

### Menopause and Hormonal Imbalance

In the years leading up to menopause (perimenopause), menstrual cycles that may once have been like clockwork start to become erratic. Bleeding may be heavier or lighter than usual-although we are not officially in menopause until we have had 12 consecutive months without a period. Erratic cycles are a sign of erratic ovulation leading to highs and lows in estrogen and progesterone, an effect many women describe as an emotional roller coaster.

And don't let anyone tell you it's all in your head. When the ovaries begin to sputter, hormone production sputters and so do we...forgetfulness and foggy thinking, mental confusion and mood swings are hallmark symptoms for many women; as are hot flashes and night sweats, tearfulness, unwanted weight gain, thyroid problems and declining interest in sex, no matter how much we love our partner. Of course not all women experience these symptoms-as individuals we each have our very own biochemistry-but it is common to experience some degree of discomfort during the menopausal years. And the degree to which we experience discomfort is likely to be associated with the degree to which our hormones are out of balance.

If you are a woman experiencing menopausal symptoms, you will want to test at least two hormones: estradiol and progesterone. If you would like a more comprehensive picture, our five panel test measures estradiol, progesterone, testosterone, DHEAs and morning cortisol.

### The Anatomy of a Hot Flash

*Is it hot in here or is it just me?* – is a common refrain among the estimated 50 to 75 percent of women in the U.S. who experience hot flashes during menopause. Hot flashes can be very mild, or bad enough to have you opening every window in the house, even in the dead of winter. Also known as "vasomotor flushing," the hot flash occurs when the blood vessels in the skin of the head and neck open more widely than usual, allowing more blood to shift into the area, creating the heat and redness. Perspiration is also common to the phenomena and in some women the hot flash takes the form of a night sweat, followed by a chill that has one groping for the covers kicked to the floor just minutes earlier. It's usually over in seconds, and there's no telling when it will recur-maybe minutes, maybe hours-but it will be back. Triggered by falling estrogen and rising levels of follicle stimulating hormone, hot flashes arrive unannounced, and usually at a most inconvenient time-in the middle of a job interview, in the middle of an important speech, in the middle of the night. Besides hormonal changes, anxiety and tension magnify hot flashes and many women find that hot drinks and wine do the same.

Saliva testing identifies the degree to which the specific hormones linked to hot flashes are out-of-whack. Using test results as a guideline, natural hormone supplements can be prescribed to restore balance and cool the hot flashes. Many women also use phyto(plant)estrogens, such as Dong Quai and Black Cohosh; optimal nutrition and relaxation exercises for added relief. In most cases, hot flashes usually go away a year or two after actual menopause and the cessation of menses.

### "Tired but Wired" - Fatigue, Stress and Hormone Imbalance

Many people experience high levels of mental and emotional stress on a regular basis, which puts a significant strain on adrenal function. When stress is not well-managed, the ability of the adrenal glands to do their job becomes compromised. The adrenals normally secrete cortisol in response to stress, with exercise and excitement, and in reaction to low blood sugar. The body normally secretes the highest amount of cortisol in the morning to get us going, with levels decreasing throughout the day. People with adrenal imbalance will often have normal cortisol levels in the morning with below normal levels at other times during the day. If stress remains too high for a prolonged period, the adrenals can't keep up with demand and total cortisol output plummets, leading to adrenal exhaustion.

The hallmark symptoms of adrenal imbalance are stress and fatigue that is not alleviated with sleep-that "tired all the time" feeling. Other common symptoms include sleep disturbances, anxiety, depression, increased susceptibility to infections, reduced tolerance for stress, craving for sweets, allergies, chemical sensitivities and a tendency to feel cold.

Saliva testing charts the extent to which cortisol levels are out of balance, and can be used as part of a strategy that looks at the **whole** person and his or her lifestyle. It is helpful to work with a doctor who can design a complete program of hormone balance and then monitor your progress.

You can begin to support adrenal function on your own by avoiding hydrogenated fats, excess caffeine, refined carbohydrates, alcohol, and sugar. Get plenty of quality protein and eat regular meals of high nutritional value. Key to success is to discover and practice stress management in whatever form works for you personally. Take time out, evaluate the stressors in your life, and find ways of expressing yourself creatively. Get enough rest and sleep, and last but not least, keep a sense of humor!

### Low Sex Drive (Libido) and Hormone Imbalance

Estrogen, progesterone and testosterone are key players in the maintenance of circulation, nerve transmission and cell division, so an imbalance of these hormones can easily lead to changes in sexual response. Declining estrogen levels common to the menopausal years can dampen nerve impulses during sex, making us less sensitive to vibration and touch. And since estrogens increase blood flow to sexually sensitive areas, decreased levels can slow or diminish the arousal response. Imbalances of estrogen and testosterone can cause dryness and thinning of vaginal tissue making intercourse uncomfortable or downright painful-an effect that does absolutely nothing for libido.

Key to a normal sex drive is the right balance of estrogen to progesterone. An excess blocks thyroid function which inhibits libido. A balance stabilizes mood and supports thyroid function which enhances libido. Significantly, progesterone is also a precursor to estrogen and testosterone so we need it in steady supply for optimal sexual pleasure.

Testosterone and DHEA also have a major impact on sex drive. Levels gradually decline in the years leading to menopause and can drop dramatically with hysterectomy, chemotherapy, surgery and radiation. If you have a low libido and have lost interest in sex, saliva testing to measure levels of estradiol, progesterone, testosterone and DHEA-s can establish probable cause and a rationale for correcting the imbalance.

### Hormone Imbalance and PMS

PMS differs from all other disorders because the diagnosis does not depend on the type of symptoms you suffer from, but on the time when your symptoms appear and disappear. Dr. Katharina Dalton of the U.K., a leading specialist who first used the term "premenstrual syndrome" defines it as the presence of recurrent symptoms before menstruation with the complete absence of symptoms after menstruation. Doctors have identified at least 150 symptoms that occur in PMS but fortunately, because all of us are different, no one has all of them! Among the most common are bloating, headache, backaches, severe grouching, depression, breast tenderness, loss of libido and fatigue. Do these symptoms sound familiar? They are also the symptoms of estrogen dominance!

Katherine Dalton knew this back in the late 50s when she successfully pioneered the use of natural progesterone to balance estrogen in PMS patients. Over the years other U.S. physicians, like Dr. John Lee joined her in treating women this way. The great majority of patients report remarkable improvement in their PMS symptoms, including the elimination of premenstrual water retention and weight gain. Dr. Joel T. Hargrove of Vanderbilt University Medical Center published results indicating a 90 percent success rate in treating PMS with oral doses of natural progesterone. We know too, that topical progesterone creams are equally effective. This has to do with progesterone's potent balancing effect upon estrogen. Saliva testing can determine if your PMS is associated with estrogen dominance. Measure your saliva levels of estradiol and progesterone during days 19-21 of your cycle. A low progesterone/estradiol ratio on your test report indicates estrogen dominance and the likelihood of PMS symptoms. If this is the case, it is worthwhile to talk to your doctor about supplementing with natural progesterone to keep estrogen levels in check. To learn more read, [PMS: The Essential Guide to Treatment Options](#) by Dr. Katharina Dalton and [What Your Doctor May Not Tell You About Menopause](#), by Dr. John Lee.

### All About Natural (Bio-identical) Hormones

Natural or "bio-identical" hormones (BHRT) are synthesized from natural plant substances to be identical in structure and function to those our bodies produced naturally before menopause. When hormone production starts to drop below normal levels in the years leading up to menopause, natural hormones are the best and safest way for women to supplement. They are available through your doctor by prescription and tailored to meet individual need by a compounding pharmacist. Some natural hormones are available over-the-counter but it is always wise to do research first. Consult Dr. John Lee's books on premenopause and menopause for an approved list of creams.

Please note: Progesterone, **not progestin**, is the natural bio-identical form of the hormone as opposed to progestin, the synthetic version (the "pro" in Prempro). Natural progesterone is just like the progesterone your ovaries make; it is available in a topical cream, over-the counter, and by prescription when compounded with natural estrogens and other hormones by compounding pharmacists.

When hormone balance is restored and maintained using natural bioidentical hormones, there are far fewer side effects, symptoms and cancers as observed with synthetic HRT. Following natural physiology as closely as possible makes sense, because in a sense, natural hormones have undergone safety trials as long as humans have walked the earth.

### What is Progesterone and Why Do We Need It?

Progesterone can be thought of as a hormonal balancer, particularly when it comes to the estrogens. Progesterone is a steroid hormone made by the corpus luteum of the ovary at ovulation, and in smaller amounts by the adrenal glands. It is the precursor, or substance from which most of the other steroid hormones are derived, including cortisol, androstenedione, the estrogens and testosterone. Progesterone has a remarkable repertoire of important jobs from normalizing blood sugar levels and facilitating thyroid hormone action to regulating menstrual cycles and maintaining a healthy pregnancy. The survival of the embryo in the womb absolutely depends on this vital hormone. Progesterone also has natural calming and diuretic properties, and it enhances the positive effects of estrogen, while preventing the problems associated with estrogen dominance.

Unopposed estrogen can build to unsafe tissue levels that can lead to a strong risk for breast cancer and reproductive cancers. While estrogen levels drop only 40-60%, at menopause progesterone levels may drop to near zero in some women, resulting in estrogen dominance and the array of symptoms that go with it. Supplementation of natural bioidentical progesterone has been shown to restore hormonal balance, especially during perimenopause and menopause.

### Hormone Balance and Osteoporosis

Saliva testing can easily test for imbalances in each of the major hormones that have an impact upon bone health—particularly, testosterone, DHEA, cortisol, estrogen and progesterone. Bone is a hormonally sensitive tissue that is affected by age-related decline in production of these hormones. Many studies show as they age, both men and women begin to lose bone as the androgens—testosterone and DHEA—start to fall off. And when these hormones are low and cortisol is high, bone loss increases at an even more rapid pace. We know that too much stress raises cortisol output, interfering with calcium absorption and bone-building activity, while at the same time stepping up the activity of bone destroying cells. We also know that cigarette smoking, alcohol intake and a lack of physical activity are associated with bone loss. In a typical case study from our files, a 63 year-old woman, who had never taken hormones since her menopause at age 51, had a bone density scan which revealed osteoporosis in her hip and spine. Saliva testing identified an imbalance of androgens, as well as low estrogen and progesterone levels. Supplementing with natural hormones brought noticeable improvement, *but to gain full relief*, a program of stress reduction, optimal nutrition and weight-bearing exercise was introduced.

### Estrogen Dominance and Low Thyroid: Weight Gain and Depression

More than 10 million Americans have been diagnosed with thyroid disease, but interestingly, women are at greatest risk, developing thyroid problems seven times more often than men. Thyroid hormone regulates metabolic rate, so low levels tend to cause unwanted weight gain, depression, low energy and cold intolerance. Excess thyroid causes higher energy levels, a feeling of being too warm all the time and weight loss. But it's hypothyroidism or low thyroid that is most common in women during the perimenopausal and postmenopausal years; in fact, some 26% of women in or near menopause are diagnosed with hypothyroidism. In his book, *What Your Doctor May Not Tell You About Menopause*, Dr. John Lee discusses how, as he learned more about the condition of estrogen dominance, it became apparent that the taking of thyroid supplements among his women patients was especially common in those with estrogen dominance. This is because when estrogen is not counterbalanced with progesterone, the estrogen buildup blocks thyroid hormone creating hypothyroidism. Saliva hormone tests show that women who are estrogen dominant often have menopausal symptoms intertwined with low thyroid symptoms. The most common are weight gain or being unable to lose weight and depression. Cold intolerance, thinning hair, sleep disturbance, fatigue, mood swings and low sex drive are also associated with low thyroid. If you are suffering from these symptoms, estrogen dominance may be a factor that can be identified through saliva testing. Blood spot testing of the full Thyroid Panel (TSH, FT3, FT4, TPO) is recommended as a follow-up to estrogen dominance with low thyroid symptoms.

### Depression and Mood Swings

Many women experience mood swings and depression as their hormones begin to fluctuate erratically in the perimenopausal years and then decline to even lower levels at menopause. Unfortunately, far too many women are put on anti-depressants when in fact, natural hormone supplementation to smooth out the roller coaster of waxing and waning hormones during these years may be all they need. All of the sex hormones, especially progesterone, estrogens and androgens have a potent effect upon state of mind, mood, and memory. So when they are out of balance (too high, too low, or up and down) as is not uncommon in mid-life, the effects can range from less than desirable to devastating.

Estrogen, the hormone that surges to highest levels in the first half of the menstrual cycle, has been shown to increase mood-enhancing beta-endorphins in menopausal women as well as in women who are still cycling. It is also known to boost serotonin and acetylcholine—the neurohormones associated with positive mood and memory. So a lack of estrogen can bring on tearfulness and anxiety. But an excess can also affect our mental state by *holding sway* over progesterone in the waning reproductive years. That's because as we age, we ovulate less frequently and when we do not ovulate, we do not produce progesterone. In this way we lose the inherent calming and mood-stabilizing effects of progesterone. We also lose its balancing power upon estrogen which then builds up, blocks thyroid action leading to low thyroid, and with it, depression.

The androgens, testosterone and DHEA also play an important role in mental outlook and vitality. So it's not surprising that many women find they are in much better spirits once they are put on natural hormone therapy. Hormone balancing is vital after a hysterectomy, as the removal of the ovaries shuts down all hormone production, forcing a woman into menopause overnight. One of the immediate consequences of the surgery is depression, which can be more safely alleviated by restoring hormone balance than by taking Prozac. Saliva testing to identify hormone imbalances linked to depression can serve as a basis for restoring balance, and with it a positive outlook on life.

### Hormone Imbalance and Hysterectomy

A hysterectomy, with surgical removal of the uterus and/or the ovaries, results in a dramatic drop in hormone production. Overnight the main source of estrogen, progesterone and testosterone dries up, with dramatic short and long-term consequences. Among these: decreased bone and muscle mass, heart palpitations, vaginal dryness, reduced sex drive and depression. Most women go into instant, surgically-induced menopause following a hysterectomy and are usually placed on estrogen, unbalanced by adequate progesterone. In this case it doesn't take long for supplemented estrogen levels to lead to "estrogen dominance" the term coined by Dr. John Lee in his popular book, [What Your Doctor May Not Tell You About Menopause](#). Symptoms of estrogen dominance in women (with or without hysterectomy) range from mood swings and irritability to heavy periods, tender breasts and weight gain. Long-term, too much estrogen can lead to low thyroid, fibroids and endometriosis, the latter two, ironically, constituting common cause for hysterectomy! Identifying estrogen dominance through saliva hormone testing and taking steps to correct the imbalance can prevent conditions leading to hysterectomy in the first place. Saliva testing is also important post- hysterectomy to pinpoint the extent of resulting hormonal deficiencies and monitor physician treatment to restore balance naturally.

### Hormone Imbalance and Insulin Resistance

Insulin is a hormone produced in the pancreas that is responsible for carrying glucose (blood sugar) from the bloodstream into the cells where it is converted into fuel for body functions. Good health and energy depends upon the body's ability to make and use just the right amount of insulin to keep our blood sugar at optimal levels and our metabolism working normally. Every cell of the body has receptor sites that allow insulin to open the door of the cell so that glucose can enter and go to work. If the body builds up a surplus of glucose, usually from high caloric intake of sugar and carbohydrates that are not burned up through regular exercise, the cells become overloaded and cannot accept more blood sugar. The door is closed. The cells have in effect become resistant to insulin's attempt to provide them with more glucose. In this scenario, blood levels of insulin and glucose reach and remain at unnaturally high levels, leading to obesity, high blood fats and a heightened risk for diabetes. Blood spot testing of Fasting Insulin levels (using a nearly painless finger stick) to collect a few drops of blood which are then dried and mailed in to ZRT Lab, can detect excess insulin in the blood stream to provide an early warning system for prevention of insulin resistance and diabetes. Candidates for Fasting Insulin testing in blood spot include: individuals with known/suspected hypoglycemia, insulin resistance, pre-diabetes, family history of diabetes, overweight or obese, women with irregular menses, scalp hair loss, increased facial/body hair, polycystic ovary syndrome, individuals with symptoms of anxiety, palpitations, fatigue, profuse sweating, irritability, weakness, shakiness, dizziness, food and sugar cravings and central obesity. Early detection of insulin resistance through blood spot testing is the key to prevention of harmful changes in the body, leading to diabetes.