dutchcases

DISCLAIMER

Please be aware that different healthcare providers may have varying approaches to lab testing and interpretation. The selection of specific tests, methodologies, and treatment recommendations can differ based on the provider’s training, experience, and the individual needs of the patient. Providers should always use their best clinical judgment when making decisions for patient care.

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dutch cases

Case 7: Shreya

Perimenopause Evaluation

Case 7: Shreya, a 47-yo Female in Early Perimenopause

Chief Complaints

- Short cycles (11-21 days)
- Breast tenderness
- Heavy bleeding
- Frequent waking at night
- Fatigue
- Anxiety

PMHx

- Cycles were regular (26-28 days) until ~2 years ago
- Has struggled with anxiety and sleep issues since her teenage years
- 1-2 alcoholic drinks 4x weekly

Medications

- Melatonin 2 mg for sleep
- Iron bisglycinate 65mg daily

Physical Exam

- 5’6”; 141 lbs.; BMI 22.8
- BP 122/78 mm Hg
- Pulse 82

Pertinent Serum Labs

- Iron deficiency anemia
- FSH (day 3): 15 mIU/L

Case 7: Shreya, a 47-yo Female in Early Perimenopause

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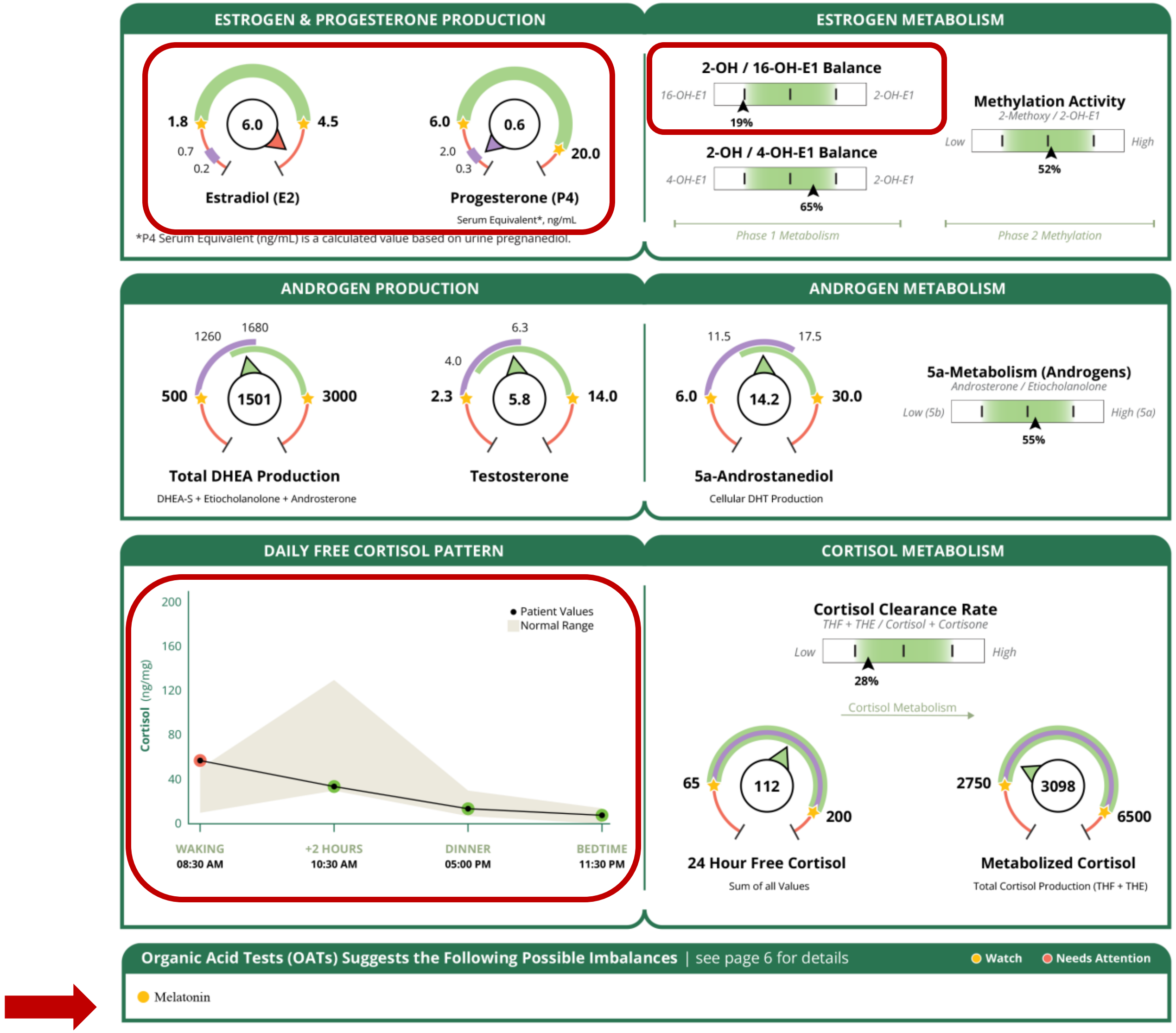

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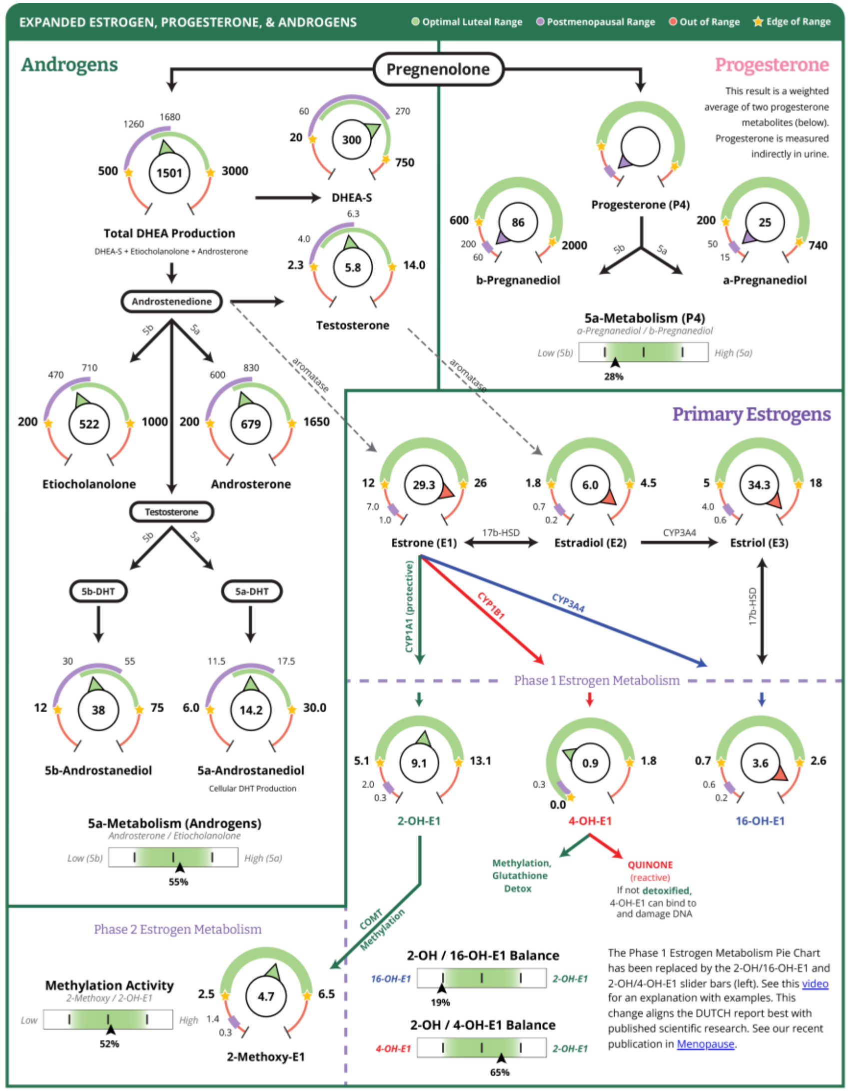


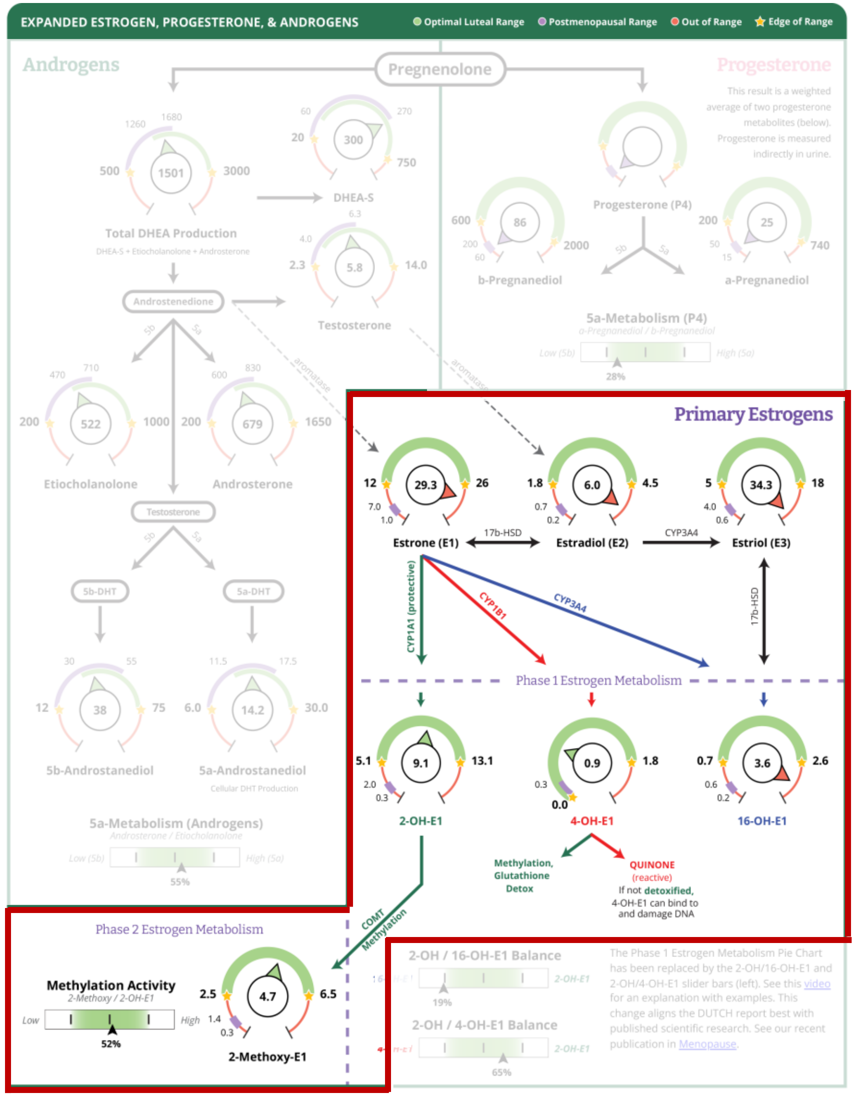
Sex Hormones & Metabolites

TEST		RESULT	UNITS	LUTEAL*	POSTMENOPAUSAL
Progesterone Metabolites (Urine)					
b-Pregnanediol	Below luteal range	85.7	ng/mg	600 - 2000	60 - 200
a-Pregnanediol	Below luteal range	24.5	ng/mg	200 - 740	15 - 50
Estrogens and Metabolites (Urine)					
Estrone (E1)	Above luteal range	29.34	ng/mg	12 - 26	1.0 - 7.0
Estradiol (E2)	Above luteal range	6.02	ng/mg	1.8 - 4.5	0.2 - 0.7
Estriol (E3)	Above luteal range	34.3	ng/mg	5 - 18	0.6 - 4.0
2-OH-E1	Within luteal range	9.14	ng/mg	5.1 - 13.1	0.3 - 2.0
4-OH-E1	Within luteal range	0.87	ng/mg	0 - 1.8	0 - 0.3
16-OH-E1	Above luteal range	3.55	ng/mg	0.7 - 2.6	0.2 - 0.6
2-Methoxy-E1	Within luteal range	4.66	ng/mg	2.5 - 6.5	0.3 - 1.4
2-OH-E2	Within luteal range	1.09	ng/mg	0 - 3.1	0 - 0.52
4-OH-E2	Within luteal range	0.31	ng/mg	0 - 0.52	0 - 0.12
Total Estrogen	Above range	89.3	ng/mg	35 - 70	3.5 - 15
Metabolite Ratios (Urine)					
2-OH / 16-OH-E1 Balance	Below range	2.57	ratio	2.69 - 11.83	
2-OH / 4-OH-E1 Balance	Within range	10.51	ratio	5.4 - 12.62	
2-Methoxy / 2-OH Balance	Within range	0.51	ratio	0.39 - 0.67	
Androgens and Metabolites (Urine)				**Range**	
DHEA-S	Within range	299.9	ng/mg	20 - 750	
Androsterone	Within range	678.8	ng/mg	200 - 1650	
Etiocholanolone	Within range	522.1	ng/mg	200 - 1000	
Testosterone	Within range	5.80	ng/mg	2.3 - 14	
5a-DHT	Within range	4.6	ng/mg	0 - 6.6	
5a-Androstanediol	Within range	14.2	ng/mg	6 - 30	
5b-Androstanediol	Within range	37.6	ng/mg	12 - 75	
Epi-Testosterone	Within range	12.4	ng/mg	2.3 - 14	

* The Luteal Range represents the expected premenopausal luteal range, collected menstrual cycle days 19-22 of a 28-day cycle. If your patient noted taking oral progesterone, the reference range represents the expected range on 100 - 200 mg of oral micronized progesterone (OMP). The ranges in the table below represent ranges in other times of the cycle your patient may have collected, such as follicular or ovulatory phases.

ADDITIONAL NORMAL RANGES	FOLLICULAR	OVULATORY	ON ORAL PG
b-Pregnanediol	100 - 300	100 - 300	2000 - 9000
a-Pregnanediol	25 - 100	25 - 100	580 - 3000
Estrone (E1)	4.0 - 12.0	22 - 68	N/A
Estradiol (E2)	1.0 - 2.0	4.0 - 12.0	N/A

Case 7: Shreya, a 47-yo Female in Early Perimenopause



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5a-Androstanediol	Within range	14.2	ng/mg	6 - 30	
5b-Androstanediol	Within range	37.6	ng/mg	12 - 75	
Epi-Testosterone	Within range	12.4	ng/mg	2.3 - 14	

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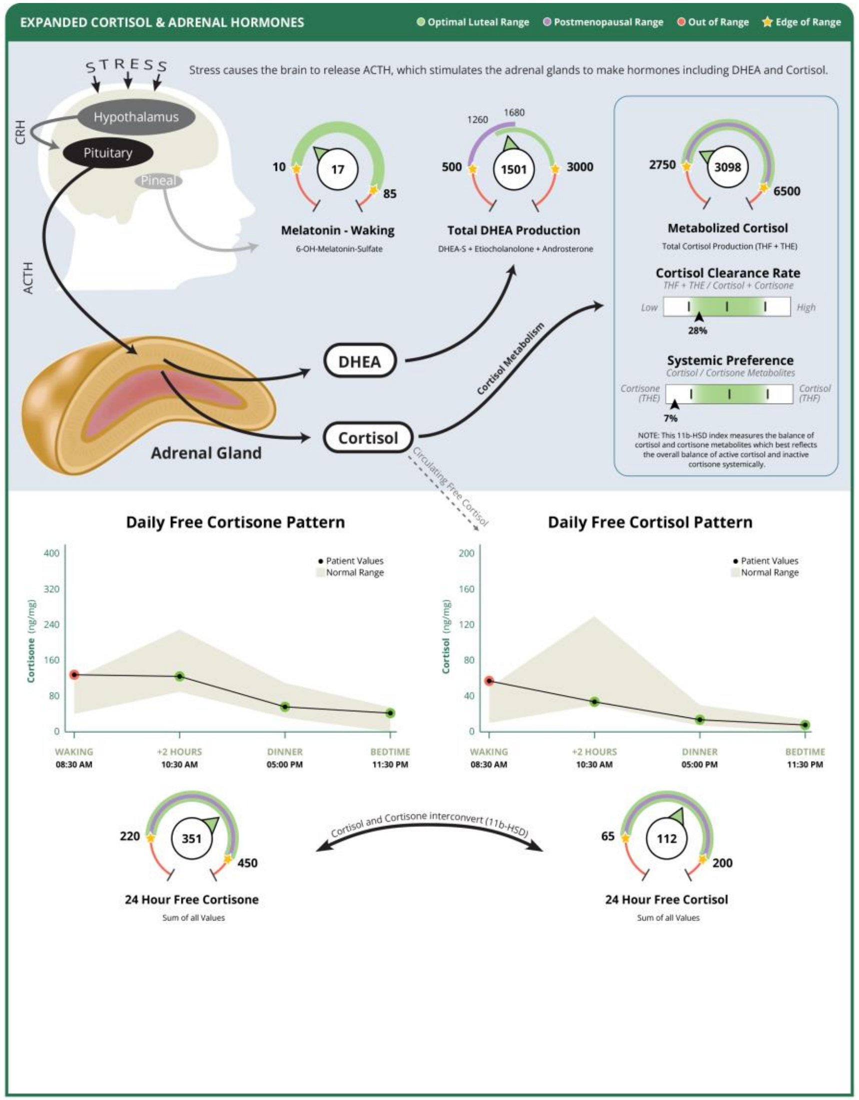
Case 7: Shreya, a 47-yo Female in Early Perimenopause



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	1.8	ug/mg	0 - 2.5
Vitamin B6 Markers - May be deficient if high				
Xanthurenate	Within range	0.87	ug/mg	0.12 - 1.2
Kynurenate	Within range	3.2	ug/mg	0.8 - 4.5
Biotin Marker - May be deficient if high				
b-Hydroxyisovalerate	Within range	6.5	ug/mg	0 - 12.5
Glutathione Marker - May be deficient if high				
Pyroglutamate	Within range	39.3	ug/mg	28 - 58
Gut Marker - Potential gut putrefaction or dysbiosis if high				
Indican	Within range	71.8	ug/mg	0 - 100
Neuro-Related Markers (Urine)				
Dopamine Metabolite				
Homovanillate (HVA)	Within range	6.1	ug/mg	3 - 11
Norepinephrine/Epinephrine Metabolite				
Vanilmandelate (VMA)	Within range	3.4	ug/mg	2.2 - 5.5
Neuroinflammation Marker				
Quinolinate	Within range	4.5	ug/mg	0 - 9.6
Additional Markers (Urine)				
Melatonin - Waking				
6-OH-Melatonin-Sulfate	Low end of range	16.7	ng/mg	10 - 85
Oxidative Stress / DNA Damage				
8-Hydroxy-2-deoxyguanosine (8-OHdG)	Within range	2.8	ng/mg	0 - 5.2

Case 7: Shreya, a 47-yo Female in Early Perimenopause

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Neuro-Related Markers (Urine)				
Dopamine Metabolite				
Homovanillate (HVA)	Within range	6.1	ug/mg	3 - 11
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Case 7: Shreya, a 47-yo Female in Early Perimenopause

Goals of Treatment:

DUTCH Test Goals

- Lower estrogen
- Improve 2-OH/16-OH balance **& increase phase 1 estrogen clearance**
- Support progesterone
- Lower high overnight cortisol
- **Support optimal Systemic Preference (THE vs THF)**
- Support melatonin

Blood Lab Goals

- Increase iron/ferritin and improve anemia

Lifestyle Goals

- Reduce anxiety/stress & support sleep and circadian rhythm

HPO Axis Support for Low P4 & High E *Pages 8, 14*	**HPA Axis Support** *Pages 34, 36, 37*
Mood & Cognition Support *Page 57*	**Sleep & Stress Support** *Page 60-63*
Melatonin Support *Page 47*	**Estrogen Detox** *Pages 28, 29*
THE (Cortisone) Preference Support *Page 38*	**Estrogen Detox** Is DIM an appropriate treatment?

HPO Axis Support · HPA Axis Support · Other Hormone support · OATs Support · Symptom Support · Detox Support · Lifestyle Support · Other Support

Case 7: Shreya, a 47-yo Female in Early Perimenopause

Sample Treatment Options:

Medications

- **Consider** oral micronized progesterone (OMP) at bedtime for 12-14 consecutive days each month
  - **To calm the nervous system and improve anxiety and sleep**

Supplements

- **Consider** DIM 100 mg po twice daily
  - **To improve 2/16 balance**
  - **To speed up phase I estrogen detox**
- **Consider** calming supplement 30 minutes prior to bedtime that includes one or more of the following: magnolia, valerian, passionflower, L-theanine, GABA
  - **To improve chronic sleep/anxiety issues and Systemic Preference**
- **Consider continuing** iron bisglycinate 65mg daily
- **Melatonin** 2 mg at bedtime

Diet

- **Consider** increasing cruciferous vegetables, ground flaxseeds, soy (organic tempeh/tofu/edamame)
  - **To improve the 2/16 balance and lower estrogen levels/activity**
- **Consider** trial of no alcohol x 30 days
  - **To improve sleep quality, improve the 2/16 balance and lower estrogen levels**

Lifestyle

- **Consider** dimming household lights 1-2 hours prior to bedtime and keeping bedroom cool while sleeping (60-67 deg F)
  - **To improve sleep quality**

Referrals

- **Consider referral** for Emotional Freedom Technique (EFT) "Tapping" practitioner
  - **To improve anxiety**

■ **DUTCH Dozen** ■ **Advanced Insights**

Polling Question

Polling Question:

What was the key finding that influenced your treatment plan the most?

A. Low progesterone

B. High estrogen

C. High night cortisol

D. Low melatonin

Polling Question

Polling Question:

What if Shreya had long cycles (70-90 days in length)? Would you still use DIM?

A. Yes, everyday

B. Yes, but not everyday

C. No

1. How do you know your treatment plan is working?

2. When would you retest?

3. Which DUTCH panel would you order?

Thank You!

DUTCH Fest 2026

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