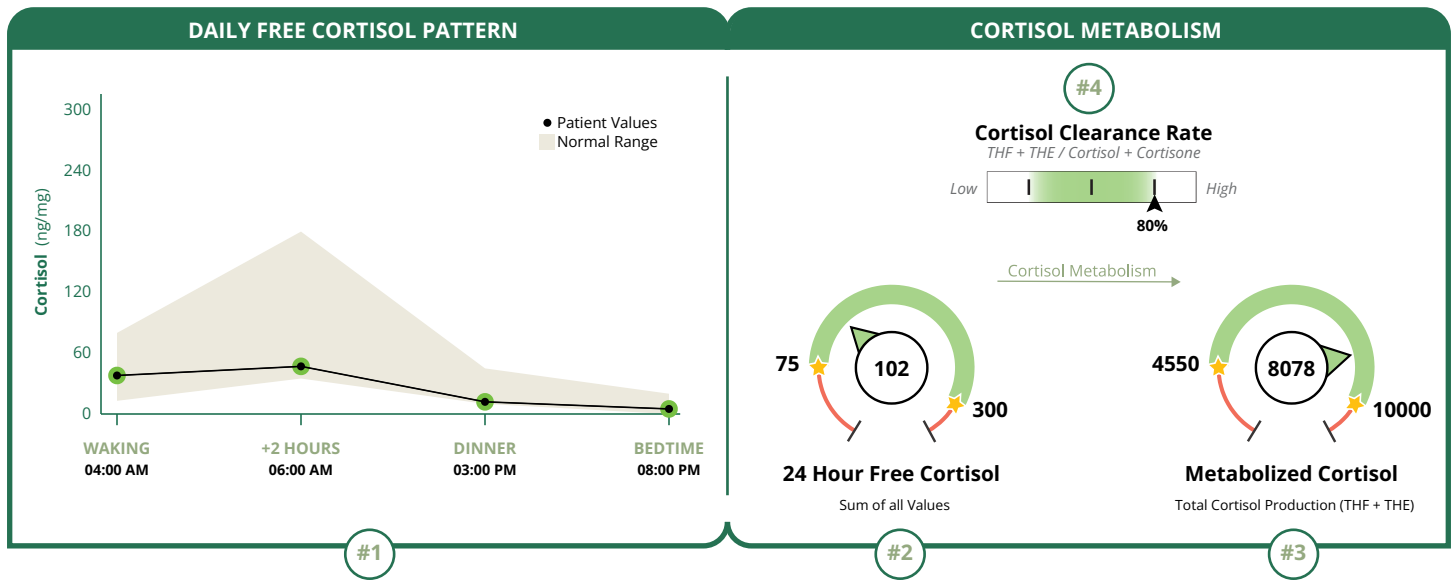


Daily Free Cortisol Pattern



Cortisol and Cortisone interconvert (11b-HSD)





Cortisol-related Patient or Sample Comments:

- The patient reported using a glucocorticoid medication. These medications may suppress the brain's ACTH signal that tells the adrenal glands to produce cortisol. Low free cortisol and cortisol metabolites are common with this therapy. The amount of suppression depends on the type of glucocorticoid, dose, and duration of use. It may take 4 to 12 weeks after discontinuation for adrenal hormones to return to baseline. Other adrenal hormones, such as DHEA and androgens, may also be suppressed.

#1. Assess the daily free cortisol pattern. i

- All points on the Daily Free Cortisol Pattern are within the optimal range. Cortisol levels should follow a rhythm that is higher in the morning and lower at night.

#2. Assess the daily total of free cortisol in circulation (24hr Free Cortisol). i

- The 24hr Free Cortisol is **102 ng/mg**, which is within the optimal range, but towards the low end. This may be relevant if the patient reported low cortisol symptoms or if Metabolized Cortisol is low.

#3. Assess the total cortisol produced by the adrenal glands (Metabolized Cortisol.) i

- The Metabolized Cortisol, which reflects the total cortisol output for the day, is **8,078 ng/mg**, which is within the optimal range.

#4. Assess the rate of cortisol clearance from the body. i

- The Cortisol Clearance Rate is higher than **80.0%** of the population, which is within the optimal range, but towards the high end. If paired with low free cortisol, this can contribute to low cortisol symptoms.

#5. Assess adrenal androgen levels (DHEA-S). i

About Your Results | Cortisol

- The DHEA-S is **2,445 ng/mg**, which is above the range for men of any age.

ADRENAL

#1. Assess if cortisone (inactive) adds more insight to the free cortisol assessment.

Cortisol is an active adrenal glucocorticoid, while cortisone is an inactive "storage" form. In the kidney, a significant amount of cortisol is converted to cortisone before excretion into urine. Therefore, urinary cortisone should be considered a reflection or "shadow" of systemic cortisol. The degree to which this happens in an individual may vary. If free cortisone is significantly higher than free cortisol, it may indicate free cortisol levels were higher in circulation (serum) than the urinary free cortisol implies. If free cortisone is lower than free cortisol, this may indicate free cortisol levels were not as high in circulation (serum) as urinary free cortisol implies.

If the cortisone is significantly different from cortisol, there will be a bulleted comment below.

- In this case, free cortisone is somewhat higher than the free cortisol. To the degree that this is true, this may indicate the free cortisol levels were higher in circulation (serum) than the cortisol levels in the urine imply.

#2. Assess if there is a whole-body preference for (inactive) cortisone or (active) cortisol.

The Systemic Preference slider reflects the balance between cortisol (THF) and cortisone (THE) metabolites and is influenced by systemic cortisol needs. The balance between THF and THE is the best estimation of the systemic balance of cortisol to cortisone. As these metabolites are processed through the liver, the body may shift to cortisol (THF) in response to acute stressors (e.g., immune activation or infection), or toward cortisone (THE) with chronic stress (e.g., long-term inflammation or illness). Review the patient's result to determine if they are out of range.

- The Systemic Preference slider is higher than only **13.0%** of the population, which is below the optimal range. This indicates significantly higher levels of cortisone metabolites compared to cortisol metabolites. If free cortisol levels are robust, this may be protective by turning off excess cortisol to balance tissue levels. If cortisol levels are low, this may contribute to low cortisol symptoms.

#3. Assess for anabolic-catabolic balance.

Androgens such as DHEA-S support tissue growth and repair, while cortisol promotes tissue breakdown. When DHEA-S is significantly higher than cortisol, it may suggest an anabolic state (favoring tissue building and repair). When DHEA-S is significantly lower than cortisol, it may suggest a catabolic state (favoring tissue breakdown). Review the dials for DHEA-S and Total Cortisol Metabolites to consider if it favors a catabolic or anabolic state.

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Reference ranges are developed by testing thousands of healthy individuals, while excluding results from outliers or those on impactful medications. A percentile approach is applied, as is done with most labs. Classic reference ranges use the 95th percentile as the upper end of range and the 5th percentile as the lower end of range. Our DUTCH ranges uses the percentiles found in the table below. We feel these ranges reflect the more optimal range sought in functional medicine practices. The table below shows the percentiles used for the reference range of each analyte on the DUTCH report:

Male Reference Ranges (Updated 6.24.2026)									
	Low%	High%	Low	High		Low%	High%	Low	High
b-Pregnanediol	10%	90%	75	400	Cortisol U0 (Mid-Sleep)	0	90%	0	23
a-Pregnanediol	10%	90%	20	130	Cortisol U1 (Waking)	20%	90%	25	130
Estrone (E1)	10%	90%	4	16	Cortisol U2 (+2 Hours)	20%	90%	35	180
Estradiol (E2)	10%	90%	0.5	2.2	Cortisol U3 (Dinner)	20%	90%	10	45
Estriol (E3)	10%	90%	2	8	Cortisol U4 (Bedtime)	0	90%	0	20
2-OH-E1	0	90%	0	5.9	Cortisone U0 (Mid-Sleep)	0	90%	0	70
4-OH-E1	0	90%	0	0.8	Cortisone U1 (Waking)	20%	90%	75	215
16-OH-E1	0	90%	0	1.2	Cortisone U2 (+2 Hours)	20%	90%	80	240
2-Methoxy-E1	0	90%	0	2.8	Cortisone U3 (Dinner)	20%	90%	40	130
2-OH-E2	0	90%	0	1.2	Cortisone U4 (Bedtime)	0	90%	0	70
4-OH-E2	0	90%	0	0.25	Cortisol Clearance Rate (CCR)	20%	80%	8.5	18.5
2-16-ratio	20%	80%	2.85	9.88	Melatonin (6-OHMS)	20%	90%	10	85
2-4-ratio	20%	80%	6.44	12.6	8-OHdG	0	90%	0	8.8
2Me-2OH-ratio	20%	80%	0.4	0.7	Methylmalonate	0	90%	0	3.5
DHEA-S	20%	90%	30	1500	Xanthurenate	0	90%	0.2	1.9
Androsterone	20%	80%	500	3000	Kynurenate	0	90%	1	6.6
Etiocholanolone	20%	80%	400	1500	b-Hydroxyisovalerate	0	90%	0	18
Testosterone	20%	90%	25	115	Pyroglutamate	10%	90%	38	83
5a-DHT	20%	90%	5	25	Indican	0	90%	0	131
5a-Androstanediol	20%	90%	30	250	Homovanillate	10%	95%	4	16
5b-Androstanediol	20%	90%	40	250	Vanilmandelate	10%	95%	2.5	7.5
Epi-Testosterone	20%	90%	25	115	Quinolinate	0	90%	0	12.5
a-THF	20%	90%	175	700	Calculated Values				
b-THF	20%	90%	1750	4000	Total DHEA Production	20%	80%	1000	5500
b-THE	20%	90%	2350	5800	Total Estrogens	10%	90%	10	34
					Metabolized Cortisol	20%	90%	4550	10000
					24hr Free Cortisol	20%	90%	75	300
					24hr Free Cortisone	20%	90%	220	550

% = population percentile: Example - a high limit of 90% means results higher than 90% of the men tested for the reference range will be designated as "high."