

# Bioidentical Hormones: One Size Does Not Fit All!

The severity of problems caused by the use of synthetic hormones led to a landmark decision in 2002 by the Women's Health Initiative (WHI), a long term health study of postmenopausal women. After discovering that instances of breast cancer, heart disease and osteoporosis increased with the use of medroxy progesterone and pregnant mare's urine conjugated estrogens, research was halted. Bioidentical hormones were brought into the spotlight after women sought a **safe alternative** for synthetic hormone replacement therapy.

The difference between bioidentical and synthetic hormones starts at the molecular level. Bioidentical hormones have the same chemical structure as hormones made by the human body, and can replicate the actions of those made naturally. Side effects and risk factors are minimized when your body recognizes its own molecular structure, fills its receptor sites efficiently, and can utilize, break down, and detoxify hormones effectively.

Bioidentical hormones can be tailored to match each individual's needs by a compounding pharmacist. Synthetic hormones, on the other hand, have an altered molecular structure that the body does not recognize completely, thus their actions are not straightforward and they are not detoxified from the body as easily. Side effects are common with these types of hormones because they are foreign to the body. Synthetic hormones are prescribed as a "one size fits all", and cannot be specifically made for an individual.

The individualized approach of bioidentical hormone treatment requires a saliva hormone test. This will measure only active (free/unbound) hormone levels unlike serum tests, which reflect inactive (total/bound) levels. **Measuring inactive hormone levels is not useful in assessing function or balance.** When testing the sex hormones through saliva, it is also important to assess adrenal status (DHEA and diurnal cortisol). Even if the chief complaints seem to be an imbalance of the sex hormones, the adrenal and sex hormone pathways are so closely linked that an imbalance in one area will affect the function and efficiency of the other.

The state of the art delivery system for bioidentical hormones is transdermal. **By applying hormone to the skin rather than ingesting it, the liver first-pass is averted, thus therapeutic levels can be reached with far less hormone.** Studies have shown that measurement of transdermal hormones is best done through saliva rather than serum. Overdosing of hormone supplementation is often seen when using serum to monitor topical hormones (often 4-5 times higher than is needed).

A good starting place for assessing hormonal status is to measure estradiol, progesterone, testosterone, DHEA, and morning cortisol. Remember: cortisol has a well established **24-hour diurnal rhythm**, and the time of day when this is measured will reveal unique aspects of one's health. If there are complaints of sleep disruptions, a night cortisol should also be performed, and if there are suspected metabolic and blood sugar dysregulations, all cortisol should be tested (morning, noon, evening and night).

## References

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