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Results For:

ePHP1 Expanded Postmenopause Panel TM

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Hormone	Result	Notes	Reference Ranges
DHEA - Dehydroepiandrosterone Free DHEA + DHEA-S pool	2	Depressed DHEA values may indicate a stressed maladapted adrenal axis.	Adults (M/F): 3-10 ng/ml
TTF - Testosterone	21	Elevated	Borderline: 5-7 pg/ml Normal: 8-20 pg/ml
E1 - Estrone	7	Depressed	Normal for Age 16-39: 30-58 pg/ml
E2 - Estradiol	15		Postmenopause-No HRT: 1-4 pg/ml HRT Target Range: 5-13 pg/ml Follicular: 5-13 pg/ml Luteal: 7-20 pg/ml
E3 - Estriol	9		Postmenopause-No HRT: 7-18 pg/ml HRT Target Range: 14-38 pg/ml Cycling Female: 12-25 pg/ml
P1 - Progesterone	249		HRT Target Range: 100-300 pg/ml Follicular: 20-100 pg/ml Luteal: 65-500 pg/ml
FSH - Follicle Stimulating H.	>750	Elevated	Premenopause: <125 uIU/mL Postmenopause: 90-500 uIU/mL
LH - Luteinizing Hormone	116		Premenopause: 8-30 uIU/mL HRT: 8-30 uIU/mL Postmenopause-No HRT: 25-200 uIU/mL

More interpretation and the action plan on following pages.

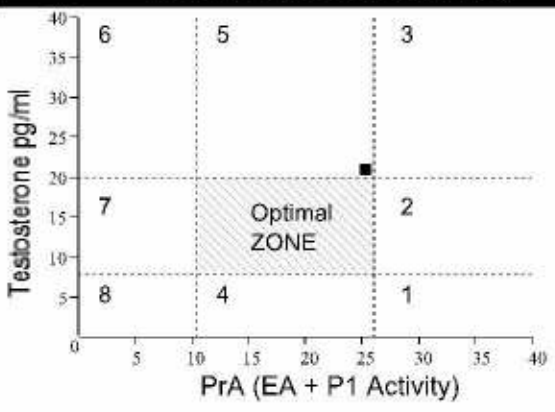
Diagnosis Code: Not Provided To The Lab.

Please Note: All examples of patient treatment or therapy are for illustrative and/or educational purpose. Use this report in context of the clinical picture and patient history before initiating hormone or other therapies or recommendations.

For post menopause women not using HRT expect them to fall within post menopause-No HRT range.

COURTESY INTERPRETATION/Technical support available upon request, to Physicians Only

Breast Proliferation Index (BPI)TM



Legend
 ■ Patient
 PrA - Proliferative Activity
 EA - Estrogenic Activity

- | | |
|----------------------------------|-------------------------------|
| 1. Enhanced Proliferation. | 5. Mild Androgen Dominance. |
| 2. High Proliferative Potential. | 6. Frank Androgen Excess. |
| 3. Hormone Overload. | 7. Female Hormone Deficit. |
| 4. Pro-Proliferative. | 8. Hypogonadism with Atrophy. |

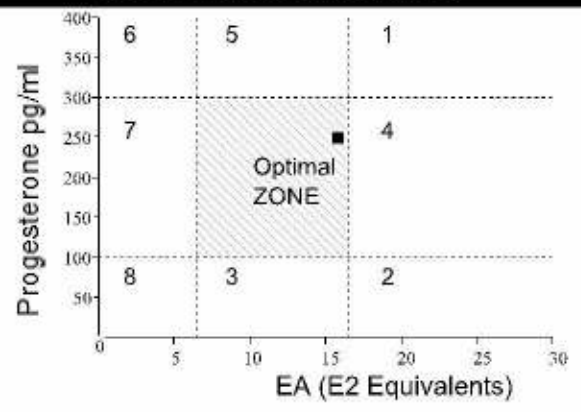
Your hormone values are in Zone 5.

Explanation:
ZONE 5: MILD ANDROGEN DOMINANCE
 Zone 5 represents a normal estrogen and progesterone activity coupled with a hyperphysiologic or elevated testosterone. Patients in this zone may experience side effects of high testosterone which include low fertility, acne, mildly aggressive behavior, over-achievement drive...

- What Next?**
- Rule out ovarian cysts that may be autonomous producers of excessive testosterone and estrogen.
 - Discontinue use of exogenous androgen hormones or precursor intake.
 - Increase soluble fiber intake to interrupt re-absorption of testosterone in the enterohepatic cycle.
 Example: 3-5 grams/day Guar gum or Pectin

- Typical Action Plan:**
- Start with avoiding intake of androgens and precursors.
 - Start a Liver Detoxification program if supplemental hormones are not used.
 - Supplement with soluble fiber.
 - Retest in 6 - 8 weeks and fine tune dosing.
 - Reduce fiber intake when testosterone normalizes.
 - If high testosterone persists, rule out ovarian cysts.
 - Retest in 4 - 6 months.
 - Follow up testing recommended annually.

Uterine Proliferation Index (UPI)TM



- | | |
|-----------------------------------|--------------------|
| 1. Enhanced Proliferation. | 5. Mild Imbalance. |
| 2. High Proliferative Potential. | 6. Pre-Atrophic. |
| 3. Potentially Proliferative. | 7. Pro-Atrophic. |
| 4. Accentuated Hormone Imbalance. | 8. Atrophic. |

Your hormone values are in the Optimal Zone.

Explanation:
OPTIMAL ZONE
 This zone indicates balanced estrogen and progesterone levels. Unless otherwise indicated on this report, patients in this zone are encouraged to maintain the current hormonal regime when applicable, and refrain from hormone supplementation. If patient is symptomatic further investigation is merited and should include an adrenal axis evaluation (e.g. Adrenal Stress Index profile).

**Need a more complete explanation of the Indexes?
 See respective sections on the following page.**

BREAST PROLIFERATION INDEX (BPI)

Explanation:

Several reproductive hormones exert trophic effects on the breast tissue i.e. cellular division and differentiation. **Unchecked trophic stimulation can lead to undesired proliferation of the tissue.** Over time, breast cysts, hyperplasia and lesions are promoted. Estradiol (E2), Estrone (E1) and Estriol (E3) in descending order of potency exert proliferative influences on breast tissue. **Progesterone also exerts a proliferative influence with increasing concentration.** On the other hand, testosterone, in the normal to mildly hyper-physiologic range, **exerts a significant estrogen antagonizing and anti-proliferative effect which modulates and reduces estrogenic proliferative effects.**

Note:

Chronic exposure to high concentration of proliferative hormones is usually required to promote the initial proliferative stages of estrogen-sensitive lesions. However, the maintenance of the lesions **may not require high concentrations** of proliferative hormones. This phenomenon explains the difficulties and prolonged time required to reverse tissue proliferation that has already taken place.

What does the BPI Index mean?

The **BPI** is a graphical comparison of the proliferative and anti-proliferative hormone activity of the patient. The combined proliferative activity of the three estrogens plus the concentration-dependent contribution of **progesterone** is represented on the **horizontal graph axis (X-axis)**. The **testosterone** anti-proliferative activity is represented on the **vertical axis (Y-axis)**.

The **BPI** graphic grid has 8 distinct numbered zones with an explanatory key below the graph. The patient values of E1, E2, E3, progesterone and testosterone are used to calculate indices and plotted as a solid square that appears one of the numbered zones.

UTERINE PROLIFERATION INDEX (UPI)

Explanation:

It is established that estrogens including Estradiol (E2), Estrone (E1) and Estriol (E3) in descending order of potency can **induce proliferative changes in the endometrium** at any age. Endometrial hyperplasia with rapid blood vessel formation is one of the major outcomes of estrogen hormone replacement therapy in postmenopausal women. On its own, the estrogen proliferative effect is additive and cumulative over time and is manifested clinically as breakthrough bleeding. Estrogens help organize and capacitate the endometrial cells to respond to progesterone-mediated functionalization with view of constructing an embryo-receptive lining.

Progesterone helps transform the rapidly growing cells into mature ones. It prevents the endometrium from rapidly outgrowing its developing blood supply. Progesterone inhibits uncontrolled endometrial cell growth that otherwise would lead to proliferative lesions.

What does the UPI Index mean?

The **UPI** is a graphical comparison of the correlation between the proliferative hormone activity (Measured Estrogenic Activity-EA) and the Anti-proliferative activity (Measured Progesterone levels). The EA takes into account the genomic and non-genomic proliferative activity of the three main estrogens. The EA is represented on the **horizontal axis (X-axis)**. The progesterone anti-proliferative activity is represented on the **vertical axis (Y-axis)**.

The **UPI** graphic grid has 8 distinct numbered zones with an explanatory key below the graph. The patient values of E1, E2, E3 and progesterone are used to calculate indices and appear as a solid square in one of the numbered zones.

Why Choose Grid Analysis over Hormone Ratios?

Proper hormone balance is not achieved at all concentrations. It is only achieved within matched physiologic concentration ranges of the respective hormones. The use of arithmetic ratios of sex hormone concentrations for the purpose of reference range analysis, as used by other laboratories, is usually deceiving. The absolute concentrations of the hormones are extremely important and are not included in arithmetic ratio analysis.

For more accuracy in interpretation, a two dimensional **Zoned Grid Method** is used in this report. **The following example** will illustrate the inadequacy of the arithmetic ratio method. At high concentrations of the respective hormones (**Zone 3** in the **BPI**, and **Zone 1** in the **UPI**), you may have a perfect arithmetic ratio between the estrogens and testosterone which other labs consider normal. However, the following adaptive processes may come into play:

- I. At high hormone concentrations, receptor involution takes place blocking the binding of hormone to receptors. This may lead to unpredictable or paradoxical effects.
- II. At high hormone concentrations there is receptor confusion, i.e. one hormone cross-reacts non-specifically with the receptors of another leading to unpredictable effects.
- III. At high concentrations certain hormones inhibit the synthesis of other antagonistic hormones, or promote the production of synergistic ones.