

# Estrogen and Testosterone Replacement for Women

## *“Why did we ever think that estrogen was healthy?”*

With all the negative press about hormone therapy ( HRT ), I am commonly asked how we ever imagined it was healthy. This is a fair question and the answer is revealing to the topic under discussion. For years, studies had accumulated demonstrating clear and multiple health benefits to women whose ovaries were producing sex hormones versus those who had stopped because of menopause or cessation of ovarian function due to disease, medications like chemotherapy, or surgical removal.

**These potential benefits included all of the following:**

- Healthier hair, nails and skin
- Healthier breast composition and configuration
- Improved cardiovascular disease risks (decreased stroke and heart attack)
- Decreased risk of developing Alzheimer’s
- Improved sexual functioning
- Correction of sleep disturbances, hot flashes and other symptoms of menopause
- Decreased risk of osteoporosis and related fractures
- Decrease in some common cancers

A brief perusal of this list emphasizes why physicians became so interested in the possible benefits of treating women with HRT . Some of the most common reasons for disability, placement in nursing homes and death are represented on the above list. Further, most of the impact noted in previous studies are based on generations whose life expectancy is significantly less than those of us presently middle aged or younger who are faced with deciding whether sex hormone therapy is for us. That is, whatever benefits existing in maintaining one’s sex hormones are likely to be dramatically greater than suggested by past data for those of us currently thinking about how to preserve our health in the future.

## *“What changed our minds about HRT ?”*

Most of us are now familiar with the fact that studies examining the effects of replacing ovarian sex hormones with certain forms of HRT have not yielded the positive results expected. In fact, studies examining the impact of HRT on the risks of stroke, heart attack, and Alzheimer’s disease have not been encouraging. There has been a lot of discussion in the press about HRT being proven to have an adverse effect on risks for stroke, heart attack and Alzheimer’s. Further, other recent studies seem to provide continued proof that whatever the benefits of HRT , they were associated with an increased risk of breast cancer in women. Finally, these studies also



suggested that women on HRT were at increased risk of deep vein clots (DVT) that sometimes break off (embolize), travel to the lungs and become life threatening. The outcomes of these studies have had a profound effect on hormone use in women with a marked drop in the number of women currently utilizing HRT .

*“Now we know better, right?”*

**WRONG!** It is important to review exactly what these studies “proved” in order to discuss their possible implications in regard to an accurate view of HRT . Consider the current conclusion by many within the medical profession, the press and the lay public that “ HRT has been proven unhealthy”. For this to be the appropriate conclusion, all the previous data mentioned above showing marked health benefits from natural ovarian production of sex hormones must have been based on flawed research studies. On the contrary, a review of these older studies does not support the conclusion that their positive results can be dismissed as erroneous conclusions from poorly conducted research. In point of fact, more recent studies examining the effects of a woman’s ovarian produced hormones continue to show the benefits noted in previous research. For example, an elegant study published a year ago examined the effects of estrogen produced by the ovaries on risk of atherosclerosis. The study demonstrated that the amount of estrogen produced by women with functioning ovaries was dramatically but inversely proportional to the amount of cardiovascular disease that they were exhibiting. That is, the more estrogen a woman’s ovary was producing the less atherosclerotic plaque existed in their coronary and carotid arteries.

Another pertinent question to ask at this point would be: “What exactly did the studies prove?” It should be remembered that the chemical structures of the hormones studied, the route by which they entered the blood stream, the way in which they were metabolized by the body, and the timing of their interaction with tissues were all significantly different from the way the ovary provides sex hormones to women naturally. Further, while there were some negative outcomes in these studies, they continued to show that women benefited from these replacement therapies in regard to osteoporosis and the risks of fractures as well as, in some cases, decreased risk of colon and ovarian cancer. Of course, they also continued to show that HRT made a marked improvement in many women’s quality of life by improving their hair, skin, nails, sleep, hot flashes, and sexual functioning.

In regard to the negative outcome themselves, a closer examination of the actual findings is also revealing. For example, in the widely quoted Women’s Health Initiative Study examining the effect of HRT on stroke risk in post menopausal women, they noted increased risk of stroke in the treatment group. The difference, in fact, was a 1.8% risk in the treatment group versus 1.3% in the non-treatment (placebo) group; a difference of 0.5%. However, presenting the data in this form is less impressive and lacks the shock value required by the press to sell their product. Hence, such data is usually presented in that form which creates the most frightening impression; in this case as a percentage of increased risk. In this study there was a 38% increased risk of stroke in patients on the treatment arm; this sounds much more frightening than looking at the actual number of patients affected. Negative effects of similar magnitude were shown on pulmonary embolus, stroke risk and coronary disease (heart attack) in women on hormone therapy. However, when this body of research data was re-analyzed examining women on estrogen alone versus those on estrogen plus progestin, the women on estrogen alone showed



no increased risk of cardiovascular disease. More surprisingly, the previously noted increased risk of breast cancer also appears to be associated mainly with the progestin plus estrogen group only. When the previously quoted studies were focused on breast cancer risks, the estrogen only group again showed little to no impact on these risks. Since then, another study has examined the effect of estrogen only treatment on breast cancer risks and failed to show any increased risk whatsoever. Interestingly, this data joined an increasing body of studies performed over the last ten years that have not shown increased risk of breast cancer recurrence in women treated with estrogen after curative treatment for breast cancer.

*“So is there any hope of ever getting the facts?”*

In fact, the scientific picture continues to grow in clarity and has only been made to appear “muddy” by manipulation of information by the press and reactionary and unscientific statements by some in the medical community. The large body of data from years of research study supporting the positive impact of natural, ovarian produced estrogen on cardiovascular health continues to grow. Since that data appears to be firm, what are we to make of the negative outcomes of recent HRT studies? The most logical conclusion is that there is a significant negative difference between the HRT regimens studied and the natural provision of such hormones by the body. To test this theory, one has only to glance at hormone regimens we have been using to confirm the likelihood of this hypothesis. In fact, when one realizes how markedly different these treatment regimens are compared to ovarian hormones and the way they are naturally produced, processed, and transported by the body, it is surprising that this was not the immediate, unanimous view expressed by the medical community instead of one that is slowly but surely gaining ground among experts. The regimens used in these studies utilized hormones of different chemical structure, length of tissue exposure, route of entry into the body, and manner of metabolism. It is known that any of these differences could have a major impact on the effect of these chemicals in the body. In regard to chemical structure, both the estrogens and/or progestins used in these studies were different chemically from that which is produced by the ovary. Typically, the estrogens were a combination of estrogens derived from horse urine (equine) and the progestin was a synthetic, very potent progestin known as medroxyprogesterone (MPA). The fact that they are chemically different does not guarantee they will act differently in the body, but the opposite assumption, that there will be no different and/or negative effects, is equally unscientific. As it turns out, as noted above, when progestin users were separated from those that were on estrogen only, nearly all of the negative outcomes in the studies turned out to be in those on MPA. Further, studies examining the effects of how hormones are delivered to the body’s tissues also appear to support the importance of mimicking the body’s natural way of functioning. Estrogens and progestins given orally produce large fluctuations in the blood stream over a 24 hour period and pass directly through the liver after being absorbed from the gut. The liver produces such things as clotting factors and your lipids, both of which have significant effect on cardiovascular risks. Importantly, recent studies that have looked at the cardiovascular effect of oral estrogen versus transdermal (absorbed through the skin) estrogen, which is delivered much more like the ovary delivers the estrogen naturally, have shown that the risk of deep vein clots is greater with oral estrogen. Additionally, the only study examining the effects of various delivery options of estrogen on bone mass demonstrated the largest improvements were achieved with subcutaneous pellet delivery, followed by transdermal delivery, with oral estrogen providing the least benefit. These results support the hypothesis that loss of positive health benefits reported in recent studies was secondary to differences between the hormone regimens used and the way your body produces and delivers them naturally. Finally, it should be noted that no studies have examined a regimen that delivers



estrogen, progestin, and testosterone, which is the mix delivered by your ovary. That is, there is no data supporting that such negative risks are associated by hormone treatment that mimics the body's own hormone balance. Interestingly, studies examining the effects of adding testosterone treatment have indicated potential improvements in abdominal fat, energy, sex drive, and mood, among other things.

*“So what do you advise now?”*

Though the above is a very brief discussion of this issue, it illustrates why there are a growing number of medical scientists who support the position that sex hormone therapy in women should be an individualized decision and made by patients who have a complete and balanced knowledge of the information available. Further, until more information is available, HRT treatment regimens are preferred that most closely approximate the body's natural production and delivery of estrogen, progesterone, and testosterone, since research data continued to overwhelmingly support the positive health effects and safety of such sex hormones.

*“How do I get started?”*

Schedule an initial consultation with my office staff which will include a thorough, appropriate history and examination followed by a plan of evaluation. This evaluation will include appropriate laboratory tests as well as other diagnostic tests depending on your clinical situation. You will need to provide the office staff with your previous medical records to insure that we do not unnecessarily repeat previously performed testing.

**Patients typically choose one of three treatment tracks with my practice:**

- Sex hormone therapy
- Sex hormone therapy plus other specialty consultation
- For those currently without a primary care physician, transferring responsibility for your complete primary care delivery to our office.

Whichever treatment you choose, we look forward to meeting you soon and serving you in achieving and maintaining a healthier lifestyle.