The trouble with Eve

In this section we review the sorts of problems that women are suffering in relation to their sex hormones and consider the question of whether or not this is simply 'part of being a woman'. The following life stories of two women are real. They are confronting because they represent the more dramatic end of the spectrum, but every woman should recognize at least part of herself or a friend or relative in their stories.

1 Maryanne's story

Sitting in her doctor's office, Maryanne, a forty-five-year-old schoolteacher, reflected on the price that she had paid for being female.

Maryanne's femininity had emerged at the age of 13 with her first period, and for a year or so her periods, regular as clockwork, hadn't caused any particular problems. Then at the age of 15, she began to get bad cramps and every second period was associated with a heavy bleed. At the time she didn't regard this as unusual because she knew from talking to her friends that some of them were having similar problems too. Sometimes the cramps became so bad that she had to stay at home, but even then she thought that this was just part of 'being a woman'.

About the age of 17 she had started to get moody and depressed, symptoms which her parents and family doctor put down to 'adolescent blues'. But it continued past adolescence, and continued to get worse. She couldn't work out why she was getting so depressed - why she would suddenly start weeping for no apparent reason and feel as though the world was closing in on her. Then she would snap out of it and feel perfectly happy for a while, only to find before long that the depression and black moods would set in again. There were also the headaches - mostly they could be controlled with pain-killers, but sometimes they got so severe that she had to go to bed for the day. And then there was the bloating - she recalled how her stomach seemed to protrude and how her breasts swelled up for about a week each month.

Finally, when she was about 20, Maryanne had read an article in a magazine about pre-menstrual syndrome (PMS). She immediately had recognized herself in the article. She suddenly saw a pattern in her symptoms - how the mood changes and the depression and the headaches and bloating happened about the time her period was due and how they usually eased off when her period was over. While it was something of a relief to be able to put a name to what she had, that was small comfort compared to the thought of having this problem for as long as she was going to have periods. The magazine article had pointed out that PMS usually does not get better on its own and women with this problem usually have it into their 40s.

She had tried various remedies for PMS without success and remembered becoming so depressed over the thought of having this problem for the next 20 or so years and the disruption that it would cause to her working and social life, that her doctor eventually put her on the contraceptive pill. The cramps, bloating, headaches and depression didn't go away completely, but they did ease considerably. For a while, life seemed pretty good.

When Maryanne got married at 23, she and Bob, a marketing director for a local television station, decided to try for a child almost immediately. She stopped taking the pill. Within 3 months, her PMS symptoms returned in all their glory, but now there was at least some purpose in putting up with the symptoms, and so she did just that. But after two years she still was not pregnant. That was when the endometriosis had made its appearance. At first, she associated the abdominal pains that came with each period down to PMS. But finally they

had become so bad that she had gone to the doctor who had sent her to a gynecologist. After some investigations, he had diagnosed endometriosis. He had explained that parts of the inner lining of her uterus had broken away, got into her abdominal cavity and had wrapped themselves around her ovaries. In her case, Maryanne had quite a bad case with lots of adhesions built up in her pelvic cavity. The doctor concluded that this was almost certainly the reason that she had been unable to become pregnant. At that time, twenty years ago, the standard treatment for severe endometriosis was to remove the ovaries, and that was what Maryanne had done. She would never have children. Although she was emotionally distraught at this prospect, she was comforted by the trade-off that at least this would bring permanent relief to her PMS and endometriosis problems.

But she hadn't counted on the down-side of having both her ovaries removed - instant menopause. At the young age of 28, she had to face a situation that most women don't face until the age of about 50. To make matters worse, her surgically-induced menopause was so much worse than natural menopause. At least with natural menopause there is a gradual decline in estrogen levels in the blood. But with her menopause, her estrogen levels literally plummeted overnight. Her doctor had warned her about this consequence and had told Maryanne that she would basically need to stay on HRT for the rest of her life to help prevent conditions such as osteoporosis and heart disease. Maryanne's doctor did not put her onto HRT lightly as Maryanne's mother had died of breast cancer. He counselled Maryanne that her family history put her in the high risk category for breast cancer and that HRT might even increase that risk further. But he felt that the risk of breast cancer was outweighed by the benefit that she would get from the immediate discomfort of menopause plus the long-term side-effects of menopause. So Maryanne had agreed to take the HRT.

But her doctor's advice hadn't really prepared her for the symptoms that followed. To start with, there had been the hot flashes and night sweats - on average about 20 per day. Along with that were mood swings and depression, an ugly reminder of the PMS from which she used to suffer. After about 2 weeks, the HRT pill eliminated her hot flashes and allowed her to function normally during the day. But then came another problem - her breasts started to get tender and swollen, and she started to put on weight. The old bloated feeling that she used to get for a week or two each month with PMS, now was with her continually. And even worse, the PMS-like depression and enormous mood swings returned. She found herself crying uncontrollably during the day and experiencing a 'roller-coaster' ride with her emotions - happy one moment and depressed the next. She felt as though she had gone through a complete life cycle, ending up back where this had all started.

After 4 months she returned to her gynecologist who put her on another HRT pill, this time one with progesterone. But things only got worse - the bloating feeling increased (along with her weight), her breasts became more tender, and now the headaches started. The emotional roller-coaster was just as bad as before. Another five years of this had followed, with many attempts to adjust her hormone levels with different HRT pills, patches and injections. Nothing worked, and she was getting increasingly depressed from the thought that she was stuck with this problem for the rest of her life. What really concerned her, however, was the effect that her moods were having on her marriage. The happy, confident woman that Bob had married was now a sad, chronically depressed, withdrawn woman, and while he continued to provide emotional support, Maryanne was sensitive to what he must have been going through.

Finally, against her doctor's advice, she had taken matters into her own hands and stopped taking HRT. The effect was dramatic. The headaches, bloating, swollen breasts and depression gradually went. She regained all her old happy demeanour and confidence. As she had told her husband, she felt that she had regained her life. She experienced some hot flashes again, but she figured that that was a small price to pay for a return to normality. With time, she even learned to cope with the hot flashes, and finally after a few years these had eventually faded away.

Her doctor had explained that the major down-side of coming off the HRT was an increased risk of osteoporosis and heart disease. However, this had not at this time emerged as a problem, although she remained conscious of the risk. She maintained a vigorous exercise program, kept her body weight under control, and ate sensibly. Her cardiovascular function was still good and so far the reduction in her bone mass was not alarming.

Life seemed to be getting back on an even keel and she thought that she was over the worst when Nature produced its final sting. A month earlier, a regular mammogram had picked up a suspicious lump in her breast and a week ago she had been given the results of a breast biopsy. The diagnosis was the one she feared – it was confirmed as an aggressive breast cancer. How, she had asked her surgeon, could she possibly get breast cancer? Even though she knew that her family history put her into the high risk category for this disease, she knew enough about the disease to know that most cases of breast cancer were associated with too much estrogen. Why, when she didn't have any ovaries and she hadn't been taking estrogens for over 10 years, would she now get cancer? He had explained that the problem could have started over 10 years ago when she was experimenting with different HRT products. In any event, the breasts in menopausal women still continued to make quite high levels of their own estrogens independent of the ovaries.

While sitting in the waiting room to see her gynecologist yet again, Maryanne reflected on two things. The first was what she had done to deserve this? She was perfectly healthy in every other respect, so why had her sex hormone system been singled out for malfunction? The second was the irony of the situation. Her problems had begun with what seemed to her to be an imbalance of her sex hormones (PMS), had then moved onto an excessive amount of estrogen (endometriosis), which had led to surgery to remove her body's ability to make estrogen. That in turn had led to an estrogen deficiency (surgically-induced menopause), which had to be treated with synthetic estrogens (HRT), which may well have contributed to the development of breast cancer. What had caused this chain-reaction that had left her body buffeted by gyrations in her estrogen levels - from too much estrogen to too little estrogen? Certainly the surgery to remove her ovaries and the HRT had been artificially induced gyrations, but she could only speculate on what had caused the imbalance in her sex hormones in the first place and whether there was something that she could have done back as a teenager to head off all of these problems.

2 Katie's story

Katie's spirits certainly needed lifting. At age 65 she had started to feel old. But up to quite recently she had never regarded herself as 'old'. She and her husband, Bob, were working in their small business just as hard as they had done at the age of 30, and she felt just as physically and mentally active as she had been in her early years of marriage. In fact, working hard had been something that she had enjoyed. She and Bob had decided to limit their family to the one daughter, who Katie had taken time off work to have at the age of 33. She certainly had managed with some conscious effort to maintain her figure - she had always had a reasonably trim build, and she was proud that through a sensible diet program she had been able to stay that way.

The cause of Katie's blue feeling was a recent visit to her gynecologist. He had called her in to discuss the results of a body scan that showed that she had advanced osteoporosis. She had fallen some weeks before while out on her morning walk and ended up with a sore right arm, but nothing that required any attention. But a week had gone by and it was getting worse, so she had gone to the doctor. An X-ray had revealed a cracked bone in her forearm, which the doctor had simply strapped. Of greater concern, however, had been the radiologist's report of apparent thinning of the bones in her arm. Katie was sent off for further tests including a whole body scan and those tests confirmed that she had severe osteoporosis, or 'thinning' of the bones all over her body. Her doctor described her condition as a 'walking time-bomb waiting to fracture'.

Katie was bewildered by this. Her doctor had explained that this was due to her bones losing more calcium than they were absorbing from the diet. But she knew that she had a good diet with plenty of fruits and vegetables plus she made sure that she drank about half a pint of milk each day. Her doctor had explained that the calcium level in her diet was only one part of the equation - the other important part was estrogen, and it was her low levels of this hormone that was the primary cause of her weak bones.

Her doctor also was concerned about Katie's cardiovascular system, explaining that poor estrogen function at her age often was associated also with poor cardiovascular function. Subsequent tests showed her blood pressure and her blood cholesterol count to be to be on the high side, not alarmingly so, but enough to sound a warning.

Katie had had a fairly tough time of it when she went through menopause. It seemed to her that she became menopausal a lot earlier than her friends. She had her last period about the age of 45, whereas most of her friends were still talking about their periods when they were in their early 50s. Her menopause also had been particularly difficult. At its peak she was having up to 20 hot flashes a day including night sweats that left her soaking wet in the middle of the night and feeling the next morning as though she had not slept at all. Her moods had been all the over the place - nice as pie one minute and snapping at Bob and the kids the next. The worst of all was the depression - the feeling that life was such a drag and that she simply lacked confidence to face the day. Katie had never been one for taking pills and prided herself on not running to the doctor at the drop of a hat. But the defining moment for Katie had come one day in her local shopping mall. She had been going to the mall every

week for years, often meeting a friend there for a coffee. On this particular day, however, for no apparent reason, she suddenly had a panic attack. She had an overwhelming feeling that something bad was about to happen - she didn't know what, she simply knew that she had to get out of there. Her heart was racing and her skin felt was cold and clammy, and she just ran as fast as she could back to the car and drove home. The next day she went to see her doctor.

Her doctor had explained that Katie's low level of body fat probably had contributed to her early onset of menopause and to her relatively severe menopausal symptoms, and recommended an estrogen replacement therapy to see her through her immediate problems. He told he that she probably would have to stay on the treatment for 1-2 years. Katie had started on a natural estrogen preparation prepared from pregnant horse urine and found to her delight that the hot flashes and the mood swings disappeared within a matter of days. However, she did start to get tender breasts and some vaginal bleeding which she initially thought was her periods returning but which her doctor explained was due to a thickening of the lining of her uterus as a result of the estrogen stimulation. He changed her to another preparation containing synthetic estrogen plus synthetic progesterone that reduced the uterine bleeding but caused her breasts to become even more tender and swollen. She also felt herself putting on weight - about 6 lb to be exact.

She kept up the treatment for 6 months or so until a magazine article that she read one day linking HRT to an increased risk of breast cancer and heart attack made her determined to go off her treatment. One of her friends suggested that rather than go 'cold turkey', that she should gradually reduce the treatment, which she did. By the time she was down from one tablet a day to two tablets per week, she found that although she was getting a few hot flashes a day, the night sweats were only mild and didn't really interrupt her sleeping and she felt in herself pretty good. Importantly, the breast tenderness went and the extra body weight that she had put on earlier also went. Two months later she found she could stop treatment altogether with no apparent worsening of symptoms, and 6 months after that, the hot flashes virtually disappeared completely.

From that point on, she thought that she was maintaining pretty good health. The only two changes that she noticed compared to her younger days were a dryness of the vagina and some degree of incontinence. The vaginal dryness was only an issue when she and Bob made love. Initially it had been so painful that she had been apprehensive each time Bob made advances, but her local pharmacist had suggested an estrogen cream which she found had quickly restored her vagina to its previously moist state. The incontinence was a slightly more serious matter - she found herself needing to pass water frequently and was not always able to control leakage. Thinking that she might have had a bladder infection, she went back to her doctor who examined her and advised her that this in all likelihood was just part of her estrogen deficiency and that without replacement estrogen, the condition was unlikely to improve.

At one of Katie's regular visits to her doctor for a regular check-up, the doctor talked about Katie's risk of osteoporosis and heart disease. He pointed out that the incontinence could be just the tip of the iceberg and that she might have more serious problems developing underneath in terms of bone and heart deterioration. A blood test showed only a mild cholesterol problem, Katie's blood pressure was only slightly up, and a bone scan showed a moderate degree of bone loss. But Katie's doctor was concerned that with her early onset of menopause and her low body fat level, that she could be a candidate for problems in the years ahead.

The doctor then suggested trying a new form of HRT called SERMs. He explained that these were far more selective in their action and would not cause the uterine and breast complications that she had experienced some 15 years earlier. In fact, there was even some suggestion that they might lower her risk of breast cancer. Katie was re-assured sufficiently by this to try it. But within 3 days of taking this new 'wonder estrogen', Katie started getting hot flashes. Having been without them for over 15 years, here they were back again in all their old glory. Her doctor explained that there was nothing that he could do about this …. that it was an acknowledged side-effect of SERMs and that he could not predict how long it would last.

Katie persisted with treatment for two months, but was becoming so debilitated by the hot flashes and mood swings that she stopped treatment altogether, figuring that she would just take her chances using her own initiatives. One of those initiatives was a stepped up exercise regime, a regime that had led to her recent fracture.

Katie's only hope now was a class of drug known as bisphosphonates. They were not estrogens but they would help to slow the rate at which she was losing bone strength. But for a woman as physically active as Katie, the prospect of having to take a drug for the next 20 years or so of life just to help her cope with the knocks of life when she was so apparently healthy, was confusing to her.

3 Everywoman's story

Maryanne and Katie are not alone. There are hundreds of millions of Maryannes and Katies in the world. Fortunately most of them don't suffer the same wide range of complaints or suffer such severe symptoms or end up with such life-threatening consequences as Maryanne, but the problem is no less real for the hundreds of millions of other women.

Consider the facts**.**

A woman born today in any Western, developed country in North America, Western Europe, Scandinavia or Australasia has the following to look forward to:

→ **from between the ages of about 15 and 45, at a time when her reproductive tissues should be at their peak, she has a 90% chance of suffering at least one of the following disorders**

- pre-menstrual syndrome
- cystic breast disease
- endometriosis
- uterine fibroid
- polycystic ovary disease
- menorrhagia (painful, heavy periods)

→ **over the age of 45, as her fertility naturally declines, the problems shift to the rest of her body and she now has an 80% chance of suffering at least one of the following disorders**

- hot flashes, night sweats, mood swings, panic attacks
- urinary incontinence
- osteoporosis (leading to fracture of the spine, ribs, wrist or hip)
- cardiovascular disease (hypertension, atherosclerosis, heart attack, stroke)
- cataracts
- senile dementia

→ **at any time over her lifetime, she has a 10% chance of suffering at least one of the following cancers**

- breast cancer
- uterine cancer
- ovarian cancer.

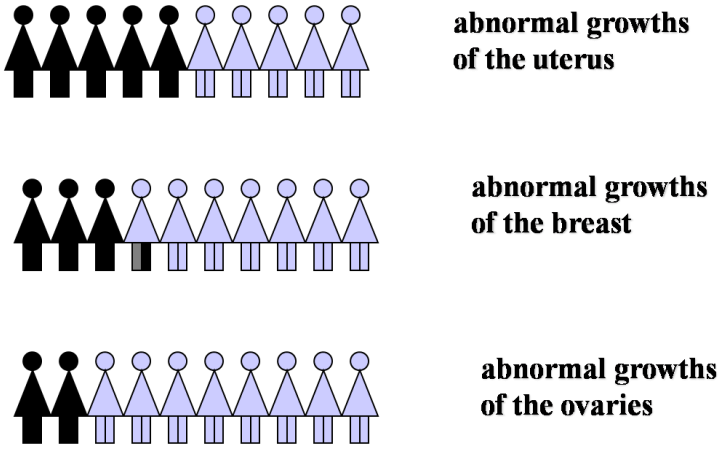
The link between all of these conditions is a failure of the female sex hormone system.

Looking at these problems in a little more depth, it is helpful to separate the problems that a woman encounters in her pre-menopausal years from those she encounters following menopause. For this, we need to include the cancers in the pre-menopausal age-group because that is when the seeds are sown for the development of cancers later in life.

The pre-menopausal years

For the woman under 45, an unbalanced female sex hormone system is an obvious culprit for pre-menopausal problems. During a woman's reproductive years the female sex hormone system is almost single-handedly responsible for maintaining the normal structure and smooth functioning of the female reproductive organs. The size and shape and appearance of the breasts, uterus and ovaries, as well as their ongoing, smooth functioning, is almost entirely the responsibility of this master control system. Any abnormal growth or appearance of these body parts or any deviations in their normal functioning can be slated home invariably to a malfunction of that master control system.

And malfunctioning it is.



Incidence of women with abnormal growths of their reproductive organs.

A pre-menopausal woman has

a 1 in 3 chance of developing a problem with her breasts, whether it be painful, lumpy swellings each menstrual cycle (*cyclic mastalgia*) or cancer (*breast cancer*) ……

a 1 in 2 chance of developing problems with her uterus, whether it be the uterine wall producing a large growth that grows through the lining of the uterus to cause painful periods (*uterine fibroids*), or the uterine lining either growing excessively each menstrual cycle and leading to heavy, painful periods (*menorrhagia*), or growing in places where it shouldn't (*endometriosis*), or growing in a malignant manner (*endometrial cancer*) ……

a 1 in 5 chance of developing problems with her ovaries, whether it be ovaries that fail to complete the ovulation process properly (*polycystic disease*) or are malignant (*ovarian cancer*) …….

a 1 in 4 chance of not being able to menstruate without feeling emotionally or physically incapacitated (*pre-menstrual syndrome*) ……

a 1 in 10 chance of not being able to fall pregnant because of functional problems with her ovaries or uterus (*infertility syndrome*) ……

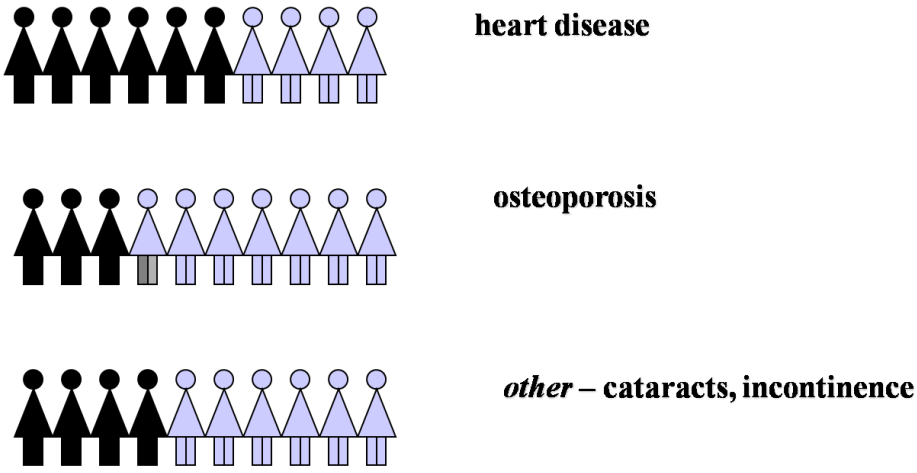
We are not talking here of minor, trivial, or passing problems. These are problems that in many cases are characterized by considerable pathological changes to a woman's reproductive tissues, showing up as excessive growths to the point of large, abnormal growths. The presence of a lump of fibrous tissue in the uterus, commonly as large as a tennis ball *(uterine fibroids)*, or the migration of the inner lining of the uterus to the outside of the uterus resulting in it covering the bladder, ovaries and large bowel *(endometriosis)* are more than trivial problems. The fact that such abnormalities persist for so long, usually for decades is more than a trivial problem. The fact that these problems often start at the tender age of 12 or 13 is more than trivial.

Even less trivial is the debilitating impact that these conditions can have on a woman. These conditions usually interfere with a woman's sense of well-being to the point that her capacity to go about her normal daily life is disrupted. They can cause chronic pain and weight loss. They can make sexual intercourse painful. They can cause her to be infertile. And in about 1 in 10 women, they are life-threatening. They are far from trivial.

The post-menopausal years

The female sex hormones have another role in the body, other than driving the growth of the reproductive organs. That other role is to maintain the youthful vigor of the rest of the body.

Bone strength, a bright and happy mood, good short-term memory, lustrous hair, youthful-looking and wrinkle-free skin, clear vision, and healthy blood pressure and cholesterol levels, are just some of the additional benefits that come from our female sex hormones. We should look upon the female sex hormones as 'youthful' hormones, invigorating all of our body's tissues and helping to maintain them in a vital state. This is a function that goes on independent of menopause and independent of the state of play of the reproductive organs. Without the benefit of female sex hormones, bone strength declines (leading to osteoporosis), arteries get 'harder' (leading to a rise in blood pressure), the lens in the eye crystallises (leading to cataracts), the skin loses its elasticity and moisture (becoming drier and thinner), and muscles in the bladder get weaker (leading to incontinence).



Incidence of post-menopausal problems

A post-menopausal woman has

a 60% chance of developing a problem with her cardiovascular system, whether it be high blood pressure or atherosclerosis, leading to heart attack or stroke ……

a 30% chance of developing osteoporosis leading to fracture of the spine, ribs or hip ……

a 20% chance of developing weakness of the muscles in her bladder to the point that she becomes incontinent ……

a 10% chance of developing deterioration of the lens of the eye to the point of forming cataracts ……

There is no doubt that some of the deterioration in our bones and cardiovascular system and eyes with advancing age are attributable to the ravages of time and wear-and-tear and lack of proper care. However, there is a considerable difference between normal rates of ageing and the kind of accelerated ageing that many post-menopausal women experience. The development of severe osteoporosis to the point of spine and hip fracture in women in their 50s is not normal wear-and-tear, but is symptomatic of a dysfunctional female sex hormone system.

Trouble in paradise

Putting these two scenarios together, the inescapable observation is that modern woman is facing a crisis of function of her female sex hormone system throughout life. From the development of uterine fibroids at age 20, through to the development of breast cancer at age 50, through to the development of osteoporosis at age 60, modern woman is at the mercy of an unbalanced female sex hormone system and that this 'unbalance' is placing her well-being, her reproductive capacity, and her very life at risk.

This is one heck of a price to pay for being a woman.

If Eve thought that all she had to worry about back in the Garden of Eden was Adam and snakes, then she sorely underestimated the consequences of being a woman. For the very essence of her womanhood – her female reproductive system (ovaries, uterus, breasts) and its master control system, the female sex hormones – has proved to be a legacy that future generations of women have been condemned to bear. History doesn't record whether Eve suffered any failures of her female reproductive system, but her modern ancestors certainly are aware of the shortcomings of this system. The stunning reality is that the modern descendant of Eve is virtually guaranteed at some point in her life to develop a problem with her female sex hormone system.

Theories abound as to the underlying cause or causes of this phenomenon. But essentially it all comes down to one factor – misbehaviour of the female sex hormone master control system. No other control system in the body has the influence and power over the female sex tissues like the sex hormone system. These hormones are the master switches that determine whether the cells in the breast, ovaries and uterus are going to live or die, to grow or not grow, to become active or to lie dormant, and to move or to stay put. With this amount of control over the reproductive organs, it only stands to reason that when the reproductive organs start to behave abnormally that the master control system should be the first suspect.

This master control system also is responsible for maintaining normal function within virtually every other part of a woman's body, from purely structural tissues such as bone, through to tissue such as brain with its highly intricate functions. The role of this master control system in these parts of the body is to maintain them in a youthful, functioning state. So that when we see deterioration of these tissues following menopause, and their conversion from a youthful, fully functioning state to an ageing, deteriorating state, then, again, it is the female sex hormone system to which we point the finger of blame.

This master control system has two key players - estrogen and progesterone. Of these two, estrogen is without question the dominant partner and the one implicated in the matter at hand. Estrogen is the main driving force in growing and maintaining a woman's reproductive system on a day-to-day basis. Estrogen also is alone in being responsible for helping to maintain the health and youthful vigor of the rest of the body. Commonsense therefore dictates that estrogen is the prime culprit in this matter.

Pre-menopausal – 'too much' estrogen

- The growth of cells in the wall of the uterine to form a uterine fibroid is the direct result of excessive stimulation by estrogen.
- The growth of the uterine lining in the abdomen of a woman suffering endometriosis is the direct result of excessive stimulation by estrogen.
- The swelling and increased tenderness of the breasts of a woman suffering cyclic mastalgia is the direct result of excessive stimulation by estrogen.
- The early growth of breast cancer in most women is the result of excessive stimulation by estrogen.

This has led to the common view of this whole series of conditions in younger women as being due to 'estrogen excess', or in other words, to an excessive amount of estrogen function in the body. Hence the common methods of treatment of these conditions – treatments that generally aim at reducing the influence of estrogen in the body either by removing it (eg. waiting for menopause or inducing early menopause by chemical or surgical castration) or by reducing its levels (eg. use of the oral contraceptive pill) or by blocking its action (eg. anti-estrogens such as progesterone or Tamoxifen).

The fact that almost all of these problems disappear once a woman enters menopause adds further weight to the theory that 'too much' estrogen is behind them. Menopause heralds a fall in the amount of estrogen that a woman's body produces, and the consequence of this fall is that conditions such as uterine fibroids, PMS, cyclic mastalgia, polycystic ovary disease and endometriosis gradually disappear. A woman can be suffering a severe case of uterine fibroids at age 45 with attendant painful, heavy periods, and have little or no evidence of them at age 52.

The association between menopause and the disappearance of these conditions is so well established, that the onset of menopause generally is regarded as the best form of therapy for many of these conditions. This was the case with Maryanne, where her endometriosis was so severe that her doctor recommended that she have her ovaries surgically removed in order to induce early menopause. The one partial exception to this rule is with breast cancer. Many women still develop breast cancer even though they have gone through the menopause and despite a low level of sex hormones in their blood. But for these women, the cancer almost certainly started before they entered menopause, and their cancer became so sensitive to female sex hormones that the small amounts of sex hormone that are still produced within the breasts themselves even after menopause are sufficient to continue to promote the growth of the cancer.

Post-menopause – 'not enough' estrogen

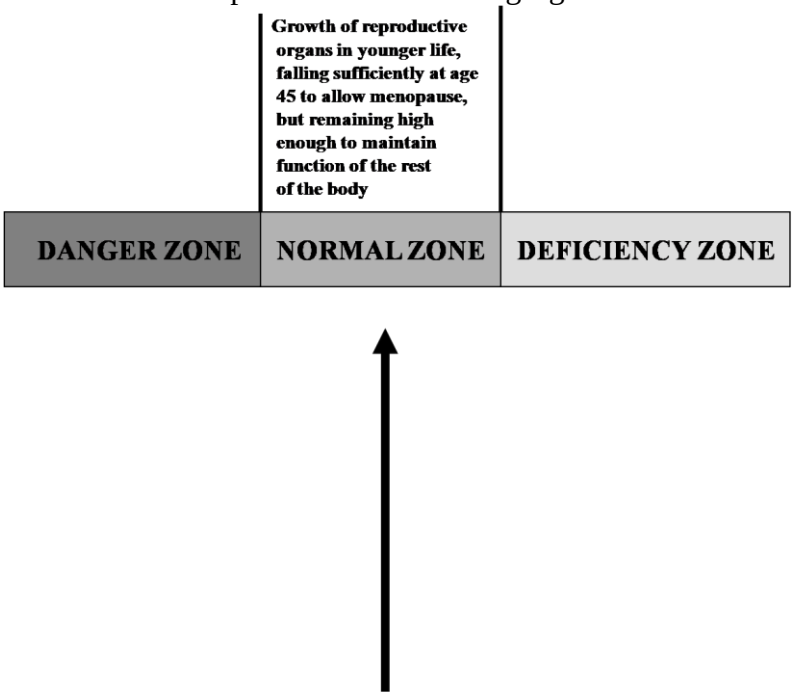
- The failure of bone cells to continue to make bone resulting in osteoporosis is due to lack of stimulation by estrogen.
- The hardening of muscle cells in the walls of arteries resulting in high blood pressure is due to lack of stimulation by estrogen.
- The weakness in muscles in the wall of the bladder leading to inability to control urine flow is due to lack of stimulation by estrogen.
- The gradual loss of memory and other cognitive skills is due to lack of stimulation of the brain by estrogen.

Acceptance that these post-menopausal problems are due to 'not enough' estrogen has led to the current approach by medicine to re-introduce estrogen to menopausal women. Estrogen in the form of pills and patches and implants is given to women in a bid to stave off the development of crumbling bones and a deteriorating cardiovascular system.

The problems of pre-menopausal women being due to 'too much' estrogen, followed by the problems after menopause being associated with 'too little' estrogen, suggests that we can view a woman's exposure to estrogen in terms of a pendulum.

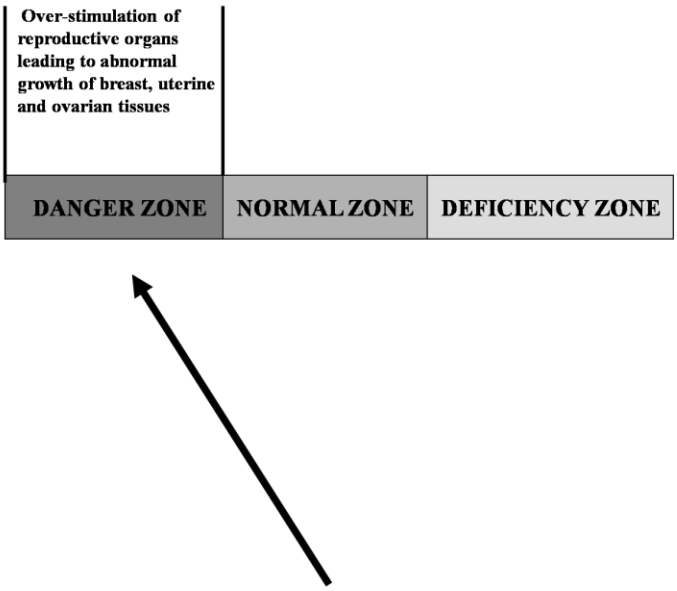
The Estrogen Pendulum

The ideal situation would seem to be one where the amount of estrogen activity is maintained within a 'healthy' range. This 'healthy' or 'normal' range would provide enough estrogen to support the functioning of the reproductive organs during the ages of 15-45, and then decrease enough from about the age of 45-50 to enable those organs to become non-functional so that her child-bearing days can end. But, at the same time, the level of estrogen function would need to be kept sufficiently high to supply support for the rest of her body such as her bones and heart as depicted in the following figure.

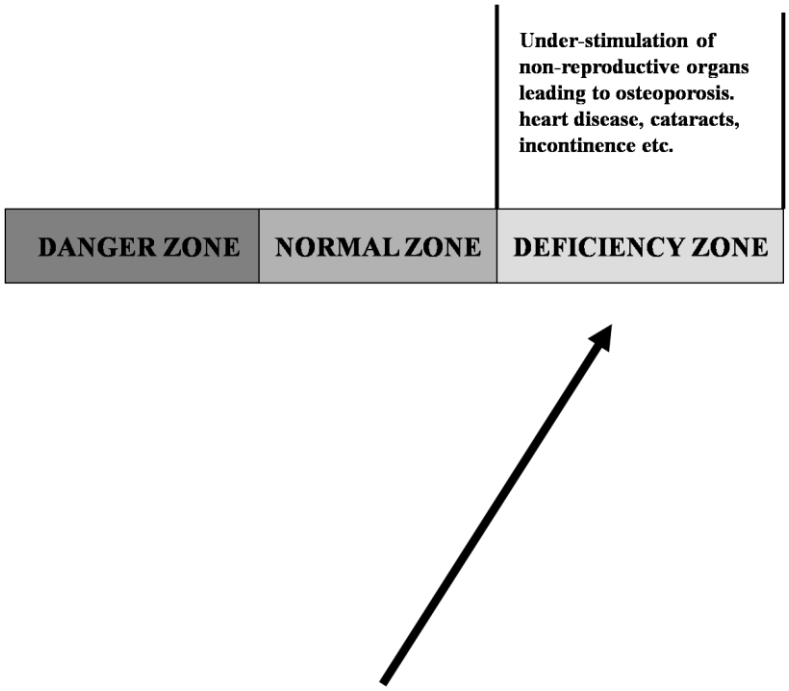


The harsh reality is that, for the great majority of women, the pendulum appears to be rarely in the **NORMAL ZONE** throughout their lives. In younger women, the pendulum appears to be spending most of its time in the **DANGER ZONE** at the high end of the estrogen range as shown below.

Having 'too much' estrogen for a short period of time (days or weeks) probably isn't going to cause too many problems, but when it goes on for months and years, then the consequences for the reproductive organs are going to be serious. Uterine fibroids or breast cancer don't develop because estrogen activity has been too high for a couple of weeks - they develop because of incessantly high estrogen activity over years.



The opposite is happening in older women. Once they reach menopause, the pendulum swings to the other end of the scale into the **DEFICIENCY ZONE** at the low end of the estrogen range. And again, not having enough estrogen for a short period of time is no more likely to cause harm than having too much estrogen for the same period of time. But to have not enough estrogen for 5 years or more is putting organs such as bones and arteries and brain at serious risk of malfunction.



4 Did Eve have a design fault?

Are these problems just part-and-parcel of being a woman?

The majority view within the healthcare industry right now is, yes. That is the only conclusion to be drawn from the way in which this industry is managing this problem. By industry, we mean the primary healthcare providers such as doctors and nurses, through to the medical researchers, the pharmaceutical manufacturers, and the governmental heath departments. Everything that these various health bodies do shrieks acceptance of the situation. Not acceptance in the sense that nothing can be done, because there have been some admirable advances in the development of better diagnostic procedures, drugs and surgical procedures. But acceptance in the sense that there is an element of inevitability about it, that it is just part of 'being a woman'.

With this mindset it hardly is surprising that our research efforts are more focused on treating the symptoms of the conditions once they appear, rather than looking for the reasons why they appear. This is nowhere more evident than in the current approach to the alarming epidemic of breast cancer in women in developed countries. We *accept* that it is going to strike about 1 in 10 women in their lifetime. That tacit acceptance means we have focused on strategies of detecting the disease earlier, of identifying those women in the high-risk category, and of developing better drugs and surgical approaches to manage the problem once it has appeared. The result has been that the death rate from breast cancer has fallen dramatically over the past 20 years. All very admirable, but in the meantime, the incidence of breast cancer continues to climb.

Where are the voices asking, why? Why are 1 in 10 women developing breast cancer? Why should even 1 in 100 women develop breast cancer? Why shouldn't the rate of breast cancer be in the order of 1 in 100,000, or so rare that any women being diagnosed with the problem would rate a mention in a scientific article in the same way that a number of rare forms of cancers do now? Most people have never heard of a cancer known as paraganglioma, because it is so rare that it never makes the news. In fact, it is so rare that many family physicians go through their entire life in medical practice without encountering a single case. Paraganglioma doesn't rate a mention in newspapers now, but if it suddenly affected 10% of the population it would be a different story. So why is breast cancer any different? Why aren't voices asking, why?

This book is such a voice. It is saying that the fact that Maryanne developed endometriosis was not because 1 in 4 women can expect to develop this problem it and it was simply a case of Maryanne being unlucky enough for her marble to be drawn out of the barrel. Or that the fact that Maryanne and her mother developed breast cancer was not because 1 in 10 women will develop this disease and that they simply were unlucky enough to be part of that statistic.

Or that the fact that Katie developed osteoporosis was not because 1 in 3 women will develop osteoporosis to the point of fracturing a bone simply because they were the natural odds.

This book is saying that Maryanne's and Katie's problems were an aberration. They should never have occurred, any more than the epidemic of problems in the vast majority of other pre-menopausal and post-menopausal women in the world today should be occurring.

Was Eve badly designed?

The current conventional medical approach to this problem is one of inevitability …. to accept it as the inevitable result of 'being a woman'. We can refer to this as the 'design fault' theory.

Essentially this approach is saying that a woman's sex hormone system, or her estrogen hormone system in particular, is inherently unstable. It assumes that a woman's estrogen system is too brittle or too weak to cope with the demands being placed on it …. that it is a less than perfect design …. or more charitably, that if not a design fault, then perhaps evolution is still working on the female human body and that may require another few tens of thousand years to eventually 'get it right'.

It is not difficult to see how this view came about. The estrogen hormone system is such a highly sophisticated and complex control system that it is easy to believe that such a finely-tuned system would be prone to disturbance. By implication, therefore, women by their very nature are going to be liable to malfunctions of such an intricate and finely-balanced from time-to-time. In other words, the fact that these problems exist, while in itself alarming because of the disruption they can cause to a woman's well-being, is not that surprising. The insinuation from this line of thinking is that the female sex hormone system that Eve passed on to all women who followed her is a fundamentally imperfect system. Having a system so prone to disturbance that it causes problems in about 95% of cases points to a serious design fault.

What makes this notion so bizarre is that we are not talking here of minor, transient malfunctions like missing the occasional period because you have a cold or because you are feeling a bit run down, or having a slightly heavier period because of an occasional missed one. We are talking of malfunctions that persist for most of a woman's reproductive life and which involve symptoms that disrupt and even threaten her life. These are malfunctions that expose a woman to pain, to excessive bleeding, to infertility, to abnormal growths that disrupt the function of surrounding structures and that can even invade the rest of the body and go on to cause death. These are not the outcomes of a finely balanced, sophisticated hormone system that has been temporarily knocked off course. These are symptoms of a hormone system that is seriously derailed because of sustained major, long-term pressure.

The 'Eve had a design fault' theory fails to pass even the most basic scientific test, let alone the simple matter of common sense. Because to accept the notion that women have an inherently high risk of developing a problem with their female reproductive apparatus defies even the most basic logic in biological terms.

First of all, Nature would have had to have goofed in a spectacular fashion to have made the continuation of the human race so dependent on such an error-prone system. This is a system which, at a time during a woman's child-bearing years when her reproductive system is meant to be performing at its peak, is showing a readiness to proliferative changes that can vary from benign (uterine fibroids, cystic breast disease, endometriosis, endometrial hyperplasia) to cancerous (breast, uterus, ovary) - all of which are working against the reproductive capacity of a woman.

Even the most basic logic suggests that any hormone system has been passed down through thousands of generations of women, and has been subject to evolutionary pressures that continually refine and adapt and improve, must by now be in fairly good working condition. If there had been any wrinkles in the system, you would have expected them to have been ironed out over the passage of time. That's the function of evolution, to throw up different options, to retain the ones that work and discard the ones that don't. It simply defies logic to believe that an imperfection apparently shared by almost all women in the Western world, and involving a system so fundamentally important for the survival of the species, could be allowed to persist through to the current day.

And then there is the matter of Nature making estrogen a multi-purpose hormone. Estrogen has two quite separate roles in the body – on the one hand it is the fuel on which the reproductive organs depend for their very survival, and on the other hand it plays an important role in supporting the function of the rest of the body. Menopause can only happen when estrogen levels fall sufficiently to cause the reproductive organs to stop functioning. But with this withdrawal, the rest of the body (brain, bones, heart etc.) then is opened up to rapid deterioration. Again, for medicine to assume that Nature overlooked this little design conflict is presumptious in the extreme.

That's the commonsense test. The scientific test is another matter. One way of looking at this scientifically is to ask whether this problem is peculiar to humans or whether it is common to the females of other animal species. The female sex hormone system is fundamentally the same throughout all mammals, so any fundamental design flaw should be obvious in other species. Humans have certain peculiarities such as a menstrual cycle and a menopause, but underneath, all mammals have the same reproductive apparatus, they make the same types of female sex hormones, and their estrogen systems are essentially the same.

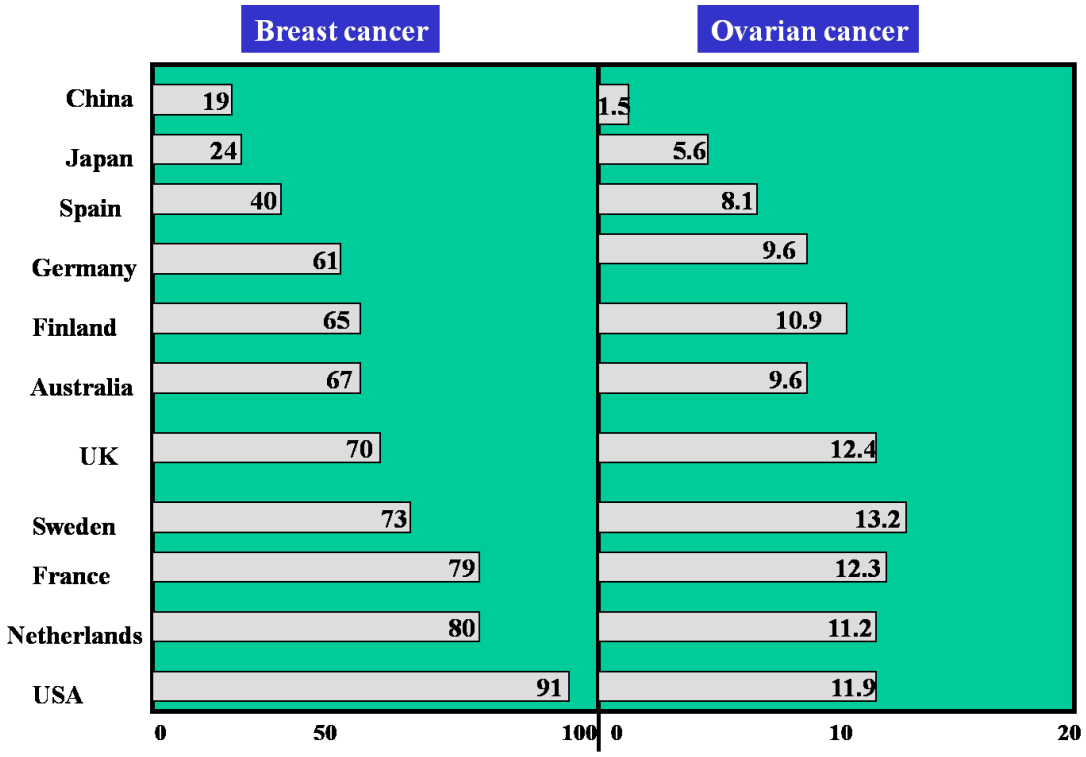
The answer is that there is no evidence for any of these problems in other animal species. Leaving aside the impossibility of knowing if a female gorilla or a cow gets splitting headaches or suffers an emotional roller-coaster about the time of ovulation, we have no trouble seeing gross changes in their tissues such as fibroids or endometriosis or breast cancer. The fact is that they just don't suffer these problems, certainly not to anything like the extent that women do. That would tend to suggest that the mammalian female sex hormone system is fundamentally O.K., as you would expect it to be after millions of years of evolutionary development.

However, humans do have special differences. The human is almost distinctive in having a menstrual cycle. A few other mammals have a form of menstruation, but the human has developed this function to a much greater extent than other mammals. In the process of *humanizing* the mammalian female sex hormone system, estrogen levels probably have had to become somewhat more variable, arguably making them somewhat more error-prone. But even so, this brings us back to the commonsense hurdle of believing (as a creationist) that

God would have created a less than perfect system, or (as an evolutionist) that 80,000 or so thousand years of development would have failed to develop a workable, robust and reliable system.

Perhaps the greatest argument against there being a fundamental problem with the female sex hormone system in humans is the fact that the problem is not universal. Women living in largely traditional cultures in Asian, Latin American, Indian, North African and Mediterranean regions don't appear to have anything like the same predisposition to female 'disorders' as do their cousins in Western, developed countries.

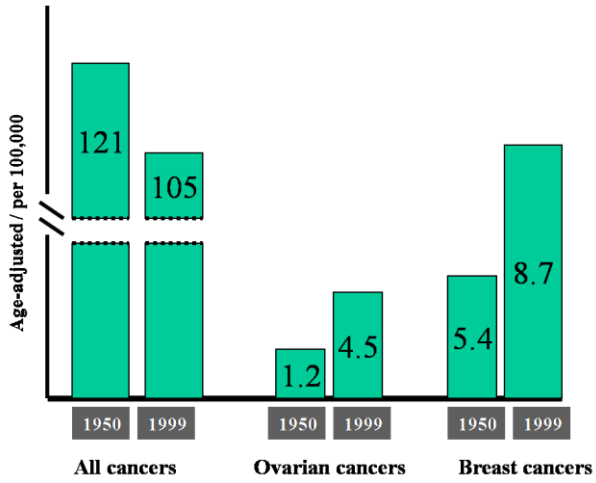
The best evidence for this comes from the figures on the incidences of female cancers, where we find that the incidences of cancer of the breast, ovary and endometrium vary considerably between regions. Women in Asian countries such as China and Japan have a substantially lower risk of developing one of those cancers than their Western counterparts.



We also know that this is not due to any genetic or racial protective factor. Chinese and Japanese women are just as susceptible as Western women to these cancers. It is just that they do not have the same risk of getting these cancers. We know this because of migration studies. Japanese women who migrate to the US and who maintain a traditional Japanese lifestyle and diet, retain their low reproductive cancer rates. If they adopt a typical US diet, then the incidence of reproductive cancer rises and their daughters will have almost the same rates of breast, ovarian and endometrial cancers as the general US community.

Incidence of breast cancer in the daughters of Japanese women who migrate to the US.

There also is the startling fact that the rates of these cancers are on the rise in countries such as Singapore and Japan as they progressively Westernize their lifestyle.



Incidence of cancers in Singapore over 50-year period.

The statistics are less certain with the non-cancerous conditions, although anecdotally, doctors in countries such as Japan and China report not seeing conditions such as fibroids, endometriosis, menorrhagia, endometrial hyperplasia and cyclical mastalgia in anything like the epidemic proportions that doctors do in countries such as the US, UK, Germany, France, Australia. One of the useful indicators in this area is the rate of hysterectomy, a common tool in Western countries to treat conditions such as uterine fibroids and endometrial hyperplasia. The rate of hysterectomy in a country such as Japan that has a highly sophisticated medical system is just a fraction of that in the US and Europe, suggesting a substantially lower rate of uterine disorders in Japan. Perhaps one of the reasons that hard data is not available on these conditions in Asian and other countries is that they are not a feature of their medical scene. Disease statistics tend only to be kept when the disease has reached 'problem' proportions.

At least for the reproductive cancers, therefore, we have very good evidence that these abnormalities and dysfunctions of the reproductive organs are not inevitable, and that there is something in our lifestyle that is raising the chances of us succumbing to these dysfunctions. In countries such as Japan, China and Singapore they are alarmed that the incidence of breast cancer appears to have doubled in the last 20 years or so. Compare that to most Western countries, where the breast cancer rate is still considerably higher than in Asia, and yet we still accept this terrible disease as essentially 'inevitable'.

So we can safely assume that Eve was not badly designed. And yet something has happened to upset that design. Something has happened that has put it under such stress and strain that it has yielded. That 'something' is what this book is about.

5 The Female Bill of Rights

Here is the starting point in the journey we are about to undertake.

We need to believe that a woman is entitled to expect a normally functioning female sex hormone control system throughout life. It should not be audacious for a woman to believe

- that her female reproductive system should function normally from the age of about 15 up to 50, and then to settle back into a quiescent state without major disruption to her well-being
- that her female reproductive system, designed for change, should be able to cope with change without problems
- that the possibility of her reproductive apparatus developing pain or severe bleeding or abnormal growths or cancer should be no more than a few percentage points, not close to 100%
- that her entry into menopause should be accompanied by nothing more than a few minor responses and that the second half of her life should be relatively free of debilitating and life-threatening disorders.

Any young girl entering puberty in her early teens deserves these re-assurances. She is entitled to look forward to a life free of complications deriving from her female sex hormone system. We'll call this entitlement the 'Female Bill of Rights'.

The FEMALE BILL OF RIGHTS

A woman is entitled to expect that

- **that her ovaries will produce an egg(s) on a regular monthly basis between the ages of about 15 and 50,** *and will not, except under the most rare circumstances, be prone to form cysts or to become cancerous*
- **that her monthly tidal ebb-and-flow of female sex hormones during the reproductive years will occur in a balanced manner**, *and will not, except under the most rare circumstances, be prone to abnormal function*
- **that her femininity will be a source of joy and satisfaction**, *and will not, except under the most rare circumstances, be associated with headaches, bloating, mood swings or emotional problems*
- **that the lining of her uterus (the endometrium) will undergo a monthly cycle of thickening and then detaching each month during her reproductive years with the menstrual blood being expelled through the vagina,** *and will not except, under the most rare circumstances, be prone to excessive or uncontrolled thickening, or to excessive bleeding, or to cramps and pain, or to unnatural accumulation of menstrual blood in the abdomen, or to cancer*
- **that the wall of her uterus will thicken only slightly during the menstrual cycle and will contract gently at the end of each cycle to expel the menstrual blood,** *and will not, except under the most rare circumstances, be prone to produce abnormal growths or to contract forcibly or painfully during menstruation*
- **that her breasts should remain unaffected by the menstrual cycle, should develop normally during lactation, and should regress to a benign state after menopause,** *and will not, except under the most rare circumstances, be prone to development of painful cysts or cancer*
- **that her ovaries will slow down their production of female sex hormones at about the age of 50 to allow a woman's reproductive organs to regress in order to conclude her child-bearing years,** *and that this will not, except under the most rare circumstances, be associated with severe symptoms of estrogen-withdrawal such as hot flashes*
- **that following menopause, the reproductive organs will become non-functional but that the rest of a woman's body will continue to function normally but with an allowance for a slow aging effect,** *and will not, except under the most rare circumstances, be prone to accelerated degeneration of the heart, arteries, bones, brain and eyes.*