

About DUTCH Testing

What is the DUTCH Test?

D.U.T.C.H. stands for:

Dried Urine Test for Comprehensive Hormones

As it says above - the DUTCH Test is **comprehensive!**

In fact, DUTCH offers one of the most extensive profiles of sex and adrenal hormones on the market today!



Accession # 00526586
Female Sample Report
123 A Street
Somerset, CA 90266



Ordering Provider:
Precision Analytical

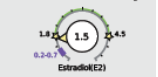
DOB: 1976-01-01
Age: 46
Sex: Female

Hormone Testin

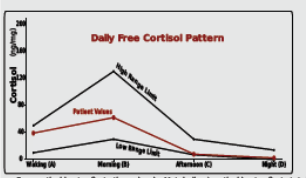
Key (how to read the results):



Sex Hormones



Adrenal Hormones



The following videos (which can also be found on the website under the listed DUTCH Complete Overview: Estrogens, Testosterone, Progesterone, Adrenal, and Cortisol) provide more information on how to read the results. PLEASE BE SURE TO READ BELOW FOR ANY SPECIFIC LAB COMMENTS!

The patient shows significantly higher free cortisol compared to metabolite. See comments in the notes for more details.

Precision Analytical (Dawn Huo, Ph.D., Lab Director)
3138 Rivergate Street #303C
McMinville, OR 97128

Female Sample Report
FINAL REPORT
06/20/2022



Accession # 00526586
Female Sample Report
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Sex Hormones and Metabolites

Ordering Provider:
Precision Analytical

Test

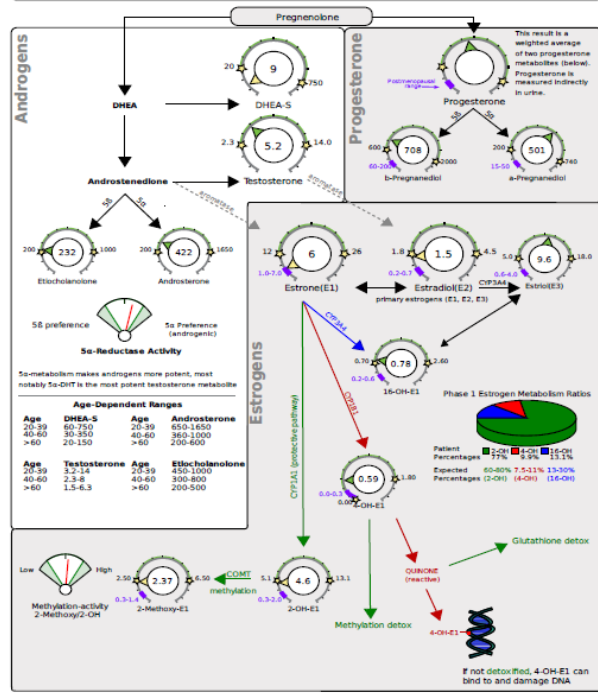
- Progesterone Metabolites (U)
 - b-Pregnenediol Low end of range
 - a-Pregnenediol Within luteal
- Estrogens and Metabolites (U)
 - Estrone(E1) Below luteal
 - Estradiol(E2) Within luteal
 - Estradiol(E3) Within luteal
 - 4-OH-E1 Within luteal
 - 16-OH-E1 Low end of range
 - 2-Methoxy-E1 Below luteal
 - 2-OH-E2 Within luteal
 - 4-OH-E2 Within luteal
 - Total Estrogen Below range
- Androgens and Metabolites (U)
 - DHEA-S Below range
 - Androstenedione Low end of range
 - Etiocalanolone Low end of range
 - Testosterone Within range
 - 5a-DHT Low end of range
 - 5a-Androstenediol Within range
 - 5b-Androstenediol Low end of range
 - Epi-Testosterone Within range

Additional Normal Ranges

- b-Pregnenediol
- a-Pregnenediol
- Estrone (E1)
- Estradiol (E2)

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Hormone metabolite results from the previous page are presented here as they are found in the steroid cascade. See the Provider Comments for more information on how to read the results.



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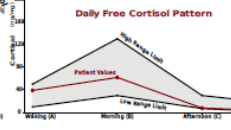
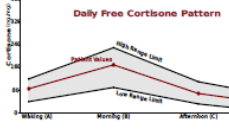
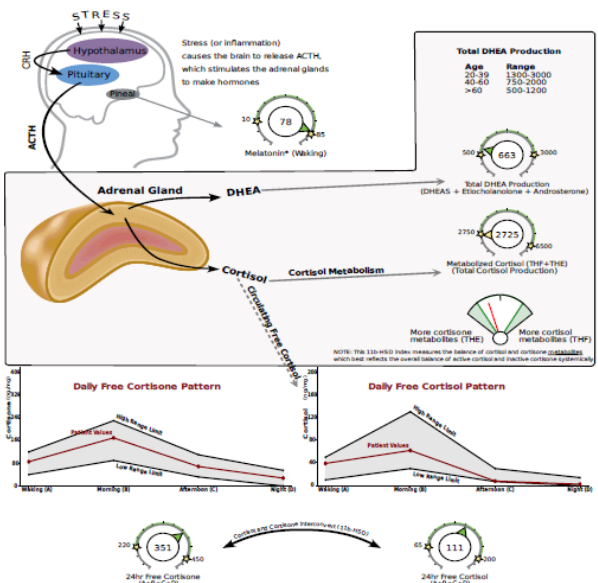
Accession # 00526586
Female Sample Report
123 A Street
Somerset, CA 90266



DOB: 1976-01-01
Age: 46
Sex: Female

- Progesterone (Morning) Within range
- Progesterone (Afternoon) Within range
- Progesterone (Night) Within range
- Cortisone (Urine) (Morning) Within range
- Cortisone (Urine) (Afternoon) Within range
- Cortisone (Urine) (Night) Within range
- Cortisone (Urine) (Total) Within range
- DHEA-S (Urine) (a-THF) Within range
- DHEA-S (Urine) (b-THF) Below range
- DHEA-S (Urine) (d-THF) Low end of range
- DHEA-S (Urine) (THF+THE) Below range

Female Sample Report
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06/20/2022



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 woke during the night and collected (see the top of the report for the times collected). We call this value "A1" and the value from the sample collected at waking "A2". These values are used to create a "time-weighted average" to create the "A" value. However, there was no measurable cortisol found in the A2 sample, so the A1 sample has been used as the A-sample for all values. This cortisol value represents the time between bed and the middle of the night collection and not the entirety of the overnight period.

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Female Sample Report
123 A Street
Somerset, CA 90266



DOB: 1976-01-01
Age: 46
Sex: Female

Last Menstrual Period:

Collection Times:
2022-06-01 08:00AM
2022-06-01 08:00AM
2022-06-01 08:00AM
2022-06-01 09:00PM
2022-06-01 10:00PM

Result	Units	Normal Range
1.46	ug/mg	0 - 2.5
0.34	ug/mg	0.12 - 1.2
2.03	ug/mg	0.8 - 4.5
6.1	ug/mg	0 - 12.5
54.7	ug/mg	28 - 58
29.7	ug/mg	0 - 100
6.3	ug/mg	3 - 11
4.0	ug/mg	2.2 - 5.5
4.8	ug/mg	0 - 9.6
77.8	ng/mg	10 - 85
3.01	ng/mg	0 - 5.2

Female Sample Report
FINAL REPORT
06/20/2022

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DutchTest.com

One can see the comprehensiveness of the test by looking at the biomarkers that are measured on the DUTCH Test

The DUTCH Test Measures Not Only:

Androgens

- Testosterone
- Total DHEA
- DHEA-S

But Also:

Androgens

- Testosterone
- Total DHEA
- DHEA-S

Androgen metabolites

- 5a-DHT
- 5a-androstenediol
- 5b-androstenediol
- Androsterone
- Etiocholanolone
- Epi-testosterone

But Also:

Androgens

- Testosterone
- Total DHEA
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Progesterone Metabolites

- a-pregnenediol
- b-pregnenediol

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Estrogens

- E1 (estrone)
- E2 (estradiol)
- E3 (estriol)

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Estrogen Metabolites

- 2-OH-E1
- 2-OH-E2
- 4-OH-E1
- 4-OH-E1
- 16-OH-E1
- 2-methoxy-E1

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Cortisol

- Diurnal free cortisol
- Diurnal free cortisone
- 24hr free cortisol
- 24hr free cortisone
- CAR (saliva)

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Estrogens

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- E2 (estradiol)
- E3 (estriol)

Cortisol Metabolites

- a-THF
- b-THF
- b-THE
- Metabolized Cortisol (THE + THF)

Estrogen Metabolites

- 2-OH-E1
- 2-OH-E2
- 4-OH-E1
- 4-OH-E1
- 16-OH-E1
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- b-THF
- b-THE
- Metabolized Cortisol (THE + THF)

Nutritional Organic Acids

- Vitamin B12 marker
- Two vitamin B6 markers
- Biotin marker
- Glutathione marker
- Gut dysbiosis marker

But Also:

Androgens

- Testosterone
- Total DHEA
- DHEA-S

Progesterone Metabolites

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Cortisol Metabolites

- a-THF
- b-THF
- b-THE
- Metabolized Cortisol (THE + THF)

Neuro-related Markers

- Dopamine marker
- Norepinephrine & Epinephrine marker
- Neuroinflammation marker

Estrogen Metabolites

- 2-OH-E1
- 2-OH-E2
- 4-OH-E1
- 4-OH-E1
- 16-OH-E1
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But Also:

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Cortisol

- Diurnal free cortisol
- Diurnal free cortisone
- 24hr free cortisol
- 24hr free cortisone
- CAR (saliva)

Cortisol Metabolites

- a-THF
- b-THF
- b-THE
- Metabolized Cortisol (THE + THF)

Nutritional Organic Acids

- Vitamin B12 marker
- Two vitamin B6 markers
- Biotin marker
- Glutathione marker
- Gut dysbiosis marker

Neuro-related Markers

- Dopamine marker
- Norepinephrine & Epinephrine marker
- Neuroinflammation marker

Additional Markers

- Melatonin marker
- DNA damage marker

What Makes DUTCH Testing Unique?

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1. More in-depth look into sex hormones

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2. More in-depth look into cortisol

What Makes DUTCH Testing Unique?

1. More in-depth look into sex hormones
2. More in-depth look into cortisol
3. Includes organic acids, an added value

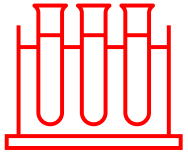
What Makes DUTCH Testing Unique?

1. More in-depth look into sex hormones
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3. Includes organic acids, an added value
4. Convenient at-home collection

What Makes DUTCH Testing Unique?

1. More in-depth look into sex hormones
2. More in-depth look into cortisol
3. Includes organic acids, an added value
4. Convenient at-home collection
5. Accurate and precise testing methods

#1 DUTCH Offers a More In-Depth Look at Sex Hormones



Common **serum** (blood) tests:

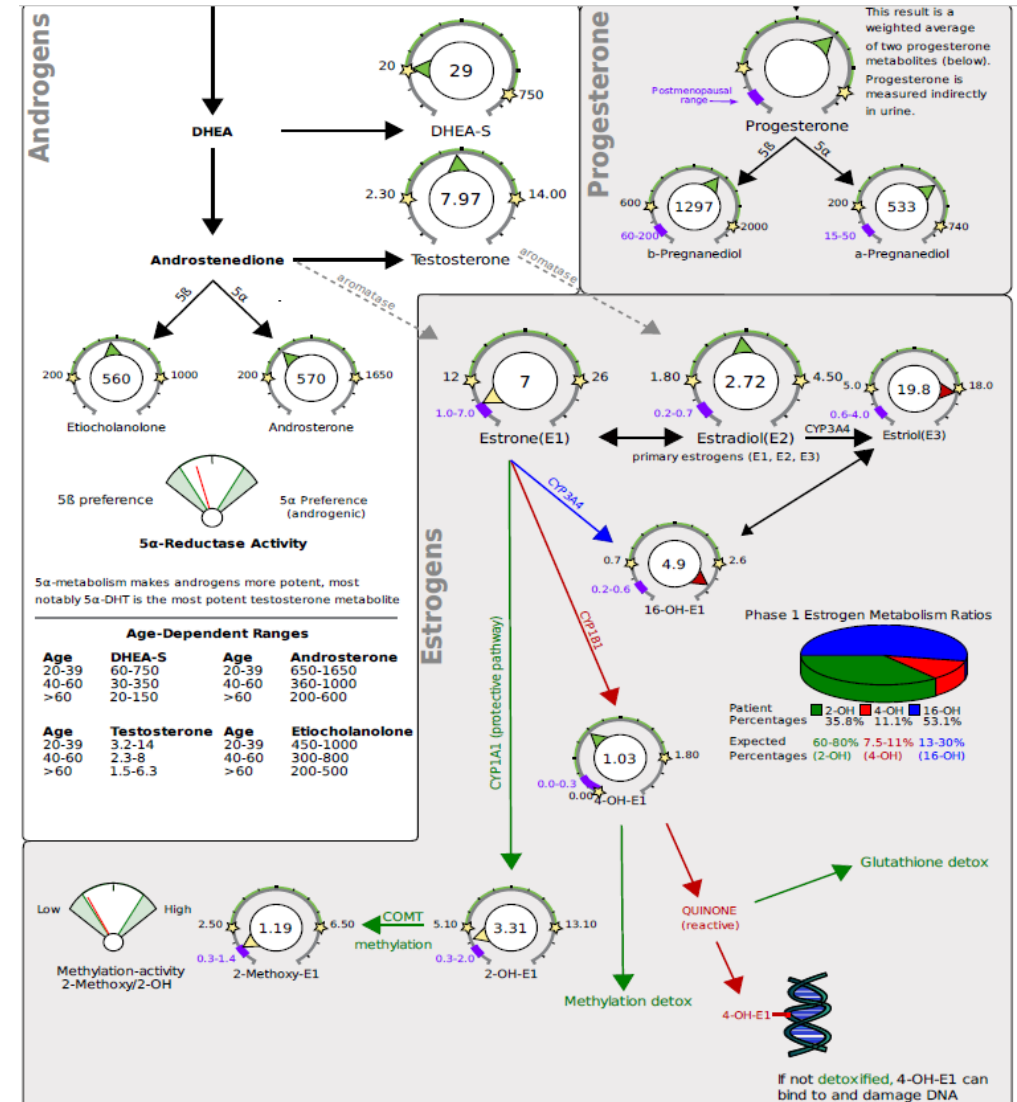
- Total testosterone
- Free testosterone
- DHEA-S
- Estradiol (E2)
- Progesterone



DUTCH sex hormone markers:

- Testosterone
- 5a-DHT
- 5a-androstanediol
- 5b-androstanediol
- DHEA-S
- Total DHEA
- Etiocholanolone
- Androsterone
- Epi-testosterone
- a-pregnanediol
- b-pregnanediol
- Estrone (E1)
- Estradiol (E2)
- Estriol (E3)
- 2-OH-E1
- 2-OH-E2
- 4-OH-E1
- 4-OH-E2
- 16-OH-E1
- 2-methoxy-E1

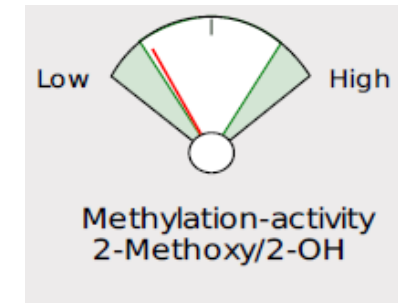
The DUTCH Test measures downstream hormone metabolites that can help us understand the bigger picture!



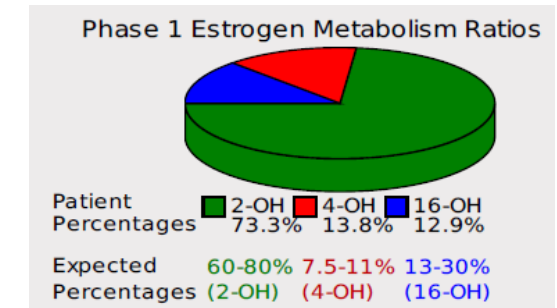
For Example:



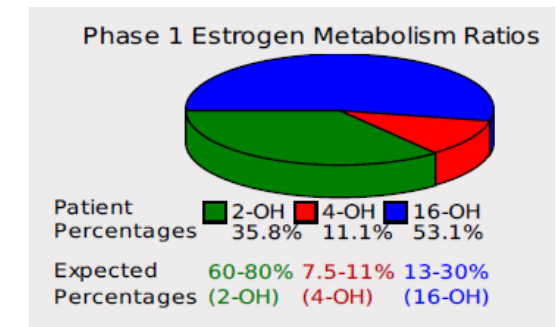
Not clearing estrogen out well? Poor phase 2 methylation activity can contribute to a person's symptoms of estrogen excess, such as PMS and breast tenderness.



Pushing too much estrogen into the *carcinogenic* 4-OH metabolites? This might increase the person's risk for certain cancers (breast, uterine, prostate cancers, etc.)



Pushing too much estrogen into the 16-OH-E1 metabolite that is known to cause *tissue proliferation*? This may worsen a person's heavy bleeding and breast tenderness.

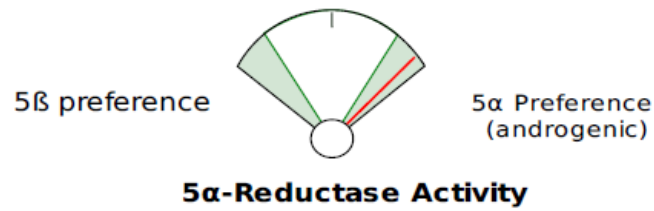


More Examples:



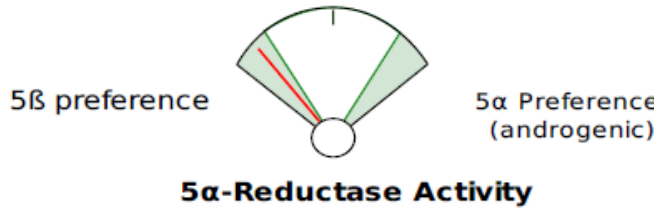
Is testosterone within range on blood and urine testing, however its more potent, more biologically active downstream *alpha* metabolites are above range? No wonder the person is struggling with acne and hair loss!

Testosterone	Within range
5a-DHT	High end of range
5a-Androstanediol	Above range
5b-Androstanediol	Below range



Conversely, is testosterone within range on blood and urine testing, however its more potent, more biologically active downstream *alpha* metabolites are below range? This might contribute to a person's fatigue, low mood, and inability to build muscle mass.

Testosterone	Within range
5a-DHT	Below range
5a-Androstanediol	Below range
5b-Androstanediol	Within range



#2 DUTCH Offers a More In-Depth Look at Cortisol

Other tests:

- Diurnal pattern of cortisol
- Cortisol awakening response (CAR) (saliva)



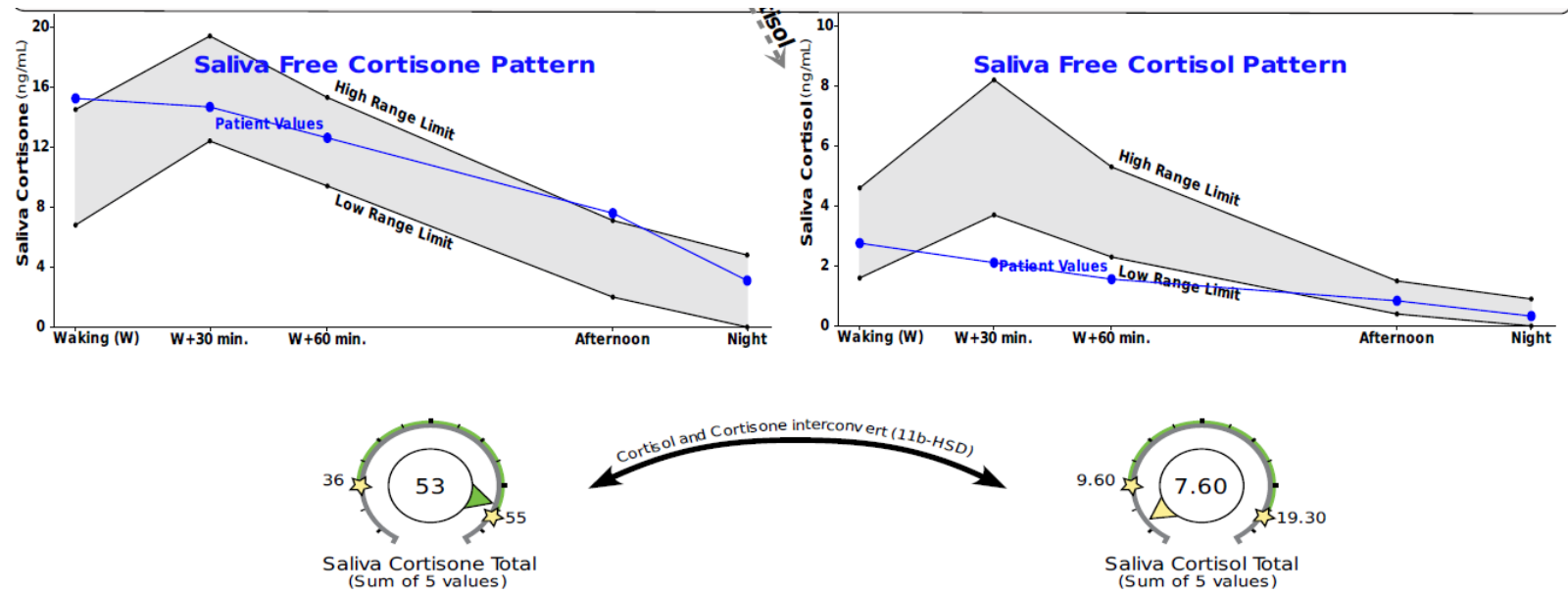
DUTCH cortisol markers:

- Diurnal pattern of cortisol
- Diurnal pattern of cortisone
- Cortisol awakening response (CAR) (saliva)
- a-THF
- b-THF
- b-THE
- Metabolized cortisol

For Example:

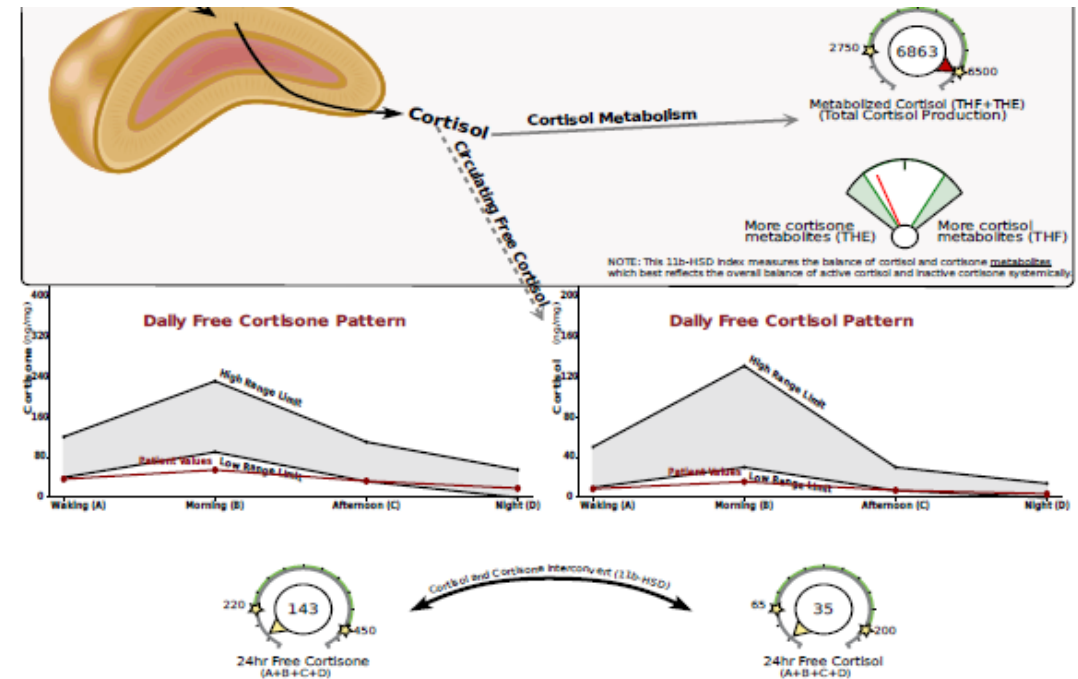
The DUTCH Test not only measures the diurnal pattern of *active free cortisol*, but it also measures the diurnal pattern of *inactive free cortisone*. It turns out that without the free cortisone data, we may not be getting the full picture of active cortisol levels in circulation!

In this example, by looking at the free cortisone pattern (left graph) we can tell that free cortisol in circulation may not be as low as what is depicted by the free cortisol pattern (right graph).



Another Example:

- The DUTCH Test not only measures the diurnal patterns of cortisol, but it also measures cortisol metabolites, termed “metabolized cortisol.” Metabolized cortisol can give us a better idea of total cortisol production by the adrenal glands.
- In this example, if we only looked at the diurnal patterns of free cortisol and cortisone, we might assume that the adrenals are not producing much cortisol. However, the metabolized cortisol tells us a different story: the adrenals are actually producing a lot of cortisol! Sometimes we see this in hyperthyroidism when the body metabolizes and clears out cortisol quickly.



#3 DUTCH Includes Organic Acids: An Added Value

The DUTCH Test includes additional markers that can illuminate other contributing factors to a person's symptoms.

In this example, a 29-year-old female with high estrogen complains of heavy bleeding, cramping and hair loss. By looking at her organic acids profile, we can see that low vitamins B12 and B6 may be slowing the detoxification of her estrogens. Moreover, low biotin may be contributing to her hair loss.

Category	Test	Result	Units	Normal Range
Nutritional Organic Acids				
Vitamin B12 Marker (may be deficient if high) - (Urine)				
	Methylmalonate (MMA)	High end of range	2.3	ug/mg 0 - 2.5
Vitamin B6 Markers (may be deficient if high) - (Urine)				
	Xanthurenate	Above range	1.72	ug/mg 0.12 - 1.2
	Kynurenate	Above range	6.27	ug/mg 0.8 - 4.5
Glutathione Marker (may be deficient if low or high) - (Urine)				
	Pyroglutamate	Within range	50.0	ug/mg 28 - 58
Biotin Marker (may be deficient if high) - (Urine)				
	b-Hydroxyisovalerate	Above range	13.1	ug/mg 0 - 12.5
Gut Marker (potential gut putrefaction or dysbiosis if high) - (Urine)				
	Indican	Within range	29.1	ug/mg 0 - 100
Neuro-related Markers				
Dopamine Metabolite - (Urine)				
	Homovanillate (HVA)	Within range	5.2	ug/mg 3 - 11
Norepinephrine/Epinephrine Metabolite - (Urine)				
	Vanilmandelate (VMA)	Within range	3.4	ug/mg 2.2 - 5.5
Neuroinflammation Marker - (Urine)				
	Quinolate	High end of range	8.8	ug/mg 0 - 9.6
Additional Markers				
Melatonin (*measured as 6-OH-Melatonin-Sulfate) - (Urine)				
	Melatonin* (Waking)	Low end of range	23.6	ng/mg 10 - 85
Oxidative Stress / DNA Damage, measured as 8-Hydroxy-2-deoxyguanosine (8-OHdG) - (Urine)				
	8-OHdG (Waking)	Within range	2.17	ng/mg 0 - 5.2

#4 DUTCH Offers Convenient At-Home Collection

The urine and saliva samples are easy to collect from the comfort of one's home.



www.unsplash.com

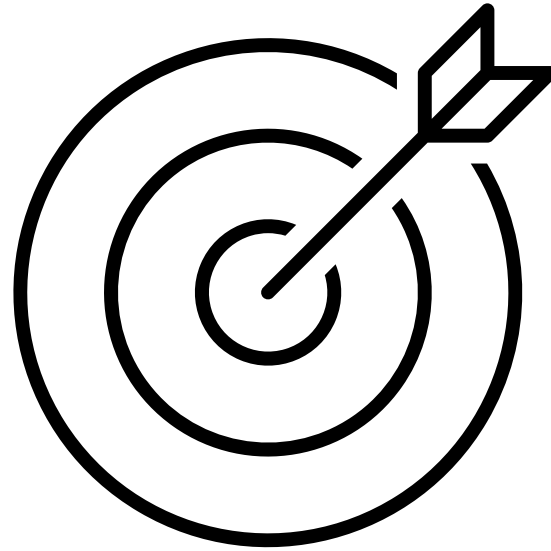
No having to drive to a lab and endure a needle puncture during a blood draw!



www.unsplash.com

#5 DUTCH Offers Accurate and Precise Testing Methods

Our lab uses highly sensitive instruments to measure analytes in the urine and saliva via liquid and gas chromatography-mass spectrometry. This equates to **more accurate and precise results than a standard immunoassay!**



Who Might Benefit from The DUTCH Test?

Anyone With Any Of The Following Complaints Might Benefit From DUTCH Testing:

- Acne
- Amenorrhea
- Anxiety
- Brain fog
- Breast cancer risk
- Breast tenderness
- Chronic pain
- Cramping
- Cycle irregularities
- Cysts
- Depression
- Dysmenorrhea
- Dyspareunia
- Endometriosis
- Erectle issues
- Excessive body hair
- Excessive facial hair
- Exercise endurance
- Exercise intolerance
- Fatigue
- Fibroids
- Hair loss
- Heavy bleeding
- Hirsutism



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- Hot flashes
- Impotence
- Insomnia
- Irritability
- Long cycles
- Low motivation
- Luteal phase defect
- Mastalgia
- Menorrhagia
- Moodiness
- Obesity
- Osteoporosis
- Overweight
- Pain with sex
- Panic attacks
- PCOS
- Pelvic pain
- PMDD
- PMS
- Poor cognition
- Poor muscle mass
- Short cycles
- Vaginal dryness
- Weight gain

Thank You!

If you are interested in learning more about hormones, each week we hold one-hour long mentorship sessions! Once you are a registered DUTCH provider, you can book these through our online scheduling link. Please call to get registered today.

For questions, contact:

info@dutchtest.com

(503) 687-2050

www.dutchtest.com

