



dutch cases

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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Case 2: Emma

Menopause

Case 2: Emma, a 51 yo Female in Early Menopause

Chief Complaints:

- Hot flashes
- Insomnia
- Weight gain
- Vaginal dryness
- Frequent UTIs

PMHx

- Intact uterus
- Menopausal x 1 year
- Metabolic disease & insulin resistance

Medications & Supplements

- Melatonin 5 mg at bedtime
- Occasional ibuprofen for joint stiffness

Physical Exam

- 5'5", 176 lbs., BMI: 29.3
- BP: 138/82 mm Hg
- Pulse: 78 bpm

Pertinent Serum labs

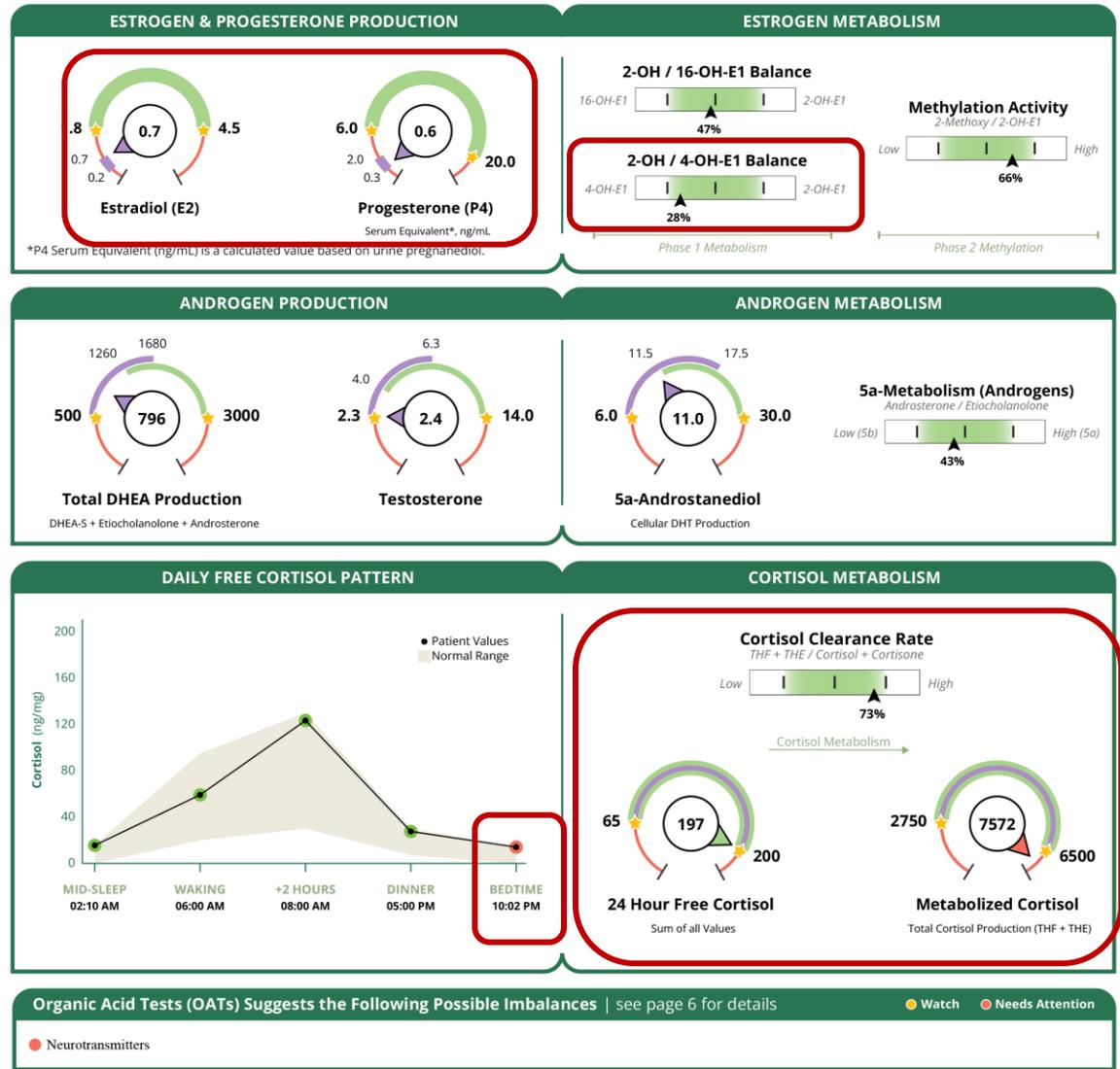
- Fasting glucose: 104 mg/dL **(H)**
- Fasting insulin: 14 μ U/mL **(H)**
- Triglycerides: 178 **(H)**



Case 2: Emma, a 51 yo Female in Early Menopause

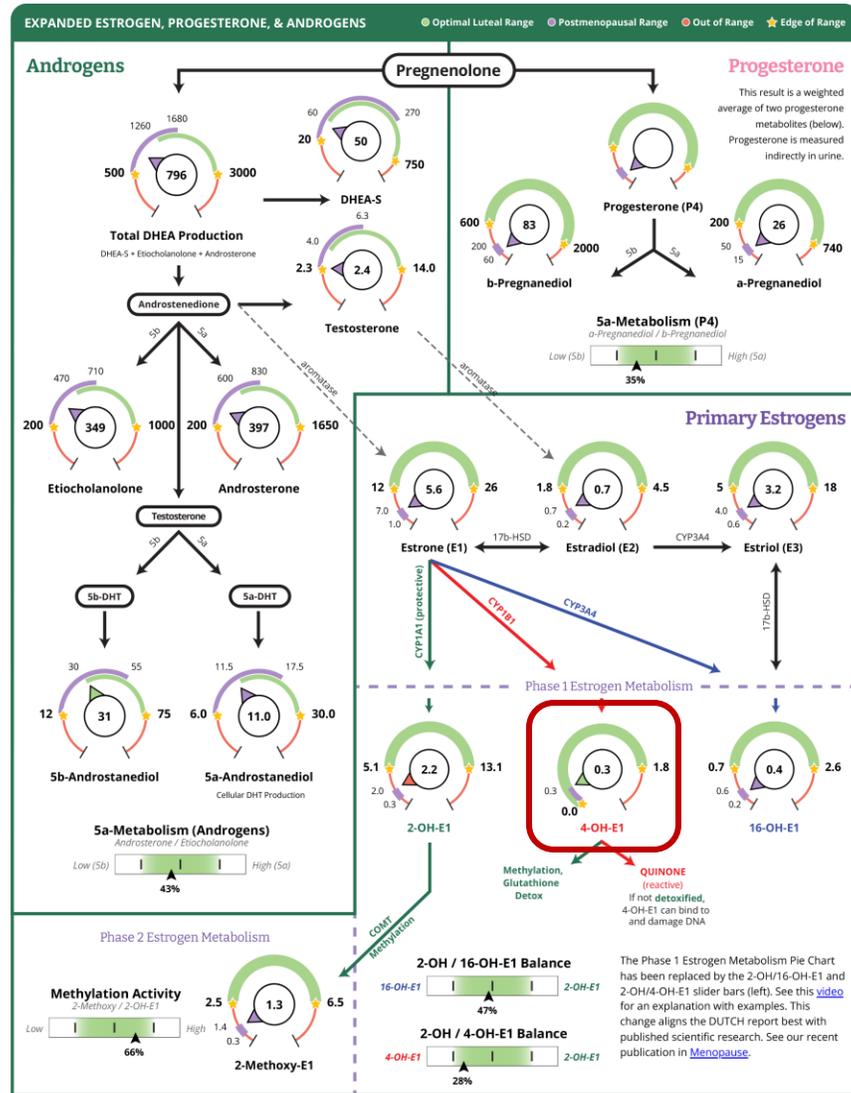


Case 2: Emma, a 51 yo Female in Early Menopause





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Sex Hormones & Metabolites

TEST	RESULT	UNITS	LUTEAL*	POSTMENOPAUSAL
Progesterone Metabolites (Urine)				
b-Pregnanediol	Below luteal range	83.1	ng/mg	600 - 2000
a-Pregnanediol	Below luteal range	26.0	ng/mg	200 - 740
Estrogens and Metabolites (Urine)				
Estrone (E1)	Below luteal range	5.58	ng/mg	12 - 26
Estradiol (E2)	Below luteal range	0.70	ng/mg	1.8 - 4.5
Estriol (E3)	Below luteal range	3.2	ng/mg	5 - 18
2-OH-E1	Below luteal range	2.16	ng/mg	5.1 - 13.1
4-OH-E1	Within luteal range	0.32	ng/mg	0 - 1.8
16-OH-E1	Below luteal range	0.37	ng/mg	0.7 - 2.6
2-Methoxy-E1	Below luteal range	1.25	ng/mg	2.5 - 6.5
2-OH-E2	Within luteal range	0.67	ng/mg	0 - 3.1
4-OH-E2	Within luteal range	0.09	ng/mg	0 - 0.52
Total Estrogen	Below range	14.3	ng/mg	35 - 70
Metabolite Ratios (Urine)				
2-OH / 16-OH-E1 Balance	Within range	5.84	ratio	2.69 - 11.83
2-OH / 4-OH-E1 Balance	Within range	6.75	ratio	5.4 - 12.62
2-Methoxy / 2-OH Balance	Within range	0.58	ratio	0.39 - 0.67
Androgens and Metabolites (Urine) Range				
DHEA-S	Within range	49.8	ng/mg	20 - 750
Androsterone	Within range	396.8	ng/mg	200 - 1650
Etiocholanolone	Within range	349.1	ng/mg	200 - 1000
Testosterone	Within range	2.43	ng/mg	2.3 - 14
5a-DHT	Within range	0.8	ng/mg	0 - 6.6
5a-Androstenediol	Within range	11.0	ng/mg	6 - 30
5b-Androstenediol	Within range	30.9	ng/mg	12 - 75
Epi-Testosterone	Below range	1.8	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

d Case 2: Emma, a 51 yo Female in Early Menopause

Goals of Treatment

DUTCH Test Goals

- Support estrogen and progesterone
- Improve 2-OH/4-OH balance
- Decrease bedtime free cortisol
- Lower Metabolized Cortisol & CCR

Blood Lab Goals

- Lower fasting glucose and insulin
- Lower triglycerides
- Normalize blood pressure

Lifestyle Goals

- Support sleep
- Weight loss-oriented diet

Treatment Guide Key:

Phytoestrogens <i>Page 59</i> Estrogen Therapy <i>Page 72</i>	HPA Axis Support <i>Pages 34, 36, 37</i> Fast CCR Support <i>Page 39</i>
Hot Flash & Vaginal Dryness Support <i>Page 13</i>	Sleep & Stress Support <i>Page 60-63</i>
Estrogen Detox <i>Pages 28-31</i>	Neurotransmitter Support <i>Page 46</i>

What is your treatment plan?



Treatment Options:

Medications

- **Consider** transdermal estradiol patch and oral micronized progesterone (OMP) at bedtime
 - **To support estrogen and improve hot flashes, insomnia, weight gain**
 - **To support progesterone and improve insomnia, hot flashes; uterine protection**
- **Consider** low-dose vaginal estradiol
 - **To support estrogen locally, improve vaginal dryness, and lower incidence of UTIs**

Supplements

- **Consider continuing** 5 mg melatonin 1-hr before bed

Diet

- **Consider** protein-forward meals (e.g., 30g per meal)
- **Consider** Mediterranean-style fats and fiber-rich carbohydrates
 - **To encourage weight-loss, regulate blood sugar, lower TGs, lower CCR, lower Metabolized Cortisol**

Lifestyle

- **Consider stopping** caffeine after 12 pm and avoid evening strenuous exercise
 - **To lower bedtime cortisol and improve sleep quality**

Referrals

- **Referral** Pelvic floor PT **for chronic UTIs**
- **Referral: HT-prescribing provider (if needed)**



Polling Question:

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

- A. PMP estrogen and progesterone
- B. High bedtime free cortisol and high-normal 24 hour free cortisol
- C. High-normal cortisol clearance rate (CCR)
- D. Neurotransmitter imbalance (high VMA)

- 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

