



College of Online Training  
RTO 20812 *Established 1999*

## Menopause & Fitness (MENOFITNESS)

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### Learner Guide & Online Courseware

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# Preface

## *Welcome to 'Understanding Menopause'...*

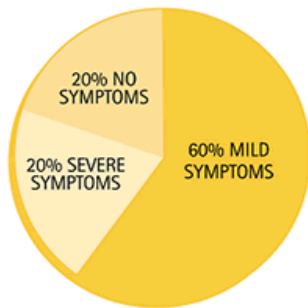
Menopause is a normal, natural event – not a disease and all women experience it but each in a unique way. Menopause signals the end of fertility and the beginning of a new and potentially rewarding time in a woman's life.

One of the reasons that premenopausal women don't want to talk about menopause is that they dread this hallmark in aging. This attitude is sad and contributes heavily to the emotional causes of premenopausal symptoms.

They are entering a new stage of life and facing challenges that they have never faced before. They have specific nutritional needs that are much different from those of men and younger women.

Many of them experience mood swings, headaches, cravings, and all the other issues of premenopause. It's crazy. Somewhere around age 40 they look in the mirror and—yikes!—where did that paunchy middle come from? They seem to gain weight overnight while battling fatigue, irritability, and hot flashes. When faced with younger more attractive women in a gym or at the mall, their self-esteem drops. They too want to feel beautiful, healthy, and active and get the most out of life.

It's been called the "middle-age spread," and the big 'M'. What ever it's called, it's a physical reality and a growing concern for the 40+ aged women.



In fact, 20% of women [1] do not have any problems leading up to menopause and manage the transition without assistance; 60% of women experience some menopausal symptoms, varying from mild to moderate; 20% of women have more severe problems.

According to the Women's Healthy Lifestyle Project, funded by the National Institute of Health [22], 100% of women whether thin or overweight, gain weight during this period of their lives if they don't change their lifestyles. In addition, entering this age range means an increase in the risk for certain diseases, like heart disease and osteoporosis. All this can lead a woman to feel that her situation is hopeless.

There were 40 million women suffering from menopause in 2003, and there will be 60 million women suffering from menopause by 2010. By the year 2025, the World Health Organization estimates that 1.1 billion women will be age 50 or over... imagine that!

And as the average life expectancy for women is approximately 80 years, this simply means women spend up to or more than half their life in their menopause years.

It's now time to educate and be educated... wouldn't you agree?

## *A Word to the Wise...*

The information in this guide is not intended to replace care of a physician or any other registered health care professional, nor is it intended as medical advice. If your client has symptoms or suffers from an illness or health condition, you should always advise them to consult with a qualified health care professional to accurately analyze and diagnose what is going on.

All women are individual in their physical makeup and situation, and no two women will have the exact same set of health conditions, making them impossible to understand what the correct treatment path will be for any given woman without individualised evaluation and testing under the care of a trained health care professional.

It is important also, to understand that any client that wishes to embark upon any drug, dietary, exercise or other lifestyle change intended to treat or prevent a specific condition, disease or symptom should first consult with a health care professional, and no treatment should be initiated or stopped (particularly any prescription drug they may be taking) without this medical supervision.

# *Introduction...*

There is more health care, more medicine, more specialists, more supplements, more low fat, more low calorie, more health education than we have ever had, yet we are the sickest, fattest and unhealthiest we have ever been – something is obviously wrong!

We are entering a "health and wellness revolution" that will change the face of our nation and the fitness professional's are at the forefront. As you may know, obesity, cancer and heart disease, diabetes, depression are at an all time high and the incidents of digestive, immune-related, menopause, menstruation disorders are increasing by the second. We all know the time to change **MUST BE NOW**, before we kill ourselves and our families. There has never been a better time to get physically active!

The aim is to get back to common sense and to help women reach their highest potential, living a long life full of energy, vitality and free from ill-health which includes free of menopause and menstruation pain.

Nothing in life is more precious than your client's health. Health means they have increased energy, vitality, creativity, attention span and mental focus, allowing them to achieve more in the pursuit of what matters to them, such as friends, family, career, fitness and fun which in turn produces overall TRUE happiness.

With this comprehensive short course to 'Menopause & Fitness, the ultimate wish is that you take your understanding and awareness of the needs of your 40+ female clients to a whole new level and continue to help your 40+ clients realise that achieving real health and wellness is ultimately their decision. They can choose to wish they were thinner, healthier or younger looking but not take steps to actually improving their health, or they can choose to make achieving optimum health and wellness a true priority within their lives.

Your 40+ clients have come to you through choice, believing that you can fulfill their wants and needs as they age gracefully.

You see, anyone can become vibrant, energetic, have great health and the quality-of-life they deserve with a little help and education.

So sit back, relax and allow this exciting new course, that promotes the understanding and motivation to help you create that quality-of-life and health for your clients, yourselves, your families and all you come into contact with, take you and your business on a journey way beyond the boundaries of possibility.

It's time to buckle in, hang on, smile and prepare for the ride.

Today is the next step for you as a superb fitness professional. I look forward to working with you.

Always Smiling ☺

*Lyn*

# Section 1: Menopause

## What is Menopause?

**Natural Menopause [1]** is the permanent ending of menstruation that is not caused by any medical intervention. It is the result of the natural decline in the hormones estrogen and progesterone produced in the ovaries. After years of preparing and releasing eggs, the ovaries eventually reach a point where they end their monthly routine.

However, during the years building up to menopause, many women's cycles will be irregular, with several months between periods. So it can be difficult to know whether the last period you had was in fact the final one. A rule of thumb is that **menopause occurs when a woman hasn't had her period for 12 consecutive months.**

Menopause signals the end of fertility and the beginning of a new and potentially rewarding time in a woman's life. Part of the stigma attached to menopause is its association with aging, but we age no more rapidly in our 50s than in any other decade of life.

## What is Premenopause and Perimenopause?

**Premenopause [2]** refers to the years between the ages of 30 and 50 when women's hormones begin to fluctuate and cause such symptoms as PMS, weight gain, endometriosis, fibroids, infertility, and tender breasts, to name a few.

**Perimenopause [2]** refers to the few years before (*peri – meaning prior to*) menopause when many women's hormones are really fluctuating, causing even greater weight gain, irregular periods, heavy bleeding, hot flashes, night sweats, insomnia, mood swings, thinning skin, vaginal dryness, loss of sex drive, fatigue, and memory loss.

Both terms are used to describe the time of transition between a woman's reproductive years and when menstruation ceases completely. Typically pre and perimenopause occur between the ages of 30 and 51 and can last anywhere from six years or more prior to natural menopause.

During this time, ovarian hormone levels such as estrogen naturally fluctuate and decline, but they do not necessarily do so in an orderly manner. Sometimes they can be higher than in the past.

Shifts in hormones are a major contributor to that sense of physical, mental, and emotional imbalance that may characterise a woman's experience of menopause.

## What is Post Menopause?

Whether natural or induced, **post menopause [1]** is all the years beyond menopause.

Once hormones have leveled off, most of the symptoms experienced during perimenopause will disappear, although some women have occasional hot flashes, anxiety, bouts of depression, for a few years after they become post menopausal.

This is the time when it is extremely important for women to look carefully at postmenopausal health as it is during this period they become more at risk for diseases associated with menopause due to diminished levels of estrogen, including osteoporosis and heart disease.

### **What is Induced Menopause?**

**Induced menopause** can occur at any age between a woman's first and last period and is when menstrual periods stop due to a medical intervention, particularly surgery or cancer treatments that removes or seriously damages both ovaries.

### **What is early or premature menopause?**

**Early menopause** [1] is when the final menstrual period occurs before the age of 45.

**Premature menopause** [1] is when the final menstrual period occurs before the age of 40.

According to the North American Menopause Society (NAMS) [18], 1 in 100 (1%) women experience menopause before they are 40.

Early or premature menopause may:

- Occur spontaneously because of early failure of the ovaries to produce their normal hormones including estrogen.
- Be caused surgically when a woman has her ovaries removed either alone or with a hysterectomy.
- Be caused chemically by chemotherapy or radiotherapy for cancer treatment.

### **When does Menopause usually happen?**

Menopause [2] is official when you haven't had a menstrual period for one year. Some 95 percent of women reach menopause between the ages of 44 and 55, but the average age of menopause is 51.

In rare instances, menopause can occur as early as the 30's or as late as the 60's.

[Watch this You Tube Video on Menopause](#)

## Section 2: The Physiology of Menstruation

To best understand what occurs at menopause, it is helpful to know about the physiology of menstruation and the hormones that are involved in a woman's monthly cycle.

### What are Hormones?

Hormones [3] are substances in our bodies that act like messengers. These biochemical substances travel throughout the body and can bind to specialised areas of cells known as receptor sites, where they then initiate a specific chain of events. They are part of our endocrine system where all our hormones work together and affect one another, so a dysfunction or imbalance with one often affects many others.

Hormones can be proteins, polypeptides, amino acids, or steroids. The main hormones that we will be discussing in this guide are the *sex hormones*- those made in the ovaries - estrogen, progesterone, testosterone, as well as those made in the thyroid and adrenal glands. The pituitary and hypothalamus in the brain also release a variety of hormones that affect other organs, including the sex glands.

### The Role of Five Major Hormones

The word "hormone" comes from the Greek word *hormon* which means to "stir up"... think back to puberty and you will understand.

#### Estrogen

Estrogen is a group of hormones that play an important role in the normal sexual and reproductive development in women. They are also called sex hormones. The woman's ovaries produce 90% of estrogen with other organs (including the adrenal glands, kidneys and liver) producing the rest.

In addition to regulating the menstrual cycle and preparing your uterus for pregnancy by enriching and thickening the endometrium, estrogen affects the reproductive tract, the urinary tract, the heart and blood vessels, bones, breasts, skin, hair, mucous membranes, pelvic muscles, and the brain. Secondary sexual characteristics, such as pubic and armpit hair also begin to grow when estrogen levels rise. Many organ systems, including the musculoskeletal and cardiovascular systems and the brain are affected by estrogen as well.

In menopause, estrogen levels begin to decline as the ovaries cease to produce this hormone, but low levels are still produced in other organs, as well as fat cells. This is why overweight women when going through menopause may have fewer symptoms related to lack of estrogen, such as hot flashes and vaginal dryness. The female body produces three major types of estrogen; estradiol, estrone, and estriol.

**Estradiol** [4] is made in the ovaries and this is the hormone that is referred to when estrogen is mentioned, unless stated otherwise.

Estradiol is a sex hormone that is present in both males and females, and is the most important form of estrogen in the female body. In women, it plays a key role in the development and functioning of the reproductive system which begins in puberty, as

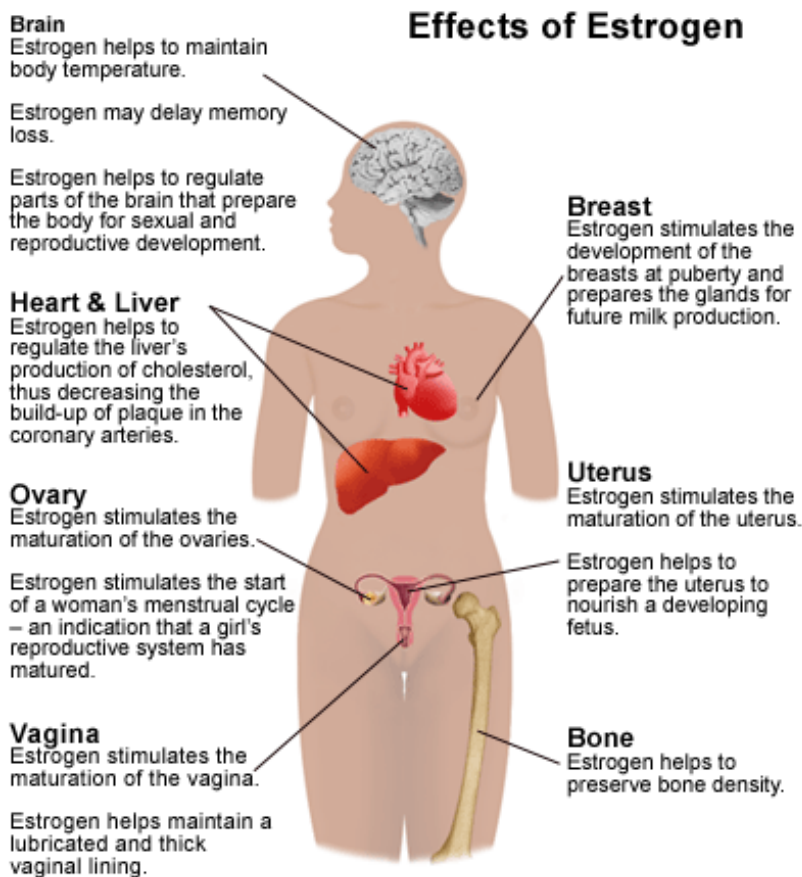
well as in the growth of certain bones. It triggers growth of neurons and cells and is responsible for things that women want to keep as they age; good memory and sharp minds, great sex drive; plenty of energy; a cheerful, calm outlook on life; clear beautiful and smooth skin; and ideal weight.

Estradiol is present throughout the reproductive years, and declines during and after menopause. This decline is precisely what causes many of the symptoms of menopause, such as hot flashes and night sweats, vaginal dryness, and the loss of bone mass that may lead to osteoporosis.

**Estrone** [4] takes over when the ovaries stop producing estradiol after menopause. It is produced mainly in the liver and fat cells in small amounts. The more fat a woman has the more estrone she produces. Unfortunately estrone blocks estradiol action so an overweight woman may experience symptoms of estrogen deficiency.

**Estriol** [4] is produced in high levels only when a woman is pregnant and has no association to pre or post menopause.

## The positive effects estrogen has in the female body:



## Progesterone

Progesterone [2] is a steroid hormone made by the corpus luteum (empty egg sac) of the ovary at ovulation (after the egg is released), and in smaller amounts by the adrenal glands. Progesterone, formerly thought to be just the pregnancy hormone, it was named for "pro-gestation", but researchers have found progesterone receptors all over the human body, indicating that progesterone has many functions. (Remember, receptors allow the body to receive and utilize hormones, and once a hormone attaches to a receptor, it causes specific chemical changes in the body).

Progesterone is manufactured in the body from the steroid hormone pregnenolone, and is a precursor to most of the other steroid hormones, including cortisol, androstenedione, the estrogens and testosterone.

### Why do women need progesterone?

Progesterone's role is to change the character of the uterine lining to prepare for pregnancy, and to prevent further buildup of the lining by estrogen. It is needed in hormone replacement therapy for menopausal women for many reasons, but one of its most important roles is to balance or oppose the effects of estrogen. Unopposed estrogen can create a strong risk for breast cancer and reproductive cancers.

Estrogen [2] levels drop only 40-60% at menopause, which is just enough to stop the menstrual cycle. But progesterone levels may drop to near zero in some women. Because progesterone is the precursor to so many other steroid hormones, its use can greatly enhance overall hormone balance after menopause.

Other reasons why progesterone is so necessary for weight loss and other bodily functions include...

- Protects against fibrocystic breasts
- Protects against endometrial, breast, ovarian, and prostate cancer
- Normalises blood clotting and protects against strokes
- Acts as a natural antidepressant and relieves anxiety
- Helps normalise blood sugar levels (cravings)
- Helps thyroid hormone function
- Stimulates osteoblast - new bone - formation
- Helps metabolize body fat for energy production
- Helps prevent hypertension
- Promotes the use of fat for energy.

## Thyroid Hormones

Thyroid hormones [5] in women are the epicenter of the body, connecting, communicating with, energizing and regulating everything to keep a woman in order.

The thyroid gland is critical in keeping overall health and wellbeing and is one of the largest glands in the endocrine system. This gland is responsible for regulating all metabolic functions in the body. The thyroid controls how quickly the body burns energy, makes proteins, and how sensitive the body should be to other hormones.

The thyroid does this by producing thyroid hormones, principally thyroxine (T<sub>4</sub>) and triiodothyronine (T<sub>3</sub>). These hormones regulate the rate of metabolism and affect the growth and rate of function of many other systems in the body. Iodine and tyrosine are used to form both T<sub>3</sub> and T<sub>4</sub>. The thyroid also produces the hormone calcitonin, which plays a role in calcium homeostasis.

[Listen to the audio file on the Thyroid gland explained from the Better Health Channel](#)

## **Cortisol**

Cortisol [6] is a steroid hormone that gives you energy, helps you handle stress, and enables you to be quick and active. This hormone is produced in the adrenal glands, which becomes increasingly important to a woman as she ages. As the ovaries' production of estradiol and progesterone slows down, the adrenals become the back-up producers for these very important hormones.

In addition to its role as a so-called "stress hormone", cortisol plays many key roles in almost every physiologic system. Regulation of blood pressure, cardiovascular function, carbohydrate metabolism, and immune function are among the best known functions of cortisol.

Refer Section 3 Stress – The Adrenal Glands for more information.

## **Testosterone**

Testosterone [7] is more commonly referred to as an androgen or the "male hormone", it is very important for women to have this hormone in order to build muscle and bone. Testosterone is considered to have significant effects on a female's libido, mood and energy.

There are testosterone receptors in all most all areas of the body responsible for sexual function, including the nipples, vagina, and clitoris, so it is easy to see why a drop in this hormone can result in a low libido and sexual function.

By the age of forty a women testosterone level will drop to half that of what it was when she was in her twenties and continue to drop as she ages. Like estrogen and progesterone, testosterone is mainly produced in the ovaries, so when our ovaries stop producing hormones at menopause women can lose much of their supply.

## **The Menstrual Cycle**

The first half of the menstrual cycle [8] (Follicular phase) is dominated by estrogen. Estrogen's role is to build the lining of the uterus in preparation for a potential pregnancy. At approximately day 14 of the cycle, or two weeks prior to menstruation, an egg is released from the ovaries. This is referred to as ovulation.

As a result of ovulation the ovary begins producing progesterone. Progesterone's role is to change the character of the uterine lining to prepare for pregnancy, and to prevent further buildup of the lining by estrogen.

It is during this second half of the cycle (Luteal phase) that progesterone is dominant. At the end of the cycle, if the egg is not fertilised, estrogen and progesterone levels drop, causing a sloughing of the uterine lining, or menstruation. The body goes

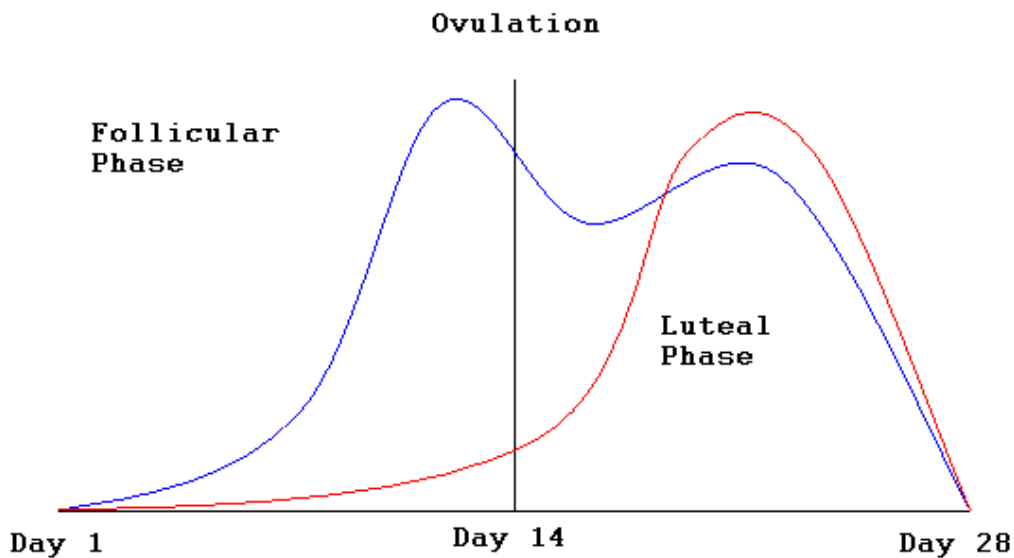
through this cycle every month to ensure a fresh uterine lining in preparation for a potential pregnancy.

If a woman fails to ovulate (anovulatory cycle), which is common during her pre and perimenopausal years as her egg production diminishes, she does not produce as much progesterone, and this may result in the woman experiencing symptoms of **hormonal imbalance**.

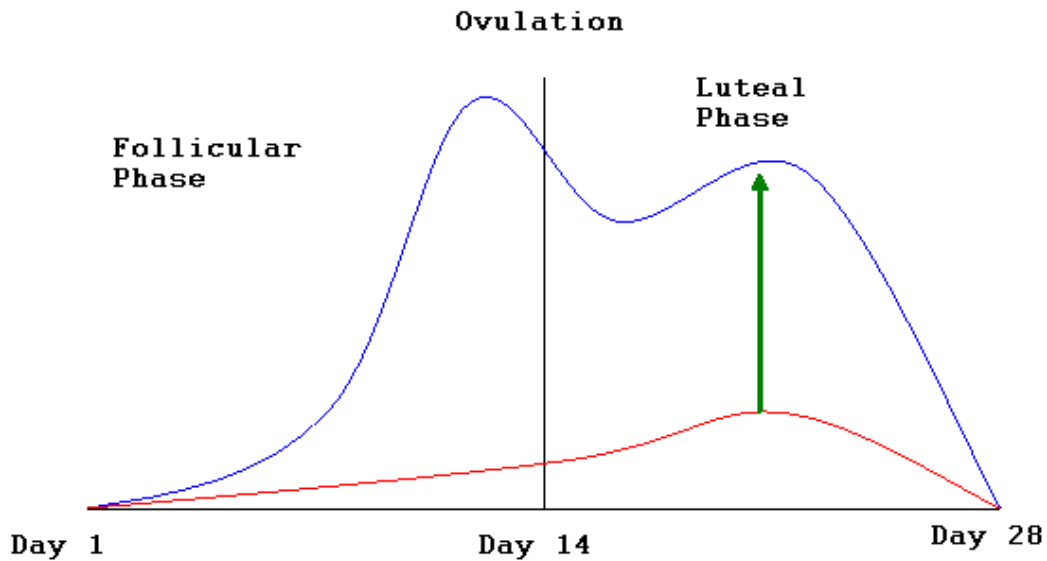
[Watch this You Tube Video on Ovulation](#)

## Cyclic Changes as Women Transition into Menopause

Progesterone = Red  
Estrogen = Blue  
Hormone Imbalance = Green



This graph shows cyclic changes of estrogen (estradiol) and progesterone in a normal cycle. At 14 days ovulation occurs which stimulates the production of progesterone. If fertilisation does not occur the result is menstruation around 28 days.



**This graph shows cyclic changes in Estrogen and Progesterone as a female reaches menopause – if ovulation fails at 14 days (anovulatory cycle), progesterone (red line) is not produced as much resulting in an imbalance of hormones (green line) which may cause unpleasant symptoms of Perimenopause.**

Women are born with a finite number of eggs [8] that eventually runs out. At birth, a woman has 1 - 2 million eggs, by puberty a mere 300,000. In the 10 to 15 years prior to menopause, this loss begins to accelerate and as menopause nears, only about 100 eggs remain.

Eventually estrogen levels decrease to the point that the lining of the uterus no longer builds up and menstruation ceases. This is menopause.

**After menopause, estrogen levels drop off at approximately 40 to 60% of its perimenopausal levels and progesterone falls close to zero.**

Although there are similarities in what happens hormonally, each woman's experience can be very different. Genetics may play a role in the timing, but lifestyle can certainly influence a woman's experience of menopause. Many women find they may need some medical intervention and pharmaceutical agents to help them manage most of their symptoms. Others find that the right combination of herbs, exercise, nutritional support, and natural hormones help.

## *Section 3: Contributing Factors to Hormone Imbalance*

During the transition from the reproductive years through menopause and beyond, a woman experiences many physical changes. Most of these changes are considered normal consequences of both menopause and aging.

Some physical disturbances related to menopause such as hot flashes are normal changes and some physical changes observed may be signs of illnesses that develop during midlife, including diabetes, sleep apnea and thyroid disorders.

Sometimes, with changing hormone levels at menopause and the physical affects of aging, non-communicable diseases (NCD's) and health problems arise.

The World Health Organization (WHO) reports NCD's [9] to be by far the leading cause of mortality in the world, representing 60% of all deaths. Out of the 35 million people who died from non-communicable diseases in 2005, half were under age 70 and half were women.

Risk factors such as a person's background, lifestyle and environment are known to increase the likelihood of certain non-communicable diseases. They include age, sex, genetics, exposure to air pollution, and behaviours such as smoking, unhealthy diet and physical inactivity which can lead to hypertension and obesity, in turn leading to increased risk of many NCD's.

### **The Endocrine System and Environmental Toxins**

Much has been written in the recent times of the health and wellness problems faced by humankind as a direct or indirect result of our changing environment.

At the beginning of the 20<sup>th</sup> century there was a 1 in 80 [9] chance of developing cancer, now a century later there is a risk of 1 in 3. Two out of 5 will suffer from heart disease or stroke and there is an abundance of diseases, disorders (including menstrual and menopausal disorders) and syndromes that never existed.

Little do most realise that the environment that we live in today can be a prime cause of this enormous increase over recent decades.

### **What are the major illnesses of today and their causes?**

Overwhelmingly, the diseases that are striking us all down are metabolic in origin, with toxin-related factors. If you start looking at the main killers in our society today, coronary heart disease, diabetes, osteoporosis, and cancer – these diseases are all linked to nutrition and toxins.

### **What is the endocrine system?**

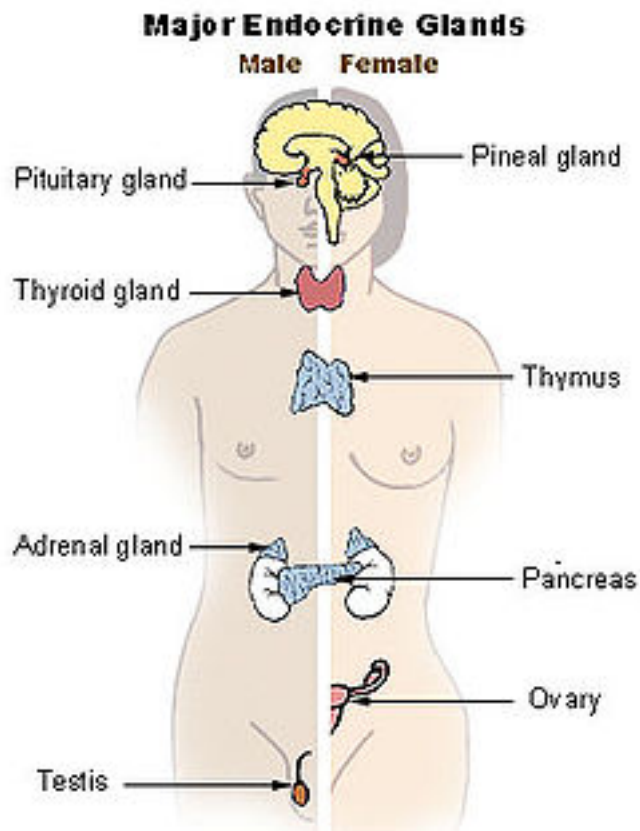
The endocrine system is a complex network of glands and hormones that regulates

many of the body's functions; including growth, development and maturation, as well as the way various organs operate.

The endocrine glands, including the pituitary, thyroid, adrenal, thymus, pancreas, ovaries, and testes, release carefully measured amounts of hormones into the bloodstream that act as natural chemical messengers, traveling to different parts of the body in order to control and adjust many life functions.

[Watch this You Tube video on The endocrine system](#)

### The Endocrine System in a Male and Female



### What is an endocrine disruptor?

An endocrine disruptor [10] is a synthetic chemical that when absorbed into the body either mimics or blocks hormones and disrupts the body's normal functions. This disruption can happen through altering normal hormone levels, halting or stimulating the production of hormones, or changing the way hormones travel through the body, thus affecting the functions that these hormones control.

These chemicals are known as xenohormones or xenoestrogens. Xenoestrogens [11] are substances not found in nature that have hormonal effects in the body. We come in contact with them on a daily basis. Xenestrogens are fat soluble, so they pass

easily through the skin, and are cumulative as well, meaning they accumulate in the body over time.

### **What are some likely routes of exposure to endocrine disruptors?**

Exposure to endocrine disruptors can occur through direct contact with pesticides and other chemicals or through ingestion of contaminated water, food, or air i.e. Ozone (O<sub>3</sub>), Nitrogen Dioxide (NO<sub>2</sub>), Particulate Matter (PM).

Chemicals suspected of acting as endocrine disruptors are found in insecticides, herbicides, fumigants and fungicides that are used in agriculture as well as in the home i.e. Meat from livestock fed estrogenic drugs to fatten them up, MSG in foods, artificial sweeteners, water bottles, phenol, tobacco, mercury, emulsifiers found in soaps and cosmetics (fingernail polish/remover and lipsticks).

Industrial workers can be exposed to chemicals such as dioxins, PCB's (polychlorinated biphenols), detergents, solvents, resins, and plasticizers with endocrine disrupting properties. Endocrine disruptors enter the air or water as a byproduct of many chemical and manufacturing processes and when plastics and other materials are burned.

Further studies have found that endocrine disruptors can leach out of nearly all plastics, including the type of plastic used to make hospital intravenous bags and your water bottles.

### **How much are chemicals affecting our bodies?**

The disturbing effects observed in humans of over exposure to xenohormones with estrogenic effects are summarized in the following list [12]:

- Undersized penises and/or undescended testes in boys born to women exposed to PCB's.
- A 50 percent decrease in sperm count since 1938
- And increased incidence of testicular and prostate cancer
- A potentiating or stimulating effect in breast cancer
- A potentiating or stimulating effect in endometriosis
- Endometriosis cancer
- Cervical cancer in women whose mothers were given diethylstilbestrol (DES), a potent synthetic estrogen, during pregnancy
- Premenstrual syndrome (PMS)
- Fibrocystic breasts
- Postmenopausal osteoporosis
- Change in sexual orientation
- Estrogen dominance syndrome
- Early puberty in young children

### **How do these chemicals affect our hormones and our health?**

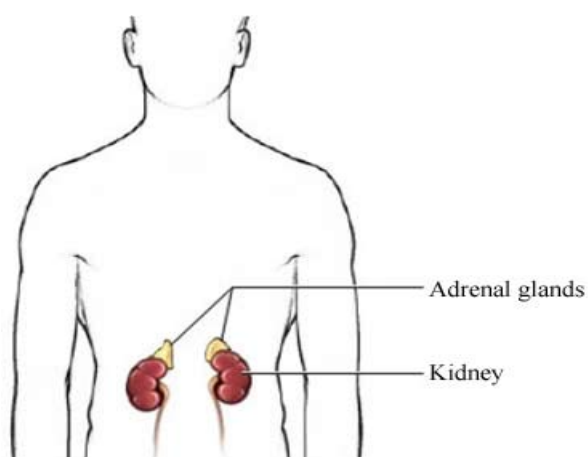
All xenohormones [12] should be considered toxic; the majority of them have estrogenic effects on both male and female bodies. These chemicals have an uncanny ability to mimic natural estrogen. Acting as endocrine disruptors, these chemicals interfere with our hormones to upset growth, reproductive capabilities, behaviours, intelligence and development.

For women, this increases her estrogen levels there by becoming estrogen dominant. A hormone imbalance occurs between estrogen and progesterone causing symptoms of premenopause.

Another side effect to the exposure of these chemicals, which are readily absorbed through our lungs, mouth and eyes, are irritations to the skin, mucous membranes and upper respiratory tract, gastrointestinal disturbances, nausea, headaches and vomiting, shortness of breath, allergies, asthma just to name a few.

### **Stress - The Adrenal Glands (endocrine system)**

A woman's emotional state plays a huge role in the balance of her hormones and should never be underestimated.



The adrenals [13] are two small glands, about the size and shape of a flattened prune, that sit on top of the kidneys. Each adrenal gland is composed of an outer and inner part; the outer cortex and the inner medulla. Both the medulla and the cortex produce important secretions that are part of stress reactions.

The adrenal medulla plays a role in regulating the sympathetic nervous system: It speeds up the heart rate, narrows blood vessels, and raises blood pressure and blood sugar by

secreting two hormones called epinephrine (also called adrenaline) and norepinephrine (noradrenaline). Epinephrine (adrenaline) is the hormone secreted when you're under stress. To help you respond to the stress and the release of these hormones, your body simultaneously and quickly speeds up the heart and sends blood flooding into the heart, lungs, muscles, and brain and away from the digestive system; sugar is dumped into the blood in large quantities to provide quick energy; and breathing is faster.

[Watch this video on Adrenal Glands](#)

The adrenal cortex secretes three classes of hormones – glucocorticoids, mineralocorticoids and androgens – which play literally dozens of ongoing roles in regulating bodily functions. While the secretions of the adrenal medulla provide quick and short-term responses to immediate stress, the adrenal cortex hormones provide longer-term responses for stress and homeostasis, which is the maintenance of balance in bodily functions. The adrenal cortex hormones are considered essential for life.

An important class of the glucocorticoids are the cortisols, which play a role in regulating blood sugar; the movement of carbohydrates, proteins, and the fats in and out of cells; inflammation; and muscle function. Chronic stress causes chronically

elevated levels of cortisol which in excessively large quantities is pure poison in the body. The symptoms of too much cortisol include:

- Weight gain (especially around the midsection)
- Blood sugar imbalances (a clue to these symptoms is whether or not a woman is a sugar junkie and/or gets shaky when they don't eat regularly)
- Thinning or papery skin
- Muscle wasting
- Memory loss

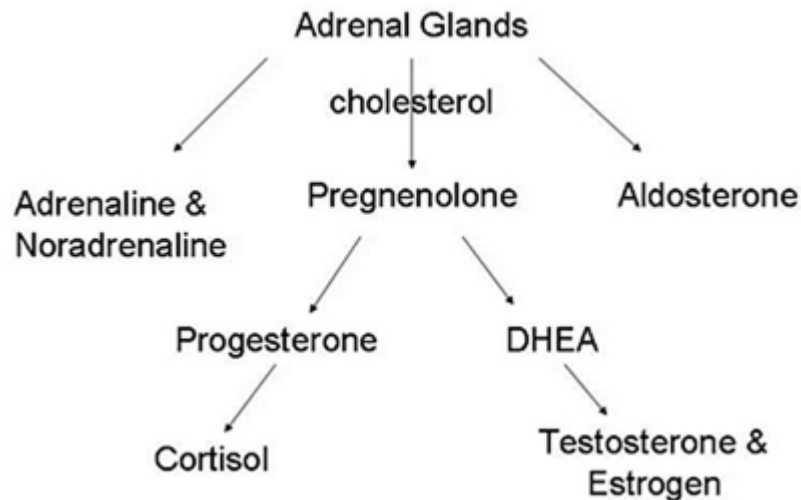
[Watch this Video on Adrenaline – Fight or flight response](#)

### The Stress Connection:

Stress is a huge underlying factor for hormonal imbalances for one simple reason: The adrenal glands will steal progesterone in order to make cortisol, one of our primary stress hormones.

The adrenals can NOT make cortisol without progesterone. So the more cortisol the adrenals have to make in order to keep up with all the stress in ones life, the less progesterone will be available to balance estrogen and testosterone, as well as, run the other many functions that are needed by progesterone. This starts that imbalance.

As the graph points out, the adrenal glands will first take cholesterol and make pregnenolone, the mother of all hormones.



From there the adrenals will either make cortisol or DHEA, testosterone and estrogen. If there is constant or prolonged stress the adrenals will direct as much of its available pregnenolone and progesterone to keep making cortisol and adrenaline. The body senses that it is in that “fight or flight” mode and realises it is more important to run and survive than it is to have a baby, because that is one of progesterone’s primary functions; to promote gestation!

When we manage the stress in our life the adrenal glands should have enough resource to produce hormones for each pathway. But when stress is constant, it has a priority and will steal all it needs to make cortisol and adrenaline. This causes a decrease in production of the other necessary hormones DHEA, estrogen, testosterone and progesterone.

Low levels of progesterone due to stress causes the hormonal imbalance and can lead to hot flashes, night sweats, loss of libido and infertility.

### **Adrenal Exhaustion and Cortisol Deficiency**

It's possible for a woman to have both the symptoms of excess cortisol, from years of chronic stress, and the symptoms of adrenal exhaustion, which is the inability to maintain adequate production of adrenal steroids.

The onset of adrenal fatigue often occurs because of financial pressures, infections, emotional stress, smoking, drugs, poor eating habits, sugar and white flour products, unemployment and several other stressors. After experiencing many of these events over a long period of time, the adrenal glands tend to produce less cortisol, the body's master stress hormone. Cortisol's main role in the body is to enable us to handle stress and maintain our immune systems. The adrenal gland's struggle to meet the high demands of cortisol production eventually leads to adrenal fatigue.

The medical world calls it mild adrenal insufficiency [14], more commonly known as tired adrenals or adrenal fatigue and the symptoms include:

- Constant fatigue, especially in the mornings when trying to get out of bed and after exercise.
- Muscle weakness
- Low blood pressure
- Low metabolism coupled with decreased thyroid function
- Excess pigmentation, which may look like tanning or dark freckles on the skin
- Allergies and/or asthma
- Low reserves for coping with stress
- Irregular menstrual cycles, fibrocystic breasts, anovulatory periods, infertility
- Difficulty resisting infectious illnesses like flu and upper respiratory infection
- Depression caused by the fatigue, weakness and inability to cope with stress
- **Increased PMS, perimenopausal, or menopausal symptoms under stress**
- Absent mindedness
- Decreased sex drive
- Mild constipation alternating with diarrhea

[Watch this video on tips on how to help your clients support their Adrenals](#)

### **Hypothyroidism**

Hypothyroidism [3] is a condition in which there is too little thyroid hormone in the bloodstream. The thyroid gland, which produces the thyroid hormones, is said to be "underactive," because it produces too little thyroid hormone needed for the body to function normally... see page 10 *Thyroid Hormones*.

## Anovulatory Cycles

As early as her mid-twenties a woman may not ovulate during some of her monthly menstrual cycles. Ovulation refers to the time when an ovarian follicle releases an ovum (egg) that travels down the fallopian tube towards the uterus. After the releasing the ovum, the emptied follicle becomes the corpus luteum that makes progesterone. This is the primary way that a perimenopausal woman makes progesterone.

If a woman fails to ovulate, she does not produce progesterone in any significant amount. Women can still have a seemingly normal menstrual cycle even if they haven't ovulated, but the lack of progesterone may cause a hormonal imbalance, resulting in them experiencing PMS symptoms such as swollen and tender breasts, weight gain, mood swings, and cramps.

There are many causes of anovulatory cycles, that is, menstrual cycles when one does not ovulate. One common cause is stress. The wisdom of the human body evolving over time dictates that a female body under stress may not be the best environment for a pregnancy.

The most common types of stress that are likely to induce anovulatory cycles are heavy exercise and extremely low calorie intake such as dieting, but any type of stress will do it, including emotional stress.

## Iatrogenic (Doctor Caused)

### Birth Control Pills... How do they work?

Hormonal contraceptives [15] either supply a steady level of both progestin (a substitute for progesterone) and estrogen or just progestin every day.

This results in:

No signal to a female's hypothalamus to release GnRH (Gonadotropin Releasing Hormone). So there is never a signal to the pituitary gland to produce FSH (Follicular Stimulating Hormone signals the growth of egg follicles in the ovaries). This means that nothing will trigger the LH surge (Luteinizing Hormone triggers ovulation) and the ovary will become relatively inactive without these hormones present.

This results in no mature egg produced or released.

These two hormones (FSH and LH) begin production when the body notices a shortage of estrogen and progesterone (remember, at day 14 when ovulation occurs estrogen drops off and progesterone becomes dominant). Hormonal birth control provides just enough of these hormones to prevent the stimulation of FSH and LH production. Keeping estrogen and progesterone levels constant, produces constant levels of FSH and LH, which keeps eggs from ripening and being released.

Hormonal contraception keeps a woman's reproductive system in the same phase of

her cycle on a continuous basis (by continuously skipping the release of GnRH, which triggers whole process of egg maturation), resulting in **side effects** such as nausea, breast tenderness and sometimes weight gain to name a few. Eventually hormonal imbalance can occur.

#### **Benefits of Oral Contraceptives:**

- Prevention of pregnancy when a woman is going through the transition and her menstrual cycle is irregular.
- Decreased menstrual bleeding for woman suffering from heavy menstrual periods (and decreased iron deficiency anemia as a result)
- Sometimes reduces hot flashes and maintenance of bone strength due to the combination of estrogen and progesterone (however please note these are not government-approved indications).

#### **Conventional Hormone Replacement Therapy**

Hormone therapy (HRT) [16] provides women with, or replaces, hormones that their ovaries stop making. There are two types of hormone therapy the first being EPT and is a combination of estrogen and progesterone and the second, ET and is estrogen alone.

#### **Benefits of HRT**

These are the potential benefits of HRT:

- decrease in LDL, which is also called the bad cholesterol
- decrease in total blood cholesterol
- increase in HDL, also known as the good cholesterol
- prevention of bone fractures in the hip and spine from osteoporosis
- relief of hot flashes and vaginal dryness
- slowing of bone loss and osteoporosis
- slight decrease in colorectal cancer

HRT improves the levels of lipids in the body. Because of this, this therapy was often prescribed for menopausal women to decrease their risk of heart disease. However, experts found that there was also an increase in stroke and heart attack in women taking HRT. So, in 2002, the Women's Health Initiative recommended that women not be started on HRT just to prevent heart disease.

#### **Risks of HRT**

Research has shown several risks associated with taking HRT.

- EPT and ET can increase the risk of breast cancer
- HRT can slightly increase a woman's risk for stroke and heart attack
- HRT can increase a woman's risk for gallbladder disease.
- HRT can increase a woman's risk of blood clots, such as deep venous thrombosis and pulmonary embolism.
- If a woman still has her uterus, taking estrogen alone increases the risk of cancer of the uterus. Adding progesterone reduces her risk to that of women who do not take ET.

Synthetic hormones can have similar results to natural hormones but often have additional impacts and may or may not be metabolised in the same fashion. Mass produced drugs require more complex formulation to enable long shelf life and as a result frequently require stabilising additives which in turn can act as endocrine

disruptors.

[Watch this video on Hormone Replacement Therapy](#)

## Nutritional Deficiency

### Processed and sugary foods [17]

Think of them as your client's enemy. There are no nutrients in sugar or other highly processed foods, and because the body needs nutrients to digest and assimilate what you eat, you end up drawing on your important nutrient reserves.

Refined Carbohydrates (pasta, white bread, white rice, baked goods, chips for example) and loaded with calories, but very hard to consider them nutrition. They are calorically dense and low in the nutrients your clients' body needs to feel satisfied. Eating too much of these foods leads to an **excessive calorie intake**, causing excessive weight gain and nutritional deficiency. They also cause insulin secretion to be chronically high. Insulin is a fat-storage hormone, and the more of it there is in the blood stream, the more of the calories your client takes in will be stored as fat.

Processed sugar is an immunosuppressant, impairing the function of the immune system and is terribly unbalancing, even more so than processed foods. It's extremely sweet taste is unnatural and not found anywhere in the natural world, and for most people is highly addictive.

Let's face it; sugar is pure poison in the body. It is a white, powdered, crystalline substance that makes you want more and makes you very irritable when you don't get it.

When your client eats a sugary snack like low-fat cookies or cake, frozen yogurt, or candy, their blood sugar spikes and insulin over-response sends their whole neuroendocrine system into emergency mode. Their adrenal glands pump out adrenaline to try and pick them back up after their blood sugar soars and dips down. It's truly a vicious cycle, one that needs to be avoided.

### Impaired liver function

The liver [12] is such an important organ that we can survive only one or two days if it shuts down - if the liver fails, your body will fail, too. Fortunately, the liver can function even when up to 75% of it is diseased or removed. This is because it has the amazing ability to create new liver tissue (i.e. it can regenerate itself) from healthy liver cells that still exist.

If your body were an automobile, your liver would be considered the engine. It does hundreds of vital things to make sure everything runs smoothly:

- Stores vitamins, sugar and iron to help give your body energy.
- Controls the production and removal of cholesterol.
- Clears your blood of waste products, drugs and other poisonous substances.
- Makes clotting factors to stop excessive bleeding after cuts or injuries.
- Produces immune factors and removes bacteria from the bloodstream to combat infection.
- Releases a substance called "bile" to help digest food and absorb important nutrients.

Excess estrogen is also filtered or processed through the liver, so if your client's liver function is compromised by drinking too much alcohol or using prescription drugs, for example, their estrogen levels will be higher. This is why symptoms of hormonal imbalance can be helped by simply making some healthy lifestyle changes.

## *Section 4: Symptoms of Pre /Peri / Post Menopause*

### **Hot flashes, flushes, night sweats and/or cold flashes**

The most common menopause related discomfort is the hot flash [17] sometimes called a hot flush and night sweats.

According to International Menopause Society [28], as many as 75% of women going through menopause experience hot flashes - sudden, brief increases in their body temperature. Hot flashes, if they occur at night can lead to sleeplessness and insomnia. In about 30% of women, these symptoms can be severe. They can interfere with normal daily functioning affecting our body, mind and spirit.

Prevalence varies throughout the world with 1 in 5 women affected in Asia, in contrast to 74% of women reported in Europe. If you're in England, Australia or New Zealand you probably call them hot flushes instead of hot flashes.

### **What are they?**

- A sudden flash of heat particularly affecting the face, neck and chest and lasting from a few seconds to several minutes. It may spread over the upper part of the body and be accompanied by sweating.
- An unpleasant, temporary sensation of heat in the skin, particularly in the upper part of the body. The face becomes flushed and sweating. The duration and frequency of hot flushes can vary considerably: from a few seconds to as long as 30 minutes, from several times an hour to only a few times in a month. The hot flushes are often accompanied by a racing pulse. As they frequently occur at night, affected women complain of sleep disturbances.
- Hot flashes are typically experienced as a feeling of intense heat with sweating and rapid heartbeat, and may typically last from two to thirty minutes for each occurrence. The event may be repeated a few times each week or constantly throughout the day, with the frequency reducing over time. Excessive flushing can lead to rosacea (redness and/or rash) particularly on the face.
- Clammy hot feeling (related to increased activity in the autonomic / sympathetic nervous system).

## **What causes Hot flashes, flushes, night sweats and/or cold flashes?**

Their exact cause is still a matter of speculation and without becoming too technical, hot flashes are thought to be the result in changes in the hypothalamus, the part of the brain that regulates the body's temperature.

Declining estrogen production via neurons result in vasodilatation - widening of the lumen of blood vessels (lumen being the cavity of a tubular organ, i.e., the lumen of a blood vessel,) which this, in turn, causes flushing or hot flashes.

For some women, hot flashes can be severe and quite frightening as a women's body temperature can rise by up to 5 degrees during a hot flash. And it is important to remember that hot flushes can also be a result of some medications and medical conditions related to aging and not just menopause.

[Please watch this Video on Symptoms of Menopause](#)

## **Osteoporosis**

Osteoporosis [19] is a condition in which the bones become fragile and brittle, leading to a higher risk of fractures (breaks or cracks) than in normal bone.

Osteoporosis occurs when bones lose minerals, such as calcium, more quickly than the body can replace them, leading to a loss of bone thickness (bone mass or density). As a result, bones become thinner and less dense, so that even a minor bump or accident can cause serious fractures. These are known as fragility or minimal trauma fractures.

### **Estrogen and osteoporosis:**

Women are four times more likely to develop osteoporosis than men. Estrogen deficiency is an important cause of accelerated bone loss in women during and after menopause. It is the major cause of bone fractures in postmenopausal women.

### **How does menopause affect osteoporosis?**

During menopause, reduction of bone mass accelerates, showing a clear relationship between the level of estrogen in a woman's body and the rate at which osteoporosis develops. After menopause, a woman's risk for osteoporosis is greatly increased.

The average woman loses up to 10% of her bone mass in the first five years after menopause. Research suggests that about half of all women over the age of 60 years will have at least one fracture due to osteoporosis.

Statistics [26]:

- As many as 2 million Canadians suffer from osteoporosis.
- One in four women over the age of 50 has osteoporosis.
- At least one in eight men over 50 also has the disease.

- Young people can suffer from osteoporosis too as bone loss in women can begin as early as age 25 years.
- The estimated cost to Canada is \$1.9 billion each year.

Worldwide, the lifetime risk for a woman to have an osteoporotic fracture is 30-40%. In men the risk is about 13%.

[Read this article on Bone health and preventing Osteoporosis by Jean Hailes Foundation](#)

## **Weight Gain**

This is still debatable by some health care professionals as to whether or not weight gain is a side effect of menopause. However, many perimenopausal women experience problems maintaining their weight due to a combination of reasons.

Your client's body has changed and they want to know why.

Apart from a women's changing hormone levels, metabolism slowing down as she ages, and lifestyle factors, it is also because their body is actually trying to hold onto fat. This is often around the waist and thighs, resulting in "the disappearing waistline" and changes in body shape.

On average, women may experience a gain of approximately 5 – 7 kilograms per decade as they age [1]. There are several theories as to why this might happen. One theory provides that the increase in weight and fat deposition allows for an increase in estrogen production, as fat cells can convert other hormones into estrogen. With the ovaries declining in their production of estrogen, the fat cells can "take up the slack" of estrogen production to some degree, lessening the effects of declining estrogen.

Lowered progesterone levels also exacerbate the primary symptoms of menopause, including weight gain and bloating/water retention. Development of lean muscle is reliant on optimum testosterone levels. Once testosterone levels decline so does the body's ability to develop and maintain muscle; leaving a body that is storing fat cells and slowing down metabolically.

Others link weight gain to chronic stress which causes overworked adrenals to release cortisol -and cortisol then triggers the body to store fat as well. Stress also robs us of quality sleep and works to keep the body 'whipped'- worsening already out- of- whack hormones.

### **Another theory...**

Because muscle tissue burns more fuel than our fat tissue, loss of muscle mass can result in a reduced requirement for calories. Inactivity, being a major cause, as age can promote a change in body composition also.

Add to this mix, the possibility of an under functioning thyroid, possible insulin resistance and endocrine system disrupting toxicity and there is A LOT more to menopausal weight gain than JUST calorie counting and portion control!

So, what can women do about it?

FIRSTLY... BALANCE THEIR HORMONES!!!

Another possibility would be to accept the weight gain as their body's way of acquiring more estrogen. Fat secretes estrogen, a valuable hormone during menopause. This may be beneficial for women who are very thin and more prone to the effects of lowered estrogen. For those exceeding their optimal weight, you may set about making small changes to balance your client's body's caloric need.

To do this, you can either:

- Gradually reduce their caloric intake to match their body's needs
- And/or increase their metabolism.

A good way to increase their metabolism is with regular exercise. Both aerobic and weight training exercises will help. Aerobic exercise burns fat, while weight training can build muscle, which in turn burns more calories.

**Things to remember...**

- At menopause, many women experience weight gain, particularly around the abdomen.
- Contributing factors include declining estrogen levels, age-related loss of muscle tissue and lifestyle factors such as diet and lack of exercise.
- Treatment options include a healthy diet, regular exercise, strength training and hormone replacement therapy (HRT).
- Clients who haven't exercised in some time should see a doctor before commencing.

### **Changes in Menstrual Periods**

Estrogen and progesterone are the two major hormones, which are produced in the ovaries during the reproductive years, and play an important role in a woman's menstrual cycle. As a woman reaches perimenopause, changes in both menstrual flow and frequency are common.

About 90% [18] of women experience 4 to 8 years of menstrual cycle changes before it ceases and a few women simply stop having a period one day and never have another.

It is important for women to understand the difference between a normal menstrual period and an abnormal menstrual period as not all menstrual changes are due to the onset of menopause.

A healthcare provider or physician should be consulted if any abnormal bleeding patterns occur.

**Possible causes of Abnormal Uterine Bleeding During Perimenopause:**

**Hormone Imbalance:** Irregular or heavy bleeding can be caused by an imbalance of ovarian estrogen and progesterone production. A low thyroid hormone level is considered a hormone abnormality and can also cause changes in a woman's menstrual cycle.

**Fibroids and Uterine Enlargement:** Medically called Myomas and are growths or benign tumors that form inside the uterus (womb).

Around four in 10 women over the age of 40 will have fibroids.

The uterus [2] is one of the first organs to manifest symptoms when a woman's hormones are out of balance. Two of the most common uterine symptoms of premenopause syndrome are an enlarged uterus, and uterine fibroids.

Women with PMS often experience painful periods (dysmenorrhea) which are most often caused when the endometrial lining of the uterus extends into the muscular wall of the uterus (adenomyosis). When shedding of the endometrium occurs (menstruation), the blood is released into the muscular lining, causing severe pain.

Conventional medicine treats this pain with NSAIDS (non-steroidal-anti-inflammatory drugs) such as ibuprofen, but ignores the underlying metabolic hormonal imbalance that caused it. The problem can often be simply resolved by restoring proper progesterone levels, which restores normal growth and shedding of the endometrium.

Estrogen dominance causes the uterus to grow, and without the monthly balancing effect of progesterone, it doesn't have the proper signals to stop growing. In some women this results in an enlarged uterus that presses on other organs, such as the bladder, and often on the digestive system, and generally causes discomfort and heavy menstrual bleeding. In other women estrogen dominance results in fibroids, which are tough, fibrous, non-cancerous lumps that grow in the uterus. Some fibroids can grow to the size of a grapefruit or cantaloupe, causing constant bleeding and such heavy menstrual periods that the blood loss is akin to hemorrhaging.

Fibroids always shrink at menopause, but the most common course of action a doctor takes when a patient comes in with a fibroid is to remove the uterus. The explanation given is that a fibroid is too difficult to remove without irreversibly damaging the uterus. But in most cases this is no longer true.

### Symptoms [3]

In many cases, fibroids are asymptomatic. Symptoms may include

- Heavy periods
- Lengthy periods
- Period pain
- Spotting between periods
- Painful intercourse
- A sensation of heaviness or pressure in the back, bowel and bladder
- Frequent urination
- A lump or swelling in the lower abdomen

### Different types of Fibroids

Fibroids are categorized by their location, which includes;

- Intramural – growing in the uterine wall. Intramural fibroids are the most common variety.

- Submucosal – growing in the uterine lining (endometrium). This type tends to cause excessive menstrual bleeding and period pain.
- Subserosal – growing on the exterior wall of the uterus. They sometimes appear like long stalks.

**Hormonal Contraceptives:** Prescription hormone contraceptive used for prevention of pregnancy can also be associated with breakthrough bleeding.

**Uterine Lining Abnormalities:** Noncancerous growths of the endometrium (uterine lining), such as hyperplasia (overgrowth of the endometrium), or polyps can cause abnormal uterine bleeding.

**Pregnancy:** Ectopic pregnancy (pregnancy developing in a fallopian tube), threatened miscarriage, and a normal pregnancy can contribute to abnormal bleeding.

**Cancer:** Cancer of the uterus, vagina or cervix can cause abnormal uterine bleeding. Regular Pap smears and pelvic exams can be helpful in early detection.

### Reduced Fertility

Women are born with a finite number of eggs that eventually runs out. At birth, a woman has 1 -2 million eggs, by puberty a mere 300,000. In the 10 to 15 years prior to menopause, this loss begins to accelerate and as menopause nears, only about 100 eggs remain.

Many women these days are delaying having children until midlife. But as women age, fertility is compromised.

### Sleep Disturbances, Insomnia, Sleep Apnea

The main culprits are the different effects of the two hormones – estrogen which makes women alert and progesterone which makes them sleepy – which fluctuate throughout the cycle.

Recent studies now have found that insomnia during menopause may be connected with the drop in the brain chemical serotonin that occurs when a woman's estrogen levels decline. Or it could simply occur due to the changes in her hormones.

It's usual for the frequency of insomnia to double in women undergoing menopause from what she experienced when she was perimenopausal. And studies have shown that women usually begin to experience restless sleep as much as five to seven years before menopause hits and especially if she suffers from night sweats.

[Watch this video on Sleep and Menopause by Red Hot Mamas](#)

### Central Nervous System Changes [18]

#### Headaches, Migraines

There are many different reasons for headaches and several different types. The potential causes can vary dramatically from stress, allergies, certain foods, red wine, fasting and skipping meals, too much or too little sleep, emotional changes,

environmental changes and medications to name a few.

Many women develop hormonal headaches during perimenopause. However, if one doesn't have a history of migraine or headaches, they're generally a short-lived experience of perimenopause.

**Mood swings, sudden tears, emotional outburst, depression, anxiety, irritability, anger**

Few scientific studies support the belief that menopause contributes to clinical depression, severe anxiety, or erratic behaviour.

However, many perimenopausal women have reported the inability to cope is overwhelming, and there is a feeling of a loss of self.

Mood swings can include anything from mood shifts (happy one moment, depressed the next) to sudden bouts of crying when nothing overt has occurred to cause the crying.

Mood swings can and have been misdiagnosed as bipolar disorder because one can feel such extremes of emotions. Anxiety, depression, panic attacks, anger and even feelings of agoraphobia aren't uncommon during menopause and a woman can feel like she's out of control.

Even though menopause has not been proven to be the cause of these disorders, many women experience these emotions because of how they react to physical and psychological changes during perimenopause couples with other midlife stressors.

There's nothing wrong with seeking counseling to discuss these issues with a mental health professional. This is a challenging time of life and some objective outside help can be tremendously useful in helping a woman cope with all the emotions she's feeling. Remember, menopause isn't simply physical changes, but emotional and spiritual changes as well.

What not to do when menopausal symptoms like irritability or anger sets in... [watch this video on "Menopausal women go Crazy!"](#)

**Difficulty concentrating, disorientation, & mental confusion, disturbing memory lapses**

Forgetfulness during peri-menopause is often referred to lightly and humorously as "brain fog" but it's not always funny. This is a very common symptom of aging and it can be a very serious symptom for working women who rely on their mind to do their job or career.

There is no firm evidence that memory or other cognitive skills actually decline because of natural menopause. However, difficulty remembering and concentrating are common complaints during perimenopause and postmenopause.

Although studies are lacking to prove the association, sleep disturbances, hot flashes, and other various midlife stressors may contribute to these symptoms.

### Loss of libido (sex drive)

Not every woman loses her libido [1] entirely during perimenopause, although some may temporarily.

As a woman ages the hormone androgen also declines leaving many women simply without the desire to have sex. Low estrogen can also play a part in vaginal dryness (vulvar and vaginal atrophy - when the vaginal walls become thinner and less lubricated) so sex can be painful and not enjoyable any more.

Also, bear in mind that there are many medications that can affect one's libido, including the anti-depressants some women take to cope with the depression and anxiety associated with menopause to anti-hypertensives.

Social changes, fatigue, stress, changes in body image and self esteem can leave a women feeling less attractive and without desire.

### Crashing fatigue

It is difficult to determine if the "fatigue" associated with perimenopause or is a symptom in and of itself, or if it's a side effect of the cumulative symptoms and general exhaustion (from them) many women experience. Sleep disturbances can be a major contributing factor to fatigue and irritability. It can also be caused from stress and tired adrenals.

### Incontinence

Incontinence [1] refers to the involuntarily loss of urine from the body. It may leak, drip, or rush out, depending upon the type of incontinence that your client is suffering from. Incontinence may also be accompanied by a continual urge to go to the bathroom or a feeling of fullness in the bladder. 30 - 40% of menopausal women suffer from incontinence making this one of the most common menopause symptoms along side hot flushes.

As menopause hits, women often find themselves rushing to the bathroom at the most inconvenient times. During menopause, estrogen levels in the body drop dramatically. Estrogen is responsible for keeping the urethra and the lining of the bladder healthy. It also stimulates blood flow to the pelvic region, increasing strength in the pelvic muscles. As a woman's estrogen drops, the lining of the urethra can become thinner and the pelvic muscles are simply weaker than they were before. These muscles may not have enough strength to hold the opening to the bladder closed. This is what causes the unwanted leakage of urine.

### Aching, sore joints, muscles and tendons

This may include such problems as carpal tunnel syndrome. **Osteoarthritis** can develop during perimenopause - and those with existing arthritic and/or rheumatic pain may find it's exacerbated during the menopausal transition.

## Breast Tenderness

The most common cause of breast tenderness during menopause is hormonal imbalance. During the menstrual cycle, estrogen and progesterone levels vary in different ways. Normally, when estrogen is down and progesterone is up, breasts get bigger in size. But, hormonal imbalance can alter this cycle, making breasts even bigger and more susceptible to pain, and for more prolonged periods. Therefore, when hormones are not balanced and estrogen levels decrease more than progesterone, the end result is breast tenderness during menopause.

Because the most common cause of breast tenderness during menopause is unbalanced amounts of estrogen hormone, maintaining healthy hormone levels is important to avoid this symptom.

## Increase in allergies

Many women who suffer from allergies develop worse allergies during the menopausal years. Many women who've never had allergy or respiratory problems may develop them for the first time. Many people don't realize that histamine levels are affected by hormone levels. Women can develop wheezing, coughing and a host of respiratory problems. This generally disappears as the hormones level out once a woman becomes menopausal. Different foods can have an enormous effect s far as allergies go.

## Other symptoms can include:

- **Gum problems, increased bleeding.**
- **Brittle fingernails** which peel & break easily.
- **Cravings or Binge eating**
- **Watery or Itchy Eyes**
- **Constipation, or Diarrhea**
- **Urinary Tract Infections**
- **Vulvar and vaginal atrophy** (when the vaginal walls become thinner and less lubricated, resulting in vaginal dryness and painful intercourse)
- **Itching / Dry Skin**
- **Dizziness, light-headedness, episodes of loss of balance.**
- **Hair loss, thinning head or whole body, increase in facial hair.**
- **Gastrointestinal distress, indigestion, flatulence, nausea.**
- **Crying for no reason**
- **Internal Shaking**
- **Bloating**
- **Bouts of rapid heartbeat, palpitations.** This is also related to increased activity in the autonomic / sympathetic nervous system.

[Watch this video Global Warming – The Menopause Song](#)

## Evaluating Your Clients:

It is vitally important as a Fitness Professional to know exactly what your client is experiencing and some of these women will not come out and tell you directly. In fact, a lot of women do not even know that they are experiencing perimenopause symptoms as they are just accepting their ill-health as part of aging.

In order to help you assess and plan for your client, included is a Health Evaluation Form. This form should be an imperative part of your consultation which will enable your client to become more aware of what she is experiencing and for you to be able to correctly assess and train your client.

It is also important to be aware of any medical conditions they have and prescription medicines that they may be consuming in order to understand and assess them professionally and properly.

**Health Evaluation Form**      **Name** .....

<p><b>DIGESTIVE TRACT</b></p> <p>.....Nausea or vomiting          .....Diarrhea          ..... Constipation          .....Bloating          .....Belching or passing gas          .....Intestinal/Stomach pain.</p>	<p><b>MIND</b></p> <p>.....Poor memory          ..... Confusion, poor comprehension          ..... Poor concentration          .....Poor physical co-ordination.          .....Difficulty in making decisions          .....Stuttering or stammering          .....Slurred speech</p>
<p><b>EMOTIONS</b></p> <p>..... Mood swings          .....Anxiety, fear or nervousness          .....Anger, irritability, or aggressiveness          .....Depression          .....Emotional outbursts</p>	<p><b>ENERGY</b></p> <p>.....Fatigue, sluggishness          .....Apathy, lethargy          .....Hyperactivity          .....Restlessness</p>
<p><b>EARS</b></p> <p>.....Itchy ears          ..... Earaches, ear infections          ..... Drainage from ear          .....Ringing in ears, hearing loss</p>	<p><b>SKIN</b></p> <p>.....Acne          .....Hives, rashes, Allergies          .....Dry Skin          .....Hair loss          .....Hot flushes          .....Excessive sweating</p>
<p><b>LUNGS</b></p> <p>.....Chest congestion          .....Asthma, bronchitis          .....Shortness of breath          .....Difficulty breathing</p>	<p><b>WEIGHT</b></p> <p>.....Binge eating / drinking          .....Craving certain foods          .....Excessive weight gain          .....Compulsive eating          .....Water retention          .....Underweight</p>
<p><b>JOINTS / MUSCLES</b></p> <p>..... Pain or aches in joints          ..... Arthritis          ..... Stiffness of limitation of movement          ..... Pain or aches in muscles          ..... Feeling or weakness or tiredness          .....Back Pain</p>	<p><b>EYES</b></p> <p>.....Watery or itchy eyes          .....Swollen, reddened or sticky eyelids          .....Bags or dark circle under eyes          .....Blurred or tunnel vision</p> <p><b>SLEEP</b></p> <p>.....Insomnia          .....Night Sweats</p>

<p><b>MOUTH / THROAT</b></p> <p>.....Chronic coughing</p> <p>.....Gagging, frequent need to clear throat</p> <p>.....Sore throat, hoarseness, loss of voice</p> <p>.....Swollen or discolored tongue,</p> <p>.....Bleeding gums, lips</p> <p>.....Mouth ulcers</p> <p>.....Cold sores</p>	<p><b>OTHER</b></p> <p>.....Fibroids</p> <p>.....Fibrocystic Breasts</p> <p>.....Leaking / Sore Breast</p> <p>.....Lack of libido</p> <p>.....Migraines</p> <p>.....Heavy / Irregular Periods</p>
<p><b>HEART</b></p> <p>.....Irregular or skipped heartbeat</p> <p>.....Rapid or pounding heartbeat</p> <p>.....Chest pain</p>	<p><b>The information you share on this form is Confidential, and will not be given or sold to any other persons.</b></p>

## *Section 5: Nutrition for Hormone Balance*

### **Nutrition Specific for Women 40+ [17]**

Some women are coming from a lifetime of hardly thinking about what foods they put in their mouths, except for the times they have tried to lose weight. There's a lot of frustration around food for most women, and this is especially true for perimenopausal women who are starting to gain some serious weight for the first time in their lives and can't seem to do anything to stop it.

For women wanting to balance their hormones, they must remember there is no diet designed for everyone and it means trying new things. It means getting rid of the processed foods they depend on for comfort and replacing them with real, nourishing substantial whole foods. It also means paying close attention to how their body responds to different foods and eliminating those that are having adverse effects on their health (i.e. some foods can trigger hot flashes while other foods some women just can not tolerate).

#### **What is nutrition?**

Nutrition is the study of the relationship between food and the well-being of the body. More specifically, it is the science of nutrients and how they are digested, absorbed, transported, metabolised, stored, and discharged by the body.

#### **What are nutrients?**

Nutrients are substances that are involved in the creation of every molecule in the body. The body needs more than 45 nutrients, and the ways that nutrients are used are as varied as the molecules, cells, and tissues they help to create. Carbohydrates, proteins, and fats (called macronutrients) are broken down (metabolised) to give the body energy. Vitamins and minerals (called micronutrients) are not themselves metabolised for energy, but they are crucial in helping the macronutrients convert to energy.

### **Phytoestrogens**

**Phytoestrogens** [20] are compounds that occur naturally in plants (phyto) and have been said to have actions like human estrogen.

### **Estrogen and phytoestrogens**[2]

Phytoestrogens are natural estrogen-like substances. Estrogen is a hormone that is necessary for optimal health. There is a link between estrogen levels and the development of heart disease, cancer and osteoporosis. At present there is no evidence that increasing the intake of phytoestrogen will prevent heart disease, cancer and osteoporosis.

### **Where do I find Phytoestrogens?**

#### **Food sources**

Phytoestrogens [20] can also be found in many herbs including black cohosh, licorice root, anise, and fennel. So far, we know that legumes particularly soybeans, whole grain cereals, and seeds are high in phytoestrogen. Research into the content in Australian food is continuing.

The content varies in different foods with some foods exerting a stronger effect than others. The content varies within the same group of foods e.g. soy beverages depending on processing and type of soy bean used.

<b>Foods containing Phytoestrogens</b>	
soy beans	dried beans
tofu	lentils
tempeh	rice
soy beverages	alfalfa
linseed	mung beans
sesame seeds	apples
wheat	carrots
berries	wheat germ
oats	Rice bran
barley	soy linseed bread

### **Fats & Oils**

(Collectively known as LIPIDS)

Lipids are the most concentrated form of dietary energy and are essential for a healthy life. 'Good fats' are those that nature has provided, they help fight stress and inflammation, assist our immune system, offer protection from injury and help get calcium into our bones. "Loosing weight" is more about decreasing body fat and

increasing lean muscle mass. Significant amounts of our energy can come from fat, the more we burn the less we store. Excess body fat has no purpose, muscle is 'metabolically active', and it uses energy even at rest.

### **Essential Fatty Acids 3, 6, 9**

**Essential fatty acids** (EFA) are nutritional elements necessary to health throughout life but especially during premenopause because of their benefit to your heart. The leading cause of death for women over the age of 45 is cardiovascular disease. Studies show that the consumption of essential fatty acids may reduce the risk of heart disease. Unfortunately our bodies cannot manufacture essential fatty acids so we must get them through our diet.

### **Vitamins**

#### **Vitamin A**

As a woman moves into mid-age, health concerns that never crossed her mind before suddenly come into view. Maintaining eyesight and protecting bone health from osteoporosis are just a few. Vitamin A plays an important role in vision wellness and building bone cells; it also helps regulate the immune system assisting the body in fighting off infections and viruses.

#### **B Vitamins**

Experts agree that stress levels tend to be high for the average premenopausal woman. Whether they are working, raising children, or both, their reserves can be drained quickly. Luckily, B vitamins play an important part in every woman's stress-buffeting system.

- *Vitamin B6*  
Vitamin B6 has been found to be a natural way to help alleviate stress and mood disturbances such as depression, anxiety, and lack of energy. It is also needed to produce more than 100 enzymes which assist in protein and carbohydrate metabolism. But that's not all; B6 is used in hormone production. All of this makes vitamin B6 an essential part of any nutrition plan for premenopausal, menopausal, or postmenopausal women.
- *Vitamin B12*  
Vitamin B12 is important for heart health because it is necessary for the metabolism of essential fatty acids and it helps maintain a healthy heart. Vitamin B12 also keeps the mind sharp, helping you to stay on top of your game.

#### **Vitamin C**

Vitamin C is well-known in folklore as a "cure for the common cold," but its uses are much more far-reaching than that.

Women over 40 need vitamin C because it is essential to the repair of all collagen, including cartilage and bone matrix. And its antioxidant properties may be effective in lowering the risk of some types of cancers.

## **Vitamin D**

The need for calcium supplementation is recognized by most mid-aged women, but calcium isn't the full story. Vitamin D helps your body absorb and use calcium. In fact, vitamin D is essential for calcium transport from the intestines into the blood plasma. It also decreases excretion of calcium from the kidneys, and it facilitates mineralisation of bones. If your client wants healthy bones, make sure to include vitamin D in her diet.

## **Vitamin E**

A healthy dose of vitamin E, along with your B vitamins, can help decrease the likelihood of occasional mood swings, irritability, memory problems, and depression. Vitamin E has also been found to support healthy heart function.

Vitamin E is great for mid-aged women because it helps protect your heart, keep your memory sharp, and may even relieve hot flashes.

## **Minerals**

### **Chromium**

Chromium is an essential trace mineral. In addition to maintaining healthy cholesterol levels, something that every mid-aged woman is concerned about, it also reduces cravings for sweets and food in general by supporting your body's natural regulating systems that signals the brain center when you're full. Chromium Picolinate increases the efficiency of digestion and helps maintain normal blood sugar levels.

### **Calcium**

Of all reported osteoporosis cases, 90% are women. That's why women should take calcium every day. Calcium supplementation will give your body the minerals it needs so it doesn't have to pull it from your bones.

Things to remember:

- The average adult's weight is made up of about two per cent calcium.
- Good sources of calcium include dairy foods, calcium fortified foods (such as soy products) and, to a lesser degree, some leafy green vegetables.
- If women don't have enough calcium in their diet, they may be at increased risk of developing osteoporosis.

### **Magnesium**

This nutrient is specific to aid in the transport of calcium to where the body can use it. Typically, our modern diets lack adequate amounts of magnesium, so adding magnesium in a supplement form is one of the best things your client can do to maintain good bone health.

## **Protein**

## **What is Protein?**

Proteins are part of every cell, tissue, and organ in our bodies. These body proteins are constantly being broken down and replaced. The protein in the foods we eat is digested into amino acids that are later used to replace these proteins in our bodies.

During digestion, protein in food is broken down into the 20 amino acids that are the basic building blocks our bodies use to create its own protein. Our bodies need protein to maintain our cells, tissues and organs. A lack of protein in our diets can result in slow growth, reduced muscle mass, lower immunity, and weaken the heart and respiratory system. Protein gives us the energy to get up and go and keep going.

## **Soy Protein**

Soy is a low-fat, low cholesterol source of protein. In fact, soy has natural properties that assist mid-aged women with weight loss and overall health. Soy's low glycemic index minimizes insulin fluctuations, which delays the release of glucose into your blood stream, keeping you feeling satisfied longer. Soy is also rich in isoflavones (supports the body's natural estrogen levels) which has said to ease the symptoms of menopause and a decrease in fat. However, research is not conclusive.

## **Fibre**

### **Fibre is the great equalizer and detoxifier**

Plant cell walls are our food sources of fibre. Fibre is not just a rough broom that makes bowel movements easier; it also serves as a source of important nutrients for the friendly bacteria that live in our digestive tract.

Fibre also helps in weight loss but also protecting against other health concerns such as cancer and heart disease. Since 1993, the FDA has allowed four health claims for fibre products; two of these claims address how fibre helps reduce the risk of coronary heart disease. Studies indicate that a high fibre diet also binds fat and toxins in the intestines and carries it out of the body.

When consumed with plenty of water, soluble fibre swells and tends to create a feeling of fullness. This, in combination with helping your client maintain normal blood sugar levels, helps suppress desires to eat other, less-healthy foods. Insoluble fiber significantly speeds up the transit time of digested food relieving constipation and also reducing caloric absorption.

A healthy diet should contain approximately 20 to 30 grams of fiber a day, but most of us only get about half of that amount.

### **Suggested Dietary Preparation to support Menopause**

To create physical and emotional well-being, it is important for perimenopausal women to increase their intake of:

- Soy

- Herbals Supplements such as dong quai, chaste berry, black cohosh, and licorice root
- Water
- Flaxseed lignan, fibre and Omega 3 fats (such as fatty fish)
- Bioflavonoids in fruits and vegetable: cherries, grape skins, blueberries, cranberries, whole grains and red clover
- Green tea
- Vitamins and minerals including calcium

Reduce intake of:

- M.S.G (Monosodium Glutemate)
- Caffeine
- Smoking
- Aspartame (found in diet sodas)
- High glycemic foods: white bread, white rice, sweets and candy
- Chocolate
- Refined and high glycemic index carbohydrates
- Red Wine and alcohol
- Peanuts

Also they must keep in mind:

- Eat at least three meals a day
- Focus on portion size, not calories
- Eat protein at each meal
- Eat a wide variety of organic fruits and vegetables daily
- Eat healthy fats every day

[Click here to print Eating Well with Canada's Food Guide](#) produced by Health Canada\*

[Click here to start building your clients own Food Guide](#) in conjunction with Canada's Food Guide

## *Section 6: Exercise for Hormone Balance*

Menopause brings with it a wide range of changes to a woman's body. It is a lot harder for women over 40 to lose weight than it was for them when they are in their 20s and 30s. There is absolute certainty that exercise is a menopausal woman's best friend in a way that it allows them to control their body and emotions by using their internal resources.

Excess weight has more dramatic implications on women's self-confidence and relationships than is generally acknowledged, as well as putting them at increased risk for a variety of health issues.

Unfortunately, women over 40 usually fail on most popular weight-loss diets, programs and pills because they have very specific nutritional needs that are not being addressed by the diet industry. In fact, that quest to find the right program has created a \$47 billion diet industry and the weight loss market is growing at \$7 billion dollars per year.

According to Statistic Canada [27] In 2010, 18.1% of Canadians aged 18 and older, **roughly 4.5 million adults**, reported height and weight that classified them as obese, that's **1 in 4 Canadian adults**, virtually unchanged from 2009. However, from 2003 to 2010, obesity among men rose from 16.0% to 19.8%, and among women, from 14.5% to 16.5%.

When those who were overweight were included, **60.9% of Canadian men and 43.7% of women** had an increased health risk because of excess weight.

In the US the National Institute of Health [22] says that more than 60 percent of women don't get the recommended amount of physical activity, and one in four women aren't physically active at all. That number jumps in women over 55; nearly 40 percent get no leisure-time physical activity at all.

In 1999 [30], the direct **healthcare costs in Canada of physical inactivity totalled \$2.1 billion**, representing approximately 21% of the healthcare costs of coronary artery disease, stroke, high blood pressure, colon cancer, breast cancer and diabetes.

Physical activity combined with healthy eating is the best approach for sustainable weight loss.

[Watch this video on Weight Gain and Menopause by Red Hot Mamas](#)

### **Benefits of Exercise for women 40+**

Exercise [25] is extremely important throughout a woman's lifetime and particularly as she gets older. The ideal exercise program includes cardiovascular (aerobic) exercise, strength exercises, and stretching. There are virtually infinite ways to incorporate these three kinds of exercise into a woman's life in a way that is pleasurable and realistic so that exercise can become a way of staying balanced.

Regular exercise:

- Reduces the risk of cardio vascular disease of the heart
- Helps regulate weight - **Metabolism** is typically associated with a person's lean body mass (or muscle mass), which, declines with age. Resting metabolic rate (RMR) decreases about 2%-5% every decade past age 30, which amounts to about 50-100 fewer calories burned per day.

**After 40, adults lose 3%-5% of muscle mass per decade**, and the decline increases to 1%-2% per year after age 50. Muscle keeps us strong, it burns calories and helps us maintain our weight, and it contributes to balance and bone strength. Without it, independence and mobility can be lost.

- Helps in the production of estrogen - each time that they exercise; their adrenal glands are stimulated to convert the male hormone androstenedione into estrogen. A minimum of four 30-minute exercise sessions each week will help to keep their body producing a little estrogen.
- Improves cardio-respiratory fitness
- Increases flexibility
- Decreases risk of **Osteoporosis** - After age 40, the rate of bone loss exceeds the rate of new bone formation, meaning that bone density starts to decline and extra care must be taken to minimise this loss and the risk of osteoporosis.
- Strengthens muscle and bone - Although every woman is different, most of us lose 25 - 35 percent of our bone mass by the time we reach the age of 65. Bone loss begins around the age of 35, proceeds slowly up to the menopause, and then accelerates during the five to seven years after the menopause, when estrogen levels are low.
- Reduces high blood pressure and diabetes - Postmenopausal women who exercise regularly are about half as likely to develop diabetes as their more sedentary counterparts.
- Has a significant effect on women's mental agility by increasing the amount of oxygen to the brain.
- Helps prevent their reaction times from slowing down.
- Sweeps excess cortisol (stress hormone) from the bloodstream. That's why a good workout feels so soothing after a stressful day.
- Exercise causes an increase in the body's natural antioxidant defenses.
- Can help to relieve many symptoms of menopause such as hot flashes and night sweats, thinning and irritation of the vagina and urinary tract, mood swings, cravings (stabilises blood sugar), and insomnia.
- Menstrual cramps and PMS are soothed by a good workout
- Reduces depression - by stimulating endorphin production (a tranquilizer effect is apparent when the body releases endorphins. Endorphins are 200 times more potent than morphine and increase approximately 500% during relatively vigorous exercise), it increases oxygen and glucose to the brain, exercise expedites the removal of debris from brain cells
- Aging is often hastened by physical inactivity - By strengthening the skin, lungs, digestive tract, nervous system, and controlling body fat, exercise can help slow the aging process.
- Contributes to a sense of overall well-being and improvement in mood.

## Special considerations and recommendations when training peri/post menopausal women:

**Check with the doctor** - If they have any existing health conditions or they have been inactive for a long time, it is advisable to obtain a medical clearance before you start to exercise.

It is also advisable for women to have regular check ups [1] to detect any health issues early, for example:

- Regular mammograms are important for women over 40, even after menopause.
- Height measurements detect loss of height, possible indicator of osteoporosis, therefore a bone density test done in the last two years it is strongly recommended.
- Blood, urine and other tests help to screen for existing or increasing risk of diabetes, heart disease, and thyroid disease.
- A Pap smear test for cervical changes or possible cancer
- A Dsi Saliva or blood test for hormone levels is advisable although these tests have not been proven to be accurate as women's hormones fluctuate on a second to second, day to day basis.
- Testing for cortisol and DHEA levels and hypothyroidism is also recommended.

[Please read the following article from the Jean Hailes Foundation for womens health on Health Checks.](#)

## Heart Disease

General Heart Statistics according to Heart and Stroke foundation Canada [30]

Heart disease and stroke takes **1 in 3 Canadians before their time that is every 7 minutes in Canada**, someone dies from heart disease or stroke.

Heart disease is one of the three leading causes of death in Canada. These statistics are based on 2008 data (the latest year available from Statistics Canada).

In 2008 cardiovascular disease accounted for:

- 29% of all deaths in Canada (69,648 deaths – or more than 69,500)
- 28% of all male deaths
- 29.7% of all female deaths

More women than men die from heart disease [1]. After 55, more than half of all deaths in women are caused by cardiovascular disease. Women who experience premature menopause, natural or induced, may have even greater risk for heart disease.

Heart disease rates in postmenopausal women are two to three times higher than those in premenopausal women of the same age; some suggest that the body's estrogen provides some protection. Research is ongoing.

A careful assessment of a woman's heart is very important, and menopause is an excellent time to do this.

### Heart Disease Risk Factors for Women

- Age 55 or older
- Ethnicity
- Current cigarette smoking
- Weight gain more than 20% over ideal
- Waistline more than 88 cm (35 inches)
- Physical inactivity
- High Blood Pressure
- Stress
- Diabetes
- Abnormal triglyceride levels or cholesterol
- Drinking more than seven alcoholic beverages each week
- Family History
- Premature menopause, especially if reached before 35

[Read this article on Heart disease from Better Health Channel](#)

**Diabetes** – Diabetes [1] is a serious disease. With diabetes, either the body doesn't produce enough insulin or the cells aren't able to use the insulin, or a person is so overweight that normal insulin production is not enough.

Type 2 diabetes (adult-onset diabetes) is the most common that is developed as people age and evidence strongly suggests that healthy lifestyles can prevent most cases of type 2 diabetes.

Obesity is the number one risk factor, responsible for an estimated 80% to 95% of the increase in type 2 diabetes in the developed world.

According to the Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada [31], approximately 80 to 90% of Canadian people with type 2 diabetes are overweight or obese, 9 million Canadians live with diabetes or prediabetes, and today 1 million have type 2 diabetes and have no idea.

Just about every risk factor for heart disease is also a risk factor for type 2 diabetes.

**Osteoporosis** – Osteoporosis [19] is characterised as an increase in bone porosity, a decrease in bone mineral content and an increase in the risk of bone fractures that typically begin in the mid thirties and is accelerated 2 – 5 times that rate at the onset of menopause.

Although there is still a great deal to learn concerning the etiology of osteoporosis, there are three main contributing factors in post-menopausal women:

1. An overall reduction in calcium intake
2. An estrogen deficiency

3. A reduction in physical activity.

### **Major Risk Factors for an Osteoporosis Fracture**

- Advanced age
- History of previous fracture (other than skull, ankle, finger, facial bone, and toe) as an adult.
- Low bone density
- History of hip fracture in a parent
- Current smoking, any amount
- Weight under 57.7 kg (127 pounds)
- More than two alcoholic drinks per day
- Lack of adequate calcium and Vitamin D
- Use of bone-robbing prescription medicines (such as steroids for more than 3 months)
- Increased risk of falls (impaired vision, dizziness from medications, poor balance etc).

### **Recommended exercises**

Exercises that are ideal for a person with osteoporosis include:

- Walking
- Tai Chi
- Low impact aerobics
- Weight training using free weights such as dumbbells and barbells
- Resistance training using rubber tubes/bands
- Dancing
- Exercises to improve posture, balance and body strength.

### **Exercises to avoid**

A person with osteoporosis has weakened bones prone to fracturing. Activities to avoid include:

- High impact aerobics or activities
- Any exercise that requires sudden, forceful movement
- Abdominal sit-ups
- Any exercise that requires a flex, bend or twisting motion of the spine.
- Any exercise requiring sudden jolts, stops and starts, such as tennis or squash.

**Menstruation** – Some women have no noticeable change in their ability to perform during their monthly cycle, whereas others do especially if they suffer from menorrhagia (heavy periods). Energy levels, cramps and feelings of nausea need also be taken into consideration.

**Incontinence** – It is important to remember that if a woman suffers from incontinence the severity needs to be assessed to determine what exercises she can do.

Be cautious of exercise that place more stress on the pelvic floor than others. These exercises include:

- Running
- Jumping
- Star jumps
- Skipping
- Boxing
- Sit ups, curl or crunches
- Deep lunges or wide legged squat
- Lifting or pressing heavy weights
- Double leg lifts (usually done with ab exercises)
- High impact exercise classes that involve jumping, running or trampoline
- Sports involving stop start running and rapid direction change (eg tennis, netball, hockey, squash or touch football)

**Environmental Factors** – Be aware of exercising in the heat, in the cold, or at altitude as this provides an additional stress or challenge to the body's adaptive abilities. This can also bring on hot flushes, palpitations, feelings of nausea and other menopausal symptoms.

**What to take into account when starting an Exercise program with 40+ aged women.**

**Use full range of motion** - This is important to maintain joint health and flexibility within the joint. Improving range of motion and flexibility in all joints will remedy stiffness and soreness that are very common as women reach menopause.

**Start slowly** - build up to more strenuous activities and **don't over do it with them.** Excessive exercise without adequate rest and cross-training can cause wear and tear on the joints and lead to osteoarthritis

**Recovery Time** – Understanding that recovery time allows a body to re-synthesize muscle fibre and build a leaner, stronger muscle, however as a women ages, she will need more time for recovery, especially if fatigue is an issue.

Be much more concerned about her progression and the risks of injury and overtraining.

**Include Aerobic exercises** - If they can't sustain aerobic exercise for 20 minutes, build them up to 30 minutes of continuous aerobic exercise through multiple 5-10-minute bouts. If a woman has been sedentary, just start by getting her moving for 5 minutes every day slowly and build her up.

Vigor and energy are usually enhanced with regular exercise. Using stairs whenever possible and increasing daily walking time are two of the very best exercises

*Remember... it is vitally important to take into consideration how she feels and her energy level on the day.*

American College of Sports Medicine [23] guidelines for cardiorespiratory endurance training are:

**Frequency:** 3-5 days per week

**Intensity:** 50-85% of heart rate maximum ( $220 - \text{age} \times .50$  to  $.85$ ) or  
60-80% heart rate reserve ( $220 - \text{age} - \text{resting heart rate} \times .60$  to  $.80$   
+ resting heart rate)

**Time:** 20-60 minutes

**Type:** Anything aerobic in nature with special focus on weight bearing activities.

**Include Resistance Training exercises** – This is extremely important to maintain bone density and strength. Use relatively low weights and high repetitions, and increase the amount of weight you use with them slowly. *Be aware of aches and pains and energy on the day and adjust training accordingly.*

American College of Sports Medicine [23] guidelines for resistance training for healthy adults are:

**Frequency:** 2-3 days per week  
Allow 48 hours of rest between workouts

**Intensity:** 1 set of 8-12 repetitions to volitional fatigue  
8-10 different exercises that train all the major muscles

Adults older than 50 are advised to start with 1 set of 10-15 repetitions

**Time:** 1-second concentric, 2-second eccentric  
2-second concentric, 4-second eccentric

**Type:** Free weights, machines, bodyweight and/or elastic resistance

#### **Resistance training Tips:**

- Adhere as closely to the specific exercise techniques (proper technique, exercise both sides of body, breathe, move the clients joints through a full range of motion, move in a controlled manner-don't let momentum move the weight)
- Use both concentric (shortening) and eccentric (lengthening) actions
- Use both single-joint & multi-joint exercises
- Exercise sequence
  - Large muscle before small muscle group exercises
  - Multi-joint exercises before single-joint exercises
  - Higher intensity before lower intensity exercises

#### **Bone health** in regards to resistance training:

- Focus on exercises that load the spine and enhance posture
- Exercises to protect and strengthen the hips
- Women at risk for osteopenia/osteoporosis should avoid heavy resistance during chest exercises

- More resistance and fewer repetitions are required for bone maintenance and building
- Progression
- Program should be changed every 6-8 weeks
- Starting a weight training program with 1 set of exercises is far more tolerable
- Gradually progress to more sets if desired
- Many older women are unfamiliar with resistance training

**Include Flexibility and Stretching Exercises** - Gentle exercises that promote mobility, flexibility and relaxation and at the same time decrease stiffness and soreness often help the menopausal woman.

Stretching will not only increase their flexibility and minimize their chances of pulling or tearing muscles but it will also improve a woman's overall performance.

A flexible muscle reacts and contracts faster and with more force than a non-flexible muscle. Flexibility will increase a woman's agility and balance as well.

ACSM [23] guidelines for flexibility training:

**Frequency:** At least 3 days per week

**Intensity:** To the point of mild discomfort

**Time:** *Static:* 10secs working up to 30 seconds holding stretch  
*PNF:* 6-second contraction followed by 10-30 seconds assisted stretch  
*Reps:* 3-5 for each stretch

**Type:** Static, dynamic, ballistic and PNF stretches are all effective

**Precautions for flexibility training in post menopausal women:**

- Stretch a joint through limits of normal Range of Motion (ROM).
- Do not stretch at healed fracture sites for about 8-12 weeks post fracture, after which gentle stretching may be initiated.
- In individuals with known or suspected osteoporosis, stretch with particular caution (e.g. women older than 65 years, older women with spinal cord injury).
- Avoid aggressive stretching of tissues that have been immobilized (e.g., cast or splinted). Tissues become dehydrated and lose tensile strength during immobilization.
- Mild soreness should take no longer than 24 hours to resolve after stretching. If more recovery time is necessary, the stretching force was excessive.
- Use active comfortable ROM to stretch edematous joints or soft tissue.
- Do not overstretch weak muscles. Shortening in these muscles may contribute to joint support that muscles can no longer actively provide. Combine strength and stretching exercise so that gains in mobility coincide with gains in strength and stability.
- Be aware that physical performance may vary from day to day.
- Set individual goals.

**Include Pelvic Floor exercises** – Pelvic floor problems are not a life sentence so it is important to teach your client to **hold in their pelvic floor** in every exercise to strengthen the muscles that support the bladder, uterus and bowel.

The Continenence Foundation of Australia [29], suggest prescribing exercises that will enhance the pelvic floor muscles like:

- Kegel Exercises
- Walking
- Swimming
- Seated cycling
- Low intensity water aerobics
- Low impact exercise classes

Watch these two video on Kegel Exercises [Part 1](#)  
[Part 2](#)

Suggestions [29] on how to help your client protect their pelvic floor while exercising are:

- Maintain a relaxed upright position while they exercise
- Keep their legs closer together when they exercise
- Reduce the depth of the squat and lunge
- Reduce the level of their abs program
- Breathing out with effort as they push, pull, lift or lower a weight
- Using lighter weights
- Using seated equipment where weights can be adjusted
- Getting them to sit on a Swiss ball when using dumbbells or hand weights

**Include Relaxation Techniques** - Relaxation is perhaps the single most important key to health and well-being. It is the antidote to stress which is known to contribute to the development of disease. When we relax, our nervous system relaxes and our body has an opportunity to unwind. The benefits of relaxation have been well researched and some of these are summarised below.

Relaxation

- Gives the heart a rest by slowing the heart rate
- Reduces blood pressure
- Slows the rate of breathing, which reduces the need for oxygen
- Increases blood flow to the muscles
- Decreases muscle tension
- Reduces stress on your adrenal glands

As a result of relaxation, many women experience –

- More energy
- Better sleep
- Enhanced immunity

- Increased concentration
- Better problem-solving abilities
- Greater efficiency
- Smoother emotions — less anger, crying, anxiety, frustration
- Less headaches and pain

**Include Balancing Exercises** - With age balance tends to decline due to lower muscular strength and flexibility, as well as numerous other causes including inner ear problems. According to the National Institute of Health (NIH), 9 percent of adults age 65 and older report having difficulty with balance.

**Frequency:** 2 - 3 days per week

**Time:** 20-30 minutes per day is appropriate for neuromotor exercise.

**Type:** Neuromotor exercise sometimes called “functional fitness training”

Exercises should involve motor skills (balance, agility, coordination and gait), proprioceptive exercise training and multifaceted activities (tai ji and yoga) to improve physical function and prevent falls in older adults with

**Recommend yoga for menopause** – “Yoga stretches can benefit both the body and the mind, bringing energy and balance. This is particularly helpful to women who are currently in menopause or in menopause transition because their hormonal levels and body chemistry may be fluctuating rapidly. This can leave women feeling out of balance and truly victims of their changing bodies. Yoga exercises level out this physiological instability by relaxing and gently stretching every muscle in the body, promoting better blood circulation and oxygenation to all cells and tissues” – by Susan M. Lark, MD.

The correct yoga exercises for particular menopausal symptoms may be found illustrated in Dr. Susan Lark’s book, *The Menopause Self Help Book*.

**Fitness Goals for:**

**Premenopause** (young women)

- Promote peak bone mass
- Enhance cardiovascular function
- Strive for a healthy body composition
- Adopt exercise as a lifelong commitment

**Perimenopause** (middle-aged women)

- Protect bone mass and reverse bone loss
- Enhance cardiovascular function
- Strive for a healthy body composition
- Help reduce menopausal symptoms
- Continue exercising as a means of delaying age-related losses in function

**Postmenopause** (older women)

- Protect bone mass and reverse bone loss
- Enhance cardiovascular function
- Sustain exercise as a means of boosting quality of life
- Fall prevention by maintaining balance, stability and coordination
- Maintain muscle to enhance and maintain activities of daily living

## *Section 7: Understanding Treatments Options*

### **What is hormone replacement therapy?**

Hormone replacement therapy (HRT) [1] also known as hormone therapy (HT) is medication combining the hormones estrogen and progestin (synthetic form of progesterone), and sometimes also the hormone testosterone. HRT is usually prescribed to women to help relieve severe symptoms associated with reduced levels of hormones, particularly estrogen, where lifestyle changes are not effective (approximately 20 per cent of women suffer severe menopause symptoms).

The following hormones are used in HRT:

#### ***Estrogen***

- helps to alleviate symptoms
- helps to protect bone, genital tract and possibly the cardiovascular system (heart and blood vessels)

#### ***Progesterone***

- helps to protect the uterus

#### ***Testosterone***

- maintains bone density, muscle strength, energy and libido

HRT is usually taken in the form of tablets, skin patches, gels, implants, injections, creams or pessaries (vaginal suppositories). HRT can only be prescribed by a doctor, with ongoing supervision and management.

### **What is meant by 'short-term' HRT and 'long-term' HRT?**

Short-term HRT is usually taken for one to five years. Long-term HRT is given for five years and longer. For many women, menopause symptoms disappear within five years of menopause. Therefore, short-term HRT is usually all that is required.

There are three types of hormone therapy:

- **EPT** - estrogen plus progesterone therapy.  
Taking estrogen alone can increase the risk of cancer of the uterus and other debilitating health issues so women who still have their uterus need progesterone along with estrogen.
- **ET** - estrogen therapy.  
Estrogen alone is usually prescribed to women who have had their uterus and ovaries removed.
- **Testosterone Therapy** – Younger women experiencing premature menopause or after surgical removal of the ovaries, with or without a hysterectomy may also be prescribed testosterone in conjunction with HRT

**According to the National Health and Medical Research Council of Australia [24] the**

**Main benefits of HRT are:**

HRT reduces the incidence or risk of:

- hot flushes
- urogenital symptoms (dryness, irritation or itching, discharge, dysuria)
- sleep problems
- osteoporotic fracture
- colorectal cancer (combined HRT)
- 

**Main risks of HRT**

HRT increases the risk of:

- DVT (Deep Vein Thrombosis) and PE (Pulmonary Embolism)
- stroke
- breast cancer (combined HRT)
- endometrial cancer (estrogen-only HRT)
- ovarian cancer (estrogen-only HRT)

**No change in risk**

HRT does not appear to affect:

- weight gain
- headache, migraine
- breast cancer (estrogen-only HRT)
- colorectal cancer (estrogen-only HRT)
- 

**Insufficient evidence**

It is not clear whether HRT affects:

- other menopausal symptoms
- coronary artery disease
- ovarian cancer (combined HRT)
- cognition, dementia

**Natural Hormone Replacement Therapy / Bio-identical Hormones**

'Bio-identical hormone replacement therapy' (BHRT) [1] is a term used to describe a medication containing estrogen and progesterone that claims to be exactly the same as the hormones produced in our bodies. BHRT is prescribed by doctors and made up by particular pharmacists.

The makers of these hormone preparations have stated that they are natural 'bio-identical' hormones. In fact, 'bio-identical' hormones are all manufactured synthetically by a similar process to most hormones, including the pill and regulated hormone replacement therapy (HRT).

[Please read the listen to the audio from Jean Hailes Foundation on Bio-identical Hormones.](#)

**Alternative Therapies**

There are a wide range of alternative natural therapies provided by Doctors, Naturopaths, Herbalists, Osteopaths, Chiropractors, Acupuncturists and others that are a choice for many women.

[You tube video on Natural Therapies](#)

## Coaching and Support for Peri / Post Menopausal Women

Coaching [25] is a modern and rapidly growing method for helping others to improve, develop, learn new skills, find personal success, achieve aims and manage life change and personal challenges. Life coaching, or personal coaching - different terms are used - is effective for all situations, whether in personal life, career, sales or corporate and business life.

It is important for women to be immersed in a powerfully supportive environment so they are able to receive the correct information and positive support so consequently the steps for long term change are put in place. It is the synergy of balancing every aspect of life in order to create balance and harmony overall. The expertise of a life coach is where it all can start.

### *Different Women, Different Needs*

There is no single way to ensure the best possible quality of life around menopause and the years after. Each woman is unique. It is beneficial for a woman to invest time working with her healthcare provider and fitness professional to create an individual lifestyle plan and to re-evaluate and make adjustments as the woman's body continues to change in its own individual way.

All women see, feel and think of menopause differently, [watch this video to see how](#)

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## *Recommended Reading*

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 Women Who Run With the Wolves By Clarissa Pinkola Estes  
 Hormone Heresay. What women must know about their hormones By Sherril Sellman  
 Passage to Power By Leslie Kenton.  
 A Time to Celebrate By Joan Morais  
 Menopause for Dummies By Dr Lily Stojanovska

<b>Notes:</b>


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