dutchtest COMPLETE

PATIENT INFORMATION

Ordering Provider:
Test Provider MD

Male Sample Report
123 A Street
Sometown, CA 90266

DOB: 1976-01-01
Age: 49
Sex: Male

Accession # 01093511

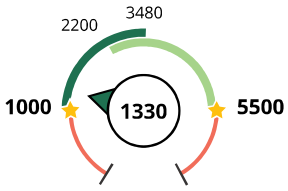
Collection Dates:
2025-06-12 (U3 U4)
2025-06-13 (U1 U2)

Hormone Testing Summary

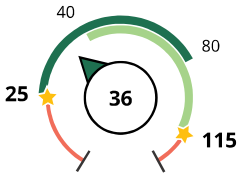
Normal, Age 18 - 40 (Androgens) | Age 41 - 60+ (Androgens) | Out of Range | Edge of Range

For an expanded view of results, see pages 2 through 6. For interpretive support, see *About Your Results* pages.

ANDROGEN PRODUCTION

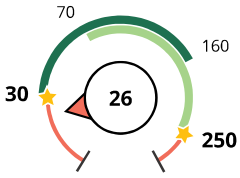


Total DHEA Production
DHEA-S + Etiocholanolone + Androsterone



Testosterone

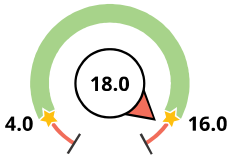
ANDROGEN METABOLISM



5a-Androstanediol
Cellular DHT Production

5a-Metabolism (Androgens)
Androsterone / Etiocholanolone

ESTROGEN PRODUCTION



Estrone (E1)

Estradiol (E2)

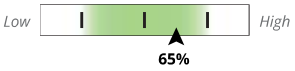
ESTROGEN METABOLISM

2-OH / 16-OH-E1 Balance

2-OH / 4-OH-E1 Balance

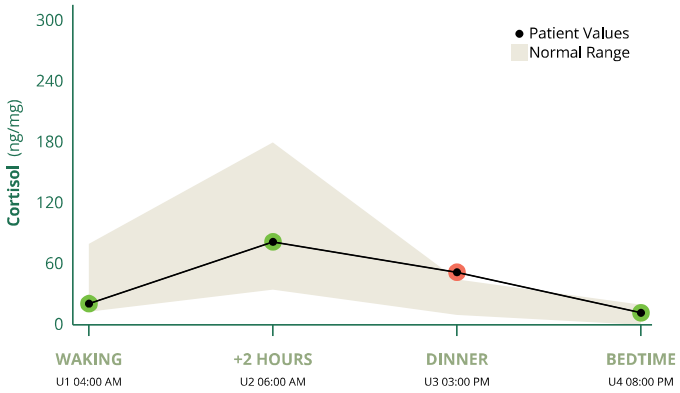
Phase 1 Metabolism

Methylation Activity
2-Methoxy / 2-OH-E1



Phase 2 Methylation

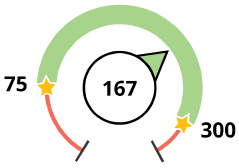
DAILY FREE CORTISOL PATTERN



CORTISOL METABOLISM

Cortisol Clearance Rate
THF + THE / Cortisol + Cortisone

Cortisol Metabolism



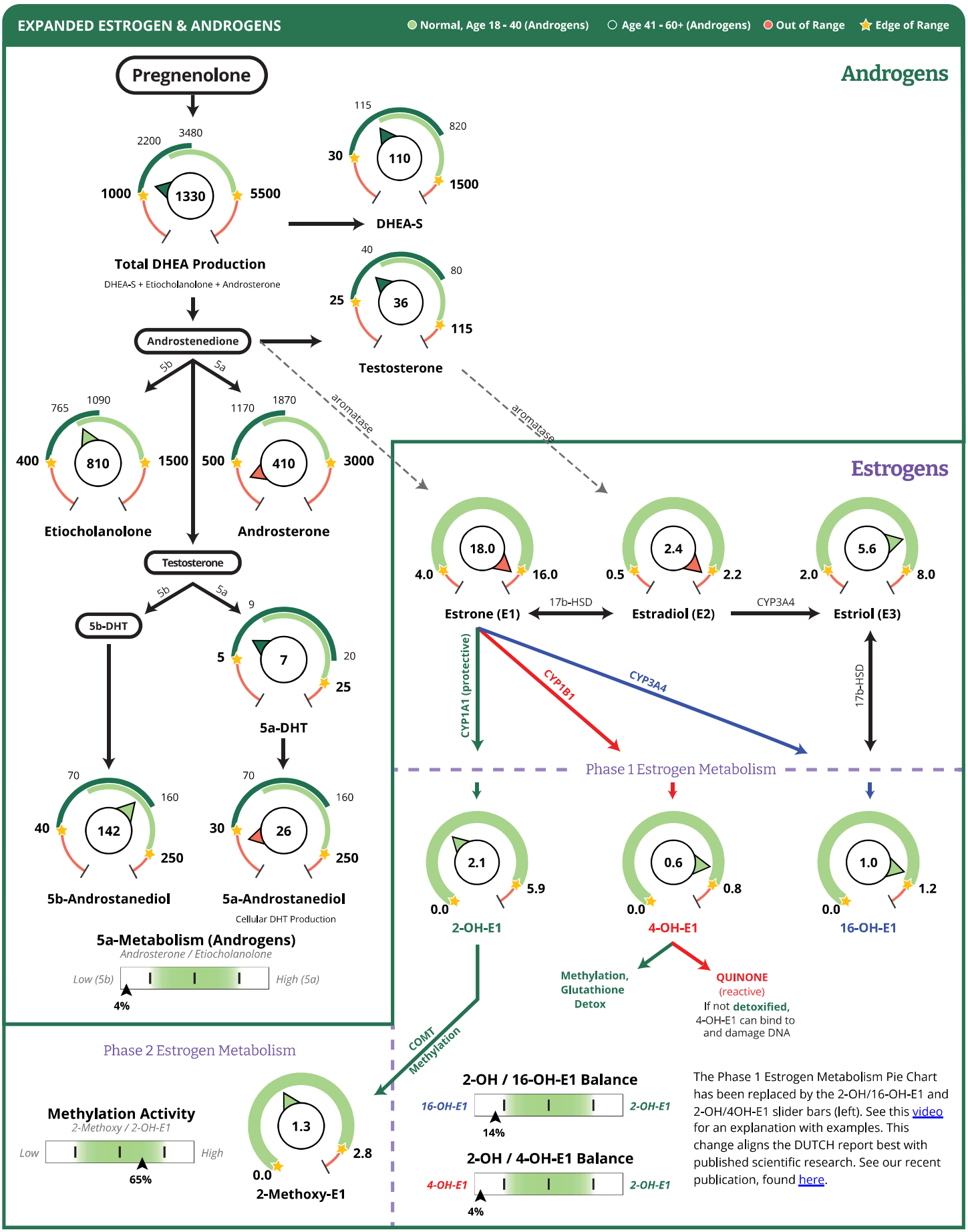
24 Hour Free Cortisol
Sum of all Values

Metabolized Cortisol
Total Cortisol Production (THF + THE)

Organic Acid Tests (OATs) Suggests the Following Possible Imbalances | see page 6 for details

Watch | Needs Attention

B6 Deficiency | Biotin Deficiency | Neurotransmitters | Melatonin


EXPANDED ESTROGEN & ANDROGENS
Normal, Age 18 - 40 (Androgens)
Age 41 - 60+ (Androgens)
Out of Range
Edge of Range
Androgens
Pregnenolone
2200
3480
1000
1330
5500
Total DHEA Production
DHEA-S + Etiocholanolone + Androsterone
115
820
30
110
1500
DHEA-S
40
80
25
36
115
Testosterone
Androstenedione
5b
5a
765
1090
400
810
1500
Etiocholanolone
1170
1870
500
410
3000
Androsterone
aromatase
aromatase
Testosterone
5b
5a
5b-DHT
9
5
7
20
25
5a-DHT
70
160
40
142
250
5b-Androstanediol
70
160
30
26
250
5a-Androstanediol
Cellular DHT Production
5a-Metabolism (Androgens)
Androsterone / Etiocholanolone
Low (5b)
High (5a)
4%
Estrogens
18.0
4.0
16.0
Estrone (E1)
17b-HSD
2.4
0.5
2.2
Estradiol (E2)
CYP3A4
5.6
2.0
8.0
Estriol (E3)
CYP1A1 (protective)
CYP1B1
CYP3A4
17b-HSD
Phase 1 Estrogen Metabolism
2.1
0.0
5.9
2-OH-E1
0.6
0.0
0.8
4-OH-E1
1.0
0.0
1.2
16-OH-E1
Methylation, Glutathione Detox
QUINONE
(reactive)
If not detoxified, 4-OH-E1 can bind to and damage DNA
COMT Methylation
Phase 2 Estrogen Metabolism
Methylation Activity
2-Methoxy / 2-OH-E1
Low
High
65%
1.3
0.0
2.8
2-Methoxy-E1
2-OH / 16-OH-E1 Balance
16-OH-E1
2-OH-E1
14%
2-OH / 4-OH-E1 Balance
4-OH-E1
2-OH-E1
4%
The Phase 1 Estrogen Metabolism Pie Chart has been replaced by the 2-OH/16-OH-E1 and 2-OH/4OH-E1 slider bars (left). See this video for an explanation with examples. This change aligns the DUTCH report best with published scientific research. See our recent publication, found here.

dutchtest® COMPLETE

Accession # 01093511

Male Sample Report
123 A Street
Sometown, CA 90266

DOB: 1976-01-01
Age: 49
Sex: Male

Collection Times:

2025-06-13 04:00AM (U1)
2025-06-13 06:00AM (U2)
2025-06-12 03:00PM (U3)
2025-06-12 08:00PM (U4)

Ordering Provider:

Test Provider MD

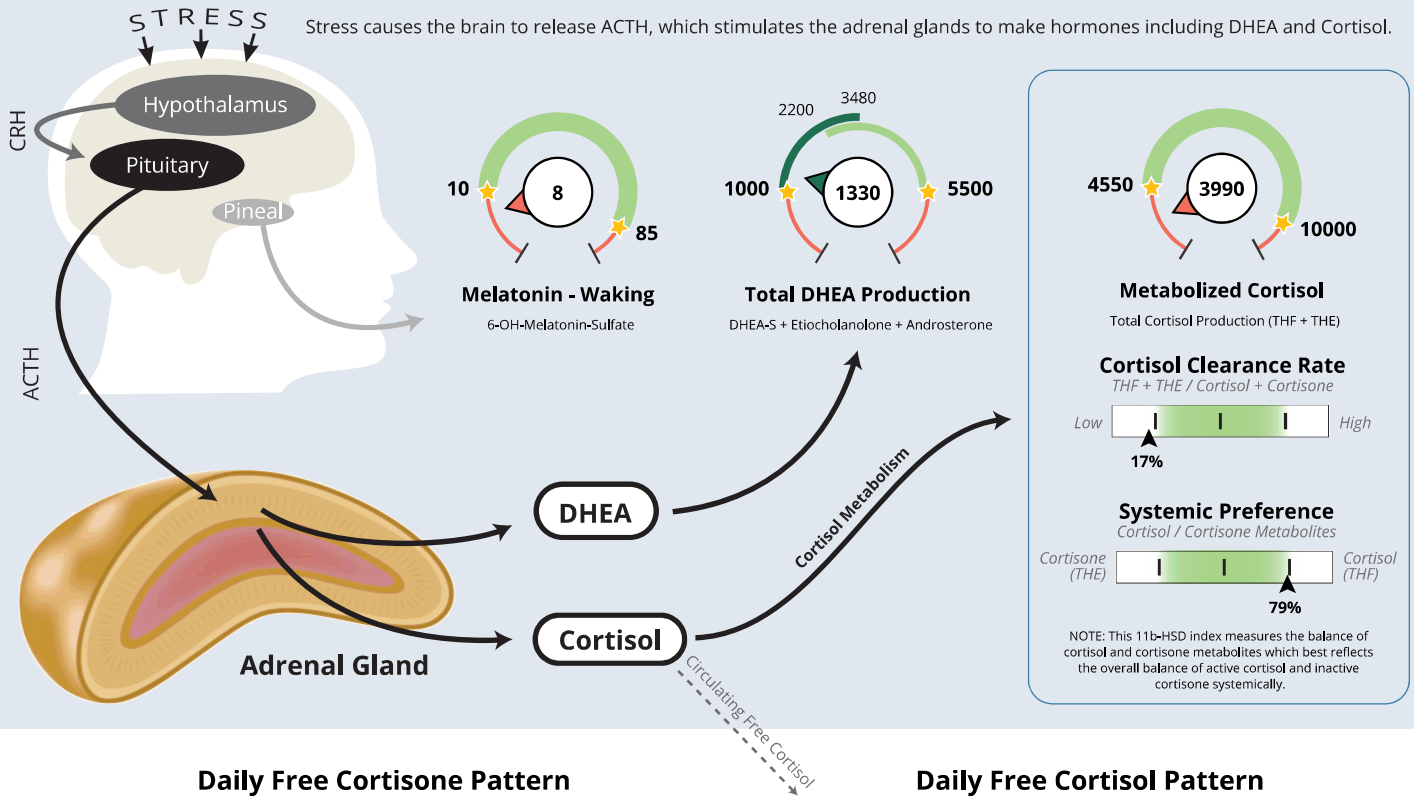
Sex Hormones & Metabolites

TEST		RESULT	UNITS	NORMAL RANGE
Progesterone Metabolites (Urine)				
b-Pregnanediol	Within range	175.7	ng/mg	75 - 400
a-Pregnanediol	Low end of range	24.0	ng/mg	20 - 130
Estrogens and Metabolites (Urine)				
Estrone (E1)	Above range	17.96	ng/mg	4 - 16
Estradiol (E2)	Above range	2.42	ng/mg	0.5 - 2.2
Estriol (E3)	Within range	5.6	ng/mg	2 - 8
2-OH-E1	Within range	2.08	ng/mg	0 - 5.9
4-OH-E1	Within range	0.60	ng/mg	0 - 0.8
16-OH-E1	Within range	1.00	ng/mg	0 - 1.2
2-Methoxy-E1	Within range	1.25	ng/mg	0 - 2.8
2-OH-E2	Within range	0.31	ng/mg	0 - 1.2
4-OH-E2	Within range	0.21	ng/mg	0 - 0.25
Total Estrogen	Within range	31.4	ng/mg	10 - 34
Metabolite Ratios (Urine)				
2-OH / 16-OH-E1 Balance	Below range	2.08	ratio	2.85 - 9.88
2-OH / 4-OH-E1 Balance	Below range	3.47	ratio	6.44 - 12.6
2-Methoxy / 2-OH Balance	Within range	0.60	ratio	0.4 - 0.7
Androgens and Metabolites (Urine)				
DHEA-S	Within range	110.0	ng/mg	30 - 1500
Androsterone	Below range	410.0	ng/mg	500 - 3000
Etiocholanolone	Within range	809.7	ng/mg	400 - 1500
Testosterone	Within range	36.03	ng/mg	25 - 115
5a-DHT	Within range	7.0	ng/mg	5 - 25
5a-Androstanediol	Below range	26.0	ng/mg	30 - 250
5b-Androstanediol	Within range	142.0	ng/mg	40 - 250
Epi-Testosterone	Within range	41.2	ng/mg	25 - 115

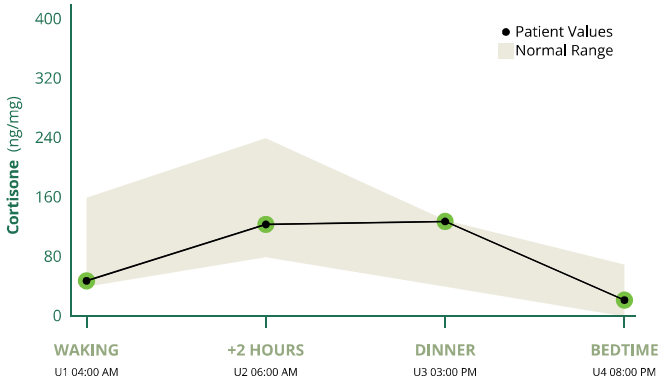
"Normal range" shown above refers to the overall range across all ranges, which lands between the stars on the dials. Age-dependent ranges are now included on the DUTCH dials on page 2.

EXPANDED CORTISOL & ADRENAL HORMONES

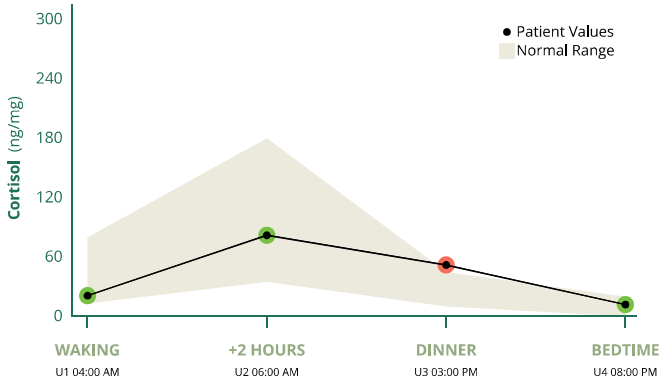
● Normal, Age 18 - 40 (Androgens) ○ Age 41 - 60+ (Androgens) ● Out of Range ★ Edge of Range

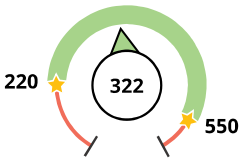


Daily Free Cortisone Pattern



Daily Free Cortisol Pattern

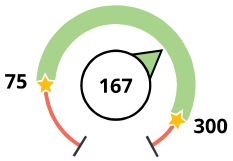




24 Hour Free Cortisone

Sum of all Values

Cortisol and Cortisone interconvert (11b-HSD)



24 Hour Free Cortisol

Sum of all Values

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Accession # 01093511

Male Sample Report
123 A Street
Sometown, CA 90266
DOB: 1976-01-01
Age: 49
Sex: Male

Collection Times:
2025-06-13 04:00AM (U1)
2025-06-13 06:00AM (U2)
2025-06-12 03:00PM (U3)
2025-06-12 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	Low end of range	21.0	ng/mg	13 - 80
Cortisol (U2) - +2 Hours	Within range	82.0	ng/mg	35 - 180
Cortisol (U3) - Dinner	Above range	52.0	ng/mg	10 - 45
Cortisol (U4) - Bedtime	Within range	12.0	ng/mg	0 - 20
Cortisone (U1) - Waking	Low end of range	48.0	ng/mg	40 - 160
Cortisone (U2) - +2 Hours	Within range	124.0	ng/mg	80 - 240
Cortisone (U3) - Dinner	High end of range	128.0	ng/mg	40 - 130
Cortisone (U4) - Bedtime	Within range	22.0	ng/mg	0 - 70
24 Hour Free Cortisol (Sum of all Values)	Within range	167.0	ng/mg	75 - 300
24 Hour Free Cortisone (Sum of all Values)	Within range	322.0	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)	Below range	140.0	ng/mg	175 - 700
b-Tetrahydrocortisol (b-THF)	Low end of range	1900.0	ng/mg	1750 - 4000
b-Tetrahydrocortisone (b-THE)	Below range	1950.0	ng/mg	2350 - 5800
Metabolized Cortisol (THF + THE)	Below range	3990.0	ng/mg	4550 - 10000
DHEA-S	Low end of range	110.0	ng/mg	30 - 1500
Cortisol Clearance Rate (CCR)	Below range	8.2		8.5 - 17.5

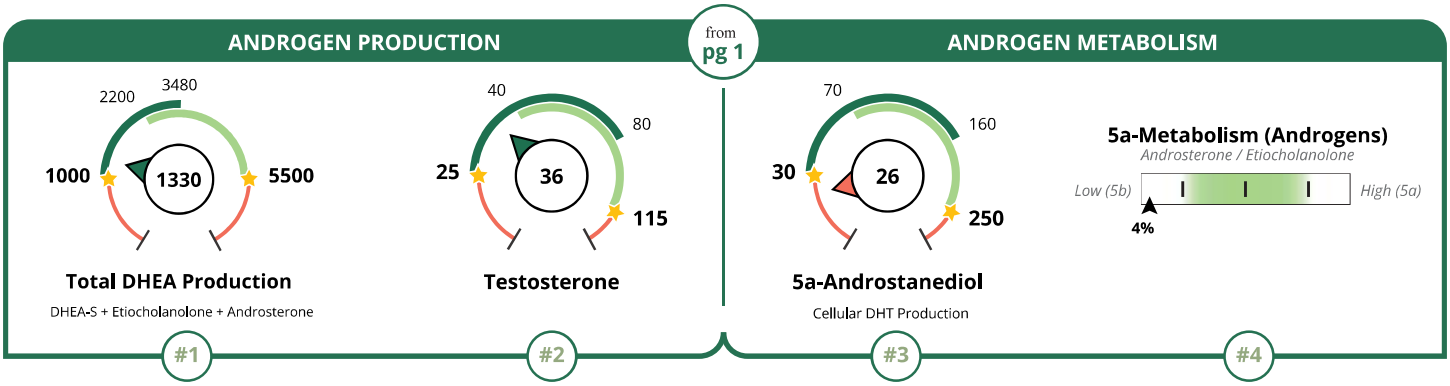
Organic Acid Tests (OATs)

TEST		RESULT	UNITS	NORMAL RANGE
Nutritional Organic Acids (Urine)				
Vitamin B12 Marker - May be deficient if high				
Methylmalonate (MMA)	Within range	2.9	ug/mg	0 - 3.5
Vitamin B6 Markers - May be deficient if high				
Xanthurenate	Above range	2.20	ug/mg	0.2 - 1.9
Kynurenate	High end of range	6.4	ug/mg	1 - 6.6
Biotin Marker - May be deficient if high				
b-Hydroxyisovalerate	Above range	23.0	ug/mg	0 - 18
Glutathione Marker - May be deficient if high				
Pyroglutamate	Within range	62.0	ug/mg	38 - 83
Gut Marker - Potential gut putrefaction or dysbiosis if high				
Indican	Within range	90.4	ug/mg	0 - 131
Neuro-Related Markers (Urine)				
Dopamine Metabolite				
Homovanillate (HVA)	Low end of range	4.4	ug/mg	4 - 16
Norepinephrine/Epinephrine Metabolite				
Vanilmandelate (VMA)	High end of range	7.3	ug/mg	2.5 - 7.5
Neuroinflammation Marker				
Quinolinate	Within range	9.1	ug/mg	0 - 12.5
Additional Markers (Urine)				
Melatonin - Waking				
6-OH-Melatonin-Sulfate	Below range	7.8	ng/mg	10 - 85
Oxidative Stress / DNA Damage				
8-Hydroxy-2-deoxyguanosine (8-OHdG)	Within range	3.7	ng/mg	0 - 8.8

- The xanthurenate is above the range. This may indicate a vitamin B6 deficiency. B6 is essential for phase 2 methylation (estrogen detoxification), neurotransmitter synthesis, and other key metabolic processes. Tryptophan taken within 72 hours before testing can also raise kynurenate without indicating a true B6 deficiency.
- The b-hydroxyisovalerate is above the range. This may indicate biotin (vitamin B7) deficiency.
- The waking urinary 6-OH-Melatonin-Sulfate is low. This reflects low overnight production of melatonin. This may be implicated in poor sleep and insomnia.

About Your Results | Androgens

The following *About Your Results* sections include key DUTCH report elements from page 1 to aid your interpretation.



Androgen-related Patient or Sample Comments:

#1. Assess adrenal androgen levels (Total DHEA)

- The total DHEA production is **1,330 ng/mg**, which is within the range for men who are 41 and older, but towards the lower end of the overall range. If paired with low testosterone or low 5a-androstanediol, this may contribute to a low androgen picture.

#2. Assess testosterone levels

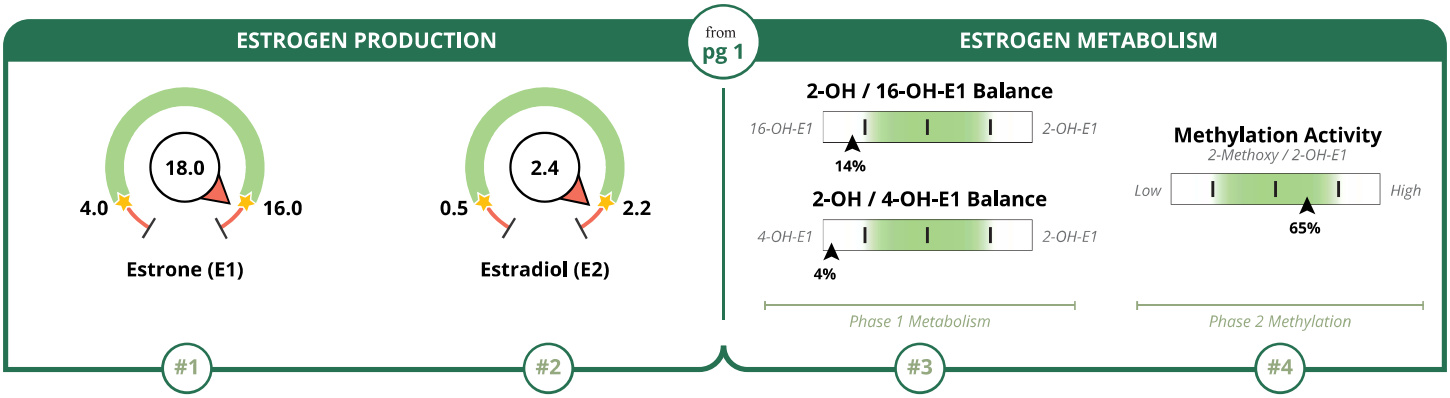
- Testosterone is **36.0 ng/mg**, which is within the optimal range for men who are 41 and older, but on the lower end. If paired with low 5a-androstanediol, this may contribute to low androgen symptoms.

#3. Assess cellular production of 5a-DHT via 5a-androstanediol

- 5a-Androstanediol is **26.0 ng/mg**, which is below the range for men of any age. 5a-Androstanediol reflects the tissue activity of 5a-DHT (the most potent androgen).

#4. Assess if there is a preference for the more potent alpha metabolism of the androgens

- 5a-Metabolism of androgens is higher than only **4.00%** of the population, which is below the range. This indicates a preference for less androgenic pathway. If paired with low androgens, this may contribute to low androgen symptoms.



Estrogen-related Patient or Sample Comments:

#1. Assess estrogen levels

- Estrone (E1) is a weak estrogen compared to E2. In this case the E1 is **18.0 ng/mg,** which is above range. This may contibute to high estrogen symptoms.
- Estradiol (the most potent estrogen) is **2.42 ng/mg**, which is above the optimal range.

#2. Assess the conversion of testosterone to estrogen (via aromatase)

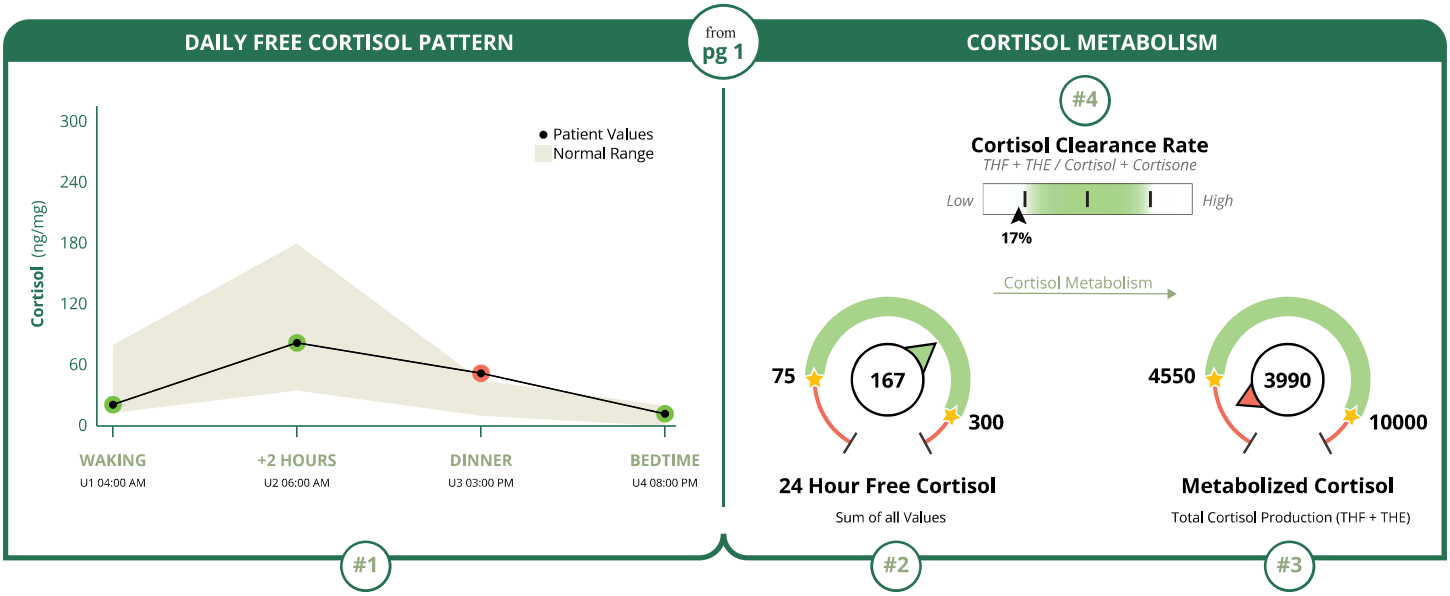
- In males, E2 levels come from conversion of circulating testosterone via the aromatase enzyme. Reviewing the E2 level can give insight into circulating testosterone and aromatase activity. The strongest influence on aromatase activity is body fat percentage.
- The patient's BMI is between 25 and 30. When paired with obesity, inflammation, or high insulin it may contribute to the upregulation of aromatase, resulting in above range estradiol.

#3. Assess 2-OH preference in phase 1 estrogen metabolism

- The 2-OH/16-OH-E1 is higher than only **14.0%** of the population, which is below the optimal range. This indicates a preference for the estrogenic 16-OH-E1 metabolite compared to the beneficial 2-OH-E1 metabolite. The 16-OH preference may be associated with estrogenic activity and high estrogen symptoms.
- The 2-OH/4-OH-E1 is higher than only **4.00%** of the population, which is below the optimal range. This indicates a preference for the potentially genotoxic (DNA damaging) 4-OH-E1 metabolite compared to the beneficial 2-OH-E1 metabolite. The 4-OH preference may be associated with oxidative stress.

#4. Assess methylation of reactive 2-OH catechol estrogens

- The methylation activity is higher than **65.0%** of the population, which is within the optimal range. This indicates optimal estrogen methylation, which is beneficial for efficient estrogen detoxification.



Cortisol-related Patient or Sample Comments:

#1. Assess the daily free cortisol pattern

- 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)

- The 24hr Free Cortisol is **167 ng/mg**, which is within the optimal range.

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

- The Metabolized Cortisol, which reflects the total cortisol output for the day, is **3,990 ng/mg**, which is below the optimal range.

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

- The Cortisol Clearance Rate is higher than only **17.0%** 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.

The previous "About Your Results" pages look at core insights for the DUTCH report shown on the Hormone Testing Summary page, all of which are worth considering for most patients. Next, "Advanced Insights" cover additional features within the DUTCH test that require reviewing the pages after the summary page. These concepts are more complex but can be highly relevant for some patients. Review the concepts and look for patient-specific comments, when notable, in bullets.

ANDROGENS

#1. Assess if the DHEA-S is relatively lower than the Total DHEA

DHEA-S is primarily produced in the adrenals through sulfation. Inflammation can inhibit sulfation, lowering DHEA-S levels and diverting DHEA metabolism toward 5a- and 5b-reductase pathways, resulting in higher etiocholanolone (5b-metabolite) and androsterone (5a-metabolite) levels relative to DHEA-S. Review the patient's results to assess if this pattern is present.

#2. Assess the androgen pattern to determine if urine testosterone may not accurately reflect systemic levels (UGT2B17 deletion)

- This advanced topic is only relevant if the patient has low testosterone (T) with other specific patterns of androgen metabolites, especially when levels of Epi-T (see page 3) are much higher than T on the DUTCH Test. In patients that do have a suspicious pattern, urine testosterone may underestimate true testosterone levels. This patient's results do NOT indicate a reason to be suspicious of the urine testosterone levels. For information on this topic, see this video

#3. While 5a-androstanediol best represents cellular 5a-DHT production, assess if 5a-DHT offers additional insight into androgenic activity

5a-DHT is testosterone's active metabolite and is three times more potent than testosterone. If elevated it may contribute to androgen excess syptoms. Research shows 5a-androstanediol may be a better marker of 5a-DHT tissue activity, but the 5a-DHT result may provide additional insight. Review the 5a-DHT result in context of other androgens and androgenic symptoms for a deeper understanding of the androgen results.

#4. Assess whether any of the androgen-related organic acids are out of range

Androgen levels can be influenced by sleep and oxidative stress. Imbalances in glutathione, melatonin, and oxidative stress markers, if present, will be commented on here. This may help identify contributing factors affecting androgen markers.

- The Melatonin result is **7.8 ng/mg**, which is low. Low melatonin has been associated with increased oxidative stress, poor sleep. Poor sleep and oxidative stress are associated with impaired testicular function and testosterone levels.

ESTROGEN & PROGESTERONE

#1. Assess whether E1, E3, or 16-OH-E1 add more insight into overall estrogenic activity

While E2 is the most potent estrogen, other estrogens - such as estrone (E1), 16-hydroxyestrone (16-OH-E1), and estriol (E3) - also contribute to overall estrogenic activity.

E1 is less potent than E2 but can still impact total estrogenic load and can be converted to E2 as needed. 16-OH-E1 is weaker than E2 but may exert significant estrogenic effects, depending on the tissue in which it is produced. E3 is a weak estrogen with mild estrogenic effects and may have anti-inflammatory properties.

Higher levels of these additional estrogens relative to E2 may enhance overall estrogenic activity, while lower levels may result in reduced estrogenic effects.

#2. Assess progesterone production

In males, progesterone metabolites measured in urine are primarily of adrenal origin. B-pregnanediol is the best marker of total progesterone. High b-pregnanediol may be associated with increased stress or inflammation. Low b-pregnanediol may accompany reduced adrenal cortisol output, although the clinical significance of low progesterone in men is not well understood.

#3. Assess estrogen clearance through phase 1 and 2

By looking at the parent estrogens (E1, E2) and their breakdown products (2OH, 4OH, 16OH, and 2MeOHE1), we can see how quickly estrogen is being metabolized. If the parent estrogens are higher than the breakdown products, it means estrogen is clearing more slowly, which increases risk of estrogen excess symptoms. Balanced levels show normal clearance, while lower parent estrogens compared to breakdown products suggest faster clearance, decreasing the risk of estrogen excess symptoms.

#4. Assess whether any of the estrogen-related organic acids are out of range

Estrogen levels, metabolites, and metabolism patterns can be influenced by nutrient status, oxidative stress, and gut health. Imbalances in glutathione, B12, B6, gut dybiosis, and oxidative stress markers will be commented on here, if relevant for the patient. This may help identify contributing factors affecting estrogens.

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.

- In this case, free cortisone in the urine is somewhat lower than the free cortisol. To the degree that this is true, it may indicate the free cortisol levels may not be quite as high in circulation (serum) as 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 **79.0%** of the population, which is within the optimal range, but towards the high end. This indicates a mild preference for cortisol metabolites compared to cortisone metabolites. If free cortisol levels are robust, this may contribute to high tissue cortisol. If cortisol levels are low, this may optimize cortisol levels by keeping what is available in its active form.

#3. Assess for anabolic-catabolic balance

Androgens such as DHEA (assessed as total DHEA or DHEA-S) support tissue growth and repair, while cortisol promotes tissue breakdown. When total DHEA (or DHEA-S) is significantly higher than cortisol, it may suggest an anabolic state (favoring tissue building and repair). When total DHEA (or DHEA-S) is significantly lower than cortisol, it may suggest a catabolic state (favoring tissue breakdown).

#4. Assess whether any of the cortisol-related organic acids are out of range

Cortisol can be impacted by inflammation, nutrient status, and sleep. Imbalances in B12, B6, melatonin, and neuroinflammation markers will be commented on here if relevant for the patient. This may help identify contributing factors affecting cortisol results.

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:

Male Reference Ranges (Updated 10.15.2025)

	Low%	High%	Low	High		Low%	High%	Low	High
b-Pregnanediol	10%	90%	75	400	Cortisol U0 (Mid-Sleep)	0	90%	0	15
a-Pregnanediol	10%	90%	20	130	Cortisol U1 (Waking)	20%	90%	13	80
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	59
4-OH-E1	0	90%	0	0.8	Cortisone U1 (Waking)	20%	90%	40	160
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	17.5
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."