

Charting the signs of perimenopause

Keeping track of particular body signs throughout a month, or over several months, can provide valuable information, for yourself and your doctor or naturopath.

Menstrual charting (also known as fertility charting) used to only be done by those women who wanted to know when they ovulated so that they could use natural birth control or so that they could become pregnant. However, menstrual charting is also recognized as an important action women can take to notice if their body signs show a particular pattern.

This information can then be used by the woman to clarify "how bad" or "how often" these perimenopause-related body changes occur. Some women, after charting their cycles for several months, have found that certain changes (for instance, heavy bleeding during periods or breast tenderness) don't actually occur every month.

Further, if a woman chooses to go on a natural supplement (such as St. John's Wort) or a pharmaceutical supplement (such as a very low-dose birth control pill), she can continue to chart, checking how her body is responding to the treatment and comparing her body signs to her earlier charts.

Using a calendar format, a woman can chart her signs of perimenopause by keeping track of the fluid produced by her cervix, her basal body temperature, the size of the opening of her cervix, and any other signs that are unique to her.

An excellent source of information about menstrual charting is the book *Taking Charge of Your Fertility*, by Toni Weschler (Harper Collins, 1995).

Workshops

The Amazing Breasts

Learn about the important features of breast tissue, how it is influenced by the menstrual cycle and how the tissue changes over our lifetimes. (2 hours)

Body Fat Facts

A discussion on why the female body is so driven to gain and keep fat and how this changes with pregnancy and age. (2 hours)

Breastfeeding and Fertility

Discussion on whether exclusive breastfeeding can be a form of reliable birth control. Information also includes other forms of effective birth control that are compatible with breastfeeding. (2 hours)

Perimenopause

A discussion on how the ovaries and therefore, the body, changes its activity between 35 to 50 years of age; the time leading upto menopause. (2 hours)

To register for a workshop, or to organize one for yourself and your friends, please contact Louise, at Ovarian Connection.

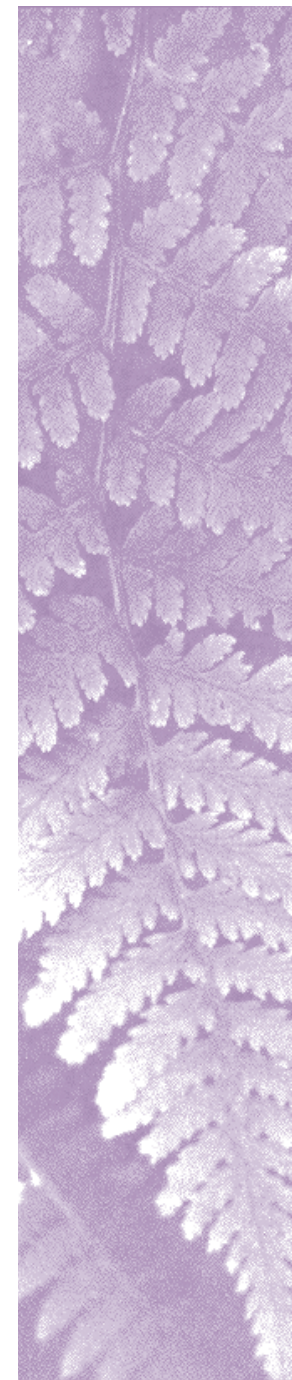
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Ovarian Connection is a twice yearly publication devoted to exploring current issues in the health of girls and women from a feminist perspective.

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Welcome to the Premier Issue

Louise Smith, M.Sc.

Ovarian Connection is thrilled to contribute a twice yearly addition to the printed discussion about how girls' and women's bodies work. The primary intent of Ovarian Connection is to offer a foundation of knowledge about the normal female body, so that, as needed, a girl or woman can better understand how her body may respond to her future health-care or lifestyle choices.

The ovaries play a major role in the development, function and maintenance of the female body. And yet, it is often hard to find information that gives relevant, informative and current perspectives on how the female body works.

There is plenty of excellent information about when the female body doesn't work properly (problems in pregnancy, breast cancer, osteoporosis, to name a few), but a far more difficult task is to find information about the female body when it is healthy. More specifically, to find information that explains the wide variety of normal that the healthy female body can express.

For instance, how well

known is it that the great majority of women don't have 28-day menstrual cycles, and don't ovulate (release an egg) exactly half way through their cycles? Or, that as women age, they will often have fewer cycles per year when they actually do ovulate?

These are not pathologies or abnormalities, they are the ways our bodies can work. These differing, but normal, patterns of ovulation can determine a number of biological events – such as, how easily a pregnancy will be achieved, the due date of a baby, how a woman experiences discomforts during her menstrual cycle, and how perimenopause unfolds as a woman ages.

Ovarian Connection has, for the past three years, been offering workshops and courses about these fascinating subjects related to the ovaries. This has led me to develop workshops on body

fat, the breasts, pregnancy, breastfeeding and fertility, the menstrual cycle, and perimenopause.

Although I began with the intention of just providing information related to female biology, I have found that as crucial as the information is, so too is its delivery. Therefore, regardless of whether I speak to professional or community groups, the challenge is to provide the information in a format that not only is understandable, but, with any luck, also entertaining.

It is my hope that this newsletter will serve to connect readers with each other. And that with reader contributions, it will display a variety of perspectives and approaches, and so promote discussion among those who share an interest in this field. Join us in our continuing celebration of the female body in Ovarian Connection.

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Your fertility cycle

Sharon Twiss

MOST OF US don't have a thorough understanding of our fertility cycle. Sure, we learned about the menstrual cycle in high school sex ed classes, but a lot of information was left out. This can leave us with many unanswered questions.

Seventeen-year-old Lisa, alone in the bathroom, silently shrieks, "what is this goop in my panties?! Again! Do I have some mysterious infection that comes and goes?"

Another woman, Marcia is very concerned about taking synthetic hormones, so the Pill's not an attractive option for her. Is there any birth control method that's non-invasive, besides abstinence?

And Elizabeth, forty-four years old, notices that her periods seem to be changing. Sometimes she has intense premenstrual tension, something she's never experienced before. What's going on?

Understanding our fertility or menstrual cycle, and recording our fertility signs can show us that we experience a dynamic and regular cycle. We can begin to appreciate that there is a wide variation of normal. It can also show us when we're moving out of that range. With the information about what is normal for us, or what hasn't been, we are better prepared to make informed decisions about our health and our lives.

To use the fertility awareness method, we first need to have an understanding of the menstrual cycle. Then we'll describe how to observe the fertility signs of our cycles, and how to record them. FAM, however, only works for women who are not taking synthetic hormones, such as the Pill, Depoprovera, and Norplant.

The menstrual cycle – a symphony of hormones

Some hormones – such as estrogen and progesterone – play a starring role in the menstrual cycle. However, they don't occur in isolation; they are dependent upon the supporting presence of other hormones.

Hormones are chemical messages that travel in the bloodstream to create changes in the body. A common method explaining how hormones work in the body is the analogy of a home heat-sensitive thermostat. The

thermostat can recognize the temperature of a room. If the temperature falls below a certain set point, the "it's too cold in here" point, the heat is turned on. When the temperature reaches another set point, the "just right point," the heat is turned off. Another set point, "it's too hot in here," would turn on the air conditioning, to bring the room temperature back to the established comfort point. Of course, women's bodies are more complex than that.

Hormones begin or stop a physiological event. The production of hormones are signaled by the presence or absence of other hormones, by threshold or peak amounts, and by their interaction with other hormones. The reproductive cycle for both women and men is controlled by hormones.

There are five hormones that play major roles at different times in a woman's monthly cycle. They are gonadotropin releasing hormone (GnRH), follicle stimulating hormone (FSH), estrogen, lutenizing hormone (LH), and progesterone.

While estrogen dominates the cycle before ovulation, and progesterone dominates the cycle after ovulation, the presence and amount of each of the reproductive hormones influences the others in turn.

In this introduction to the menstrual cycle, we'll use the typical 28-day cycle. Day 1 would be the first day of ovulation, and then Day 28 would be the day before the next cycle begins. However, most women don't have 28-day cycles. Completely normal and perfectly functioning cycles can vary from 24 to 36 days.

This prototypical cycle makes a neat two-week division between menstruation and ovulation. But it is this neat and even division that creates a problem because it can seem that women ovulate two weeks after their period, rather than two weeks *before*.

The time from ovulation to menstruation is a consistent two weeks (plus or minus two days). So if the cycle is longer, those extra days are added to the pre-ovulation time-frame. For example, a woman who typically has a 32-day cycle, would ovulate on Day 18; and a woman with a 24-day cycle would ovulate on Day 10.



Perimenopause

Louise Smith

MOST WOMEN recognize the word "menopause", but not "perimenopause". Menopause is the time in a woman's life when, as her body ages (more specifically, as her ovaries age), she no longer has menstrual periods. A woman is in menopause once she has gone twelve months without a period. For North American women, this usually occurs when a woman is in her early fifties.

But women do not suddenly stop menstruating. There is a lead-up time, and it can last years. During this window of time, one thing a woman often notices is that her menstrual cycles begin to change. This transition is called perimenopause (*peri* means "around" in Latin). A woman can enter perimenopause as early as age 35, and it is over when menopause begins.

What happens during perimenopause?

After puberty and before perimenopause, most women have regular menstrual periods. Usually, one of a woman's ovaries will release an egg every cycle. This is called ovulation. For ovulation to occur, a number of different hormones must be present (in particular, estrogen), and after ovulation, several other hormones have important roles (especially, progesterone). After puberty and before menopause, both estrogen and progesterone are produced mainly by the ovaries.

As a woman ages, the ovaries produce less and less of these hormones. This affects the release of the egg, and creates irregularities in a woman's menstrual cycle. Estrogen and progesterone have a powerful effect on women. When the balance between the levels of estrogen and progesterone change, some women can experience symptoms that are similar to premenstrual syndrome (PMS) as well as

- hot flashes
- irregular periods
- heavy periods
- weight gain

A woman in perimenopause can also experience changes in her

- moods
- bladder
- breasts
- heart health
- energy levels
- vagina
- uterus
- bone health
- fat stores
- eyes
- joints
- sleep
- digestion
- sex drive

The biology of perimenopause

Perimenopause is more than a time of decreasing estrogen levels, suggests Dr Jerilynn Prior from UBC. While it is true that a woman's hormone levels gradually decline as menopause gets closer, Dr Prior's research suggests that these levels do not decrease bit by bit with every cycle. Instead, they swing back and forth in a variety of patterns between cycles of very high hormone levels and cycles of low hormone levels.

Menstrual cycles & changing hormone levels

The cycles with high hormone levels are thought to be brought on by an ovary that becomes over-stimulated by a brain signal. This brain signal is another hormone called follicle stimulating hormone, or FSH. In perimenopause, the usual system that keeps FSH levels in check is periodically disrupted, so the ovary goes temporarily into overdrive and a lot of estrogen is produced. Then in the next cycle, the ovary may not respond to the FSH levels. This can result in a cycle with no ovulation and low hormone levels.

Low hormone level cycles with no ovulation can create irregular periods. The length of each cycle changes and, when looked at back to back, these changing cycle patterns can appear unpredictable.

Women's sources of estrogen

A woman's body has several sources of estrogen. The strongest estrogen, called estradiol, is produced by her ovaries. A woman's fat cells, as well as other locations in her body, produce a weaker estrogen, called estrone (which will be referred to as fat cell estrogen). Although fat cell estrogen is not as powerful as estrogen produced from the ovaries, it is still able to perform many of the same functions.

Therefore, it has been suggested that women with more body fat often find the discomforts of perimenopause less intense as compared to lean women, or those who have little body fat. This is because women who have more fat cells have greater fat cell estrogen production, and so their bodies will have more estrogen available during those low hormone level cycles when the ovary isn't responding.



So what about soy?

Sharon Twiss

Women can also have other signs that are unique to them during certain times of their cycle, for example, a heightened sense of smell, vivid dreams, or greater creativity.

Interpreting your fertility chart

When you chart your primary fertility signs (temperature, cervical changes, and cervical mucus), you will notice changes that reflect the hormone activity taking place in your body. With this information, you will be able to know when in your cycle you are approaching fertility. You will also discover the length of your luteal phase (the time after ovulation). You may also become aware of your own unique cyclical signs.

There are many books that explain the fertility cycle, charting, and chart interpretation in much more depth than can be done here. There are also workshops, healthcare professionals, and associations that also provide more indepth information about the fertility cycle.

Many women use this knowledge about their fertility for birth control – to either avoid or achieve pregnancy. However, the most important contribution fertility awareness makes is the recognition of your own version of normal. It also provides you with excellent information should you ever go out of the range of normal, information that you can offer your caregiver when making choices about your healthcare.

Charting your fertility cycle is like taking a course in you – discovering how your body works, and discovering your unique expression of the female body.

Books

Taking Charge of Your Fertility

Toni Weschler, MPH
(HarperCollins, 1995) ISBN: 0-06-095053-6

Fertility Awareness

Regina Asaph Pfeiffer & Katherine Whitlock
(Prentice Hall, 1984) ISBN: 0-13-314113-6

DESPERATELY SEEKING to increase our family's intake of soy, how many of us have spent countless hours in the kitchen in pursuit of the one tasty tofu recipe the whole family will enjoy? Alas, I've resorted to sneaking tofu into casseroles, soymilk into pancakes, but my amazing tofu smoothie is a drink I enjoy alone.

Women are interested in soy because of reports on the link between cancer rates and soy consumption. In countries where soy is included regularly in the diet, in Southeast Asia, there is a lower rate of hormone-related cancer, such as breast, prostate, and uterine cancers.

And in Australia, caucasian women consuming only one serving of soy foods per day, had lower incidences of breast cancer.

Soy is rich in isoflavones, a phytoestrogen. Phytoestrogens bind to receptor sites, thereby reducing the ability for stronger and more toxic estrogens to affect the cell. Much scientific research is being undertaken investigating the role that isoflavones play in improving health, and in investigating which are the properties of soy that are so health promoting.

Some research studies use one particular version of soy, for example, soy flour, while others use a specific soy extract. As usual, the literature can be contradictory. Soy has a mild effect, soy has no effect.

The question raised in the literature is there another aspect of soy that plays a role in improving health besides isoflavones; an aspect that is thus far receiving little attention?

However, it is still not known how much soy should be introduced into the diet, and in what form. The only thing we can fall back on is the nutritionist's adage: eat a wide variety of foods, in as close to their natural state as possible.



The 28-day cycle makes it easier to explain the principles of the menstrual cycle, but don't make any choices about your own life (like avoiding or achieving pregnancy) using this cycle. You need to find out what's normal for you, and charting your fertility signs will give you that information.

Day 1 of the fertility cycle

Day 1 of the cycle begins with the first day of menstruation. Although, as with any cycle, any day could be chosen to mark the beginning, the first day of bleeding is an easily recognizable sign.

Menstruation occurs when progesterone levels plummet. The endometrial wall, which is no longer needed to accommodate a pregnancy, is not maintained by progesterone. And so the endometrial lining of the uterus begins to disintegrate, resulting in the woman's menstrual flow.

With the decreased level of progesterone, the woman's pituitary gland begins to secrete increasing amounts of follicle stimulating hormone, FSH. And a few days later, the presence of FSH signals the release of lutenizing hormone, LH. By about Day 5, just as her period is ending, the woman's body is prepared to begin the next cycle of ovulation.

Before ovulation

FSH sends a signal to the ovaries, which activates a dozen or so primordial ovarian follicles. The cells around these follicles begin to secrete estrogen for the first time in the new cycle.

This new estrogen signals the woman's hypothalamus to release GnRH, gonadatropin releasing hormone, which in turn triggers increasing amounts of LH. FSH together with LH, continues the maturation process of the ovarian follicles.

One of these follicles becomes dominant, while the others disintegrate. The dominant follicle then secretes increasing amounts of estrogen. This high level of

estrogen keeps FSH and LH production relatively low, as if the ovaries are saying, "we got the message, we'll manage from here."

Estrogen then starts effecting changes to the endometrium, the lining of the uterus, to thicken, making a nice nest in which the potentially fertilized ovum can implant.

The dominant follicle continues secreting increasing amounts of estrogen, until it reaches a peak. At this threshold level of estrogen, the anterior pituitary gland then secretes LH in a surge six to ten times its normal rate. This LH surge peaks at about 12 to 16 hours before ovulation occurs, followed by a smaller surge of FSH.

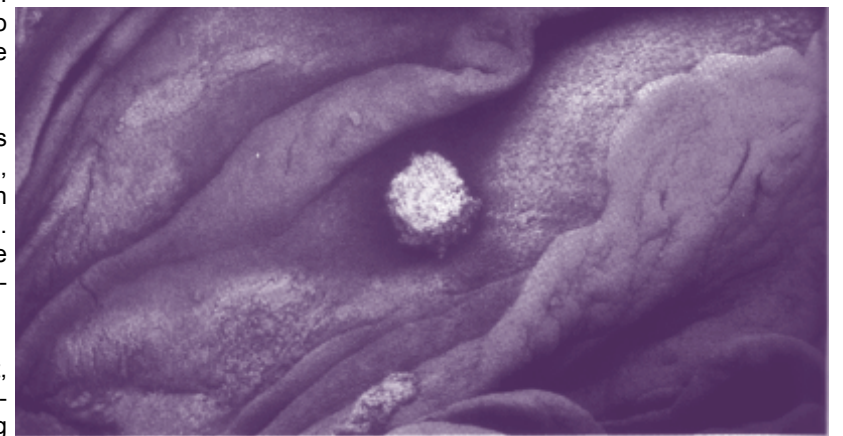
Ovulation

The combination of the LH surge with the presence of FSH, cause a negative feedback effect which shuts down the production of estrogen in the dominant follicle. The fully mature follicle swells and ruptures, releasing the ovum. This is ovulation.

The ovum will soon be swept up by the fimbria and make its way through the fallopian tubes. Fertilized or not, the ovum travels down to the uterus by Day 21.

After ovulation

Immediately after the follicle ruptures to release the ovum, the follicle then becomes a hormone-producing



All for this Treasure – the ovum travels down the fallopian tube



Your fertility signs

Sharon Twiss

gland, the corpus luteum. The corpus luteum produces large amounts of progesterone, as well as a modest amount of estrogen.

The estrogen continues to build up the endometrial wall, while progesterone holds the wall in place and increases endometrial proliferation. The uterus is prepared for the implantation of a fertilized ovum.

The high amounts of progesterone signal to the anterior pituitary and hypothalamus to sharply reduce the production of GnRH, LH, and FSH. Remember, it is these three that signal the ovary to mature follicles, so progesterone stops that process. This is why a woman only ovulates once during a cycle (although she could release more than one ovum).

From the influence of the LH surge just before ovulation, the corpus luteum continues to grow until Day 21. Had the ovum been fertilized, this is the time it would have implanted into the lining of the uterus. The fertilized ovum, now called a blastocyst, would produce hCG (human chorionic gonadotropin), a hormone that maintains the corpus luteum (and its production of progesterone) until the placenta has developed enough to take over. In this cycle we are describing, the ovum is not fertilized. Within six to 24 hours, it disintegrates.

Although the corpus luteum continues to produce large but decreasing amounts of progesterone, without the presence of LH or hCG, it begins to deteriorate. By Day 26, its secretory function stops – no more progesterone or estrogen.

Menstruation & beginning of a new cycle

And so we return full circle. With the plummeting level of progesterone, the endometrial wall can no longer be maintained. The lining of the uterus disintegrates into the menstrual flow. It's Day 1 of your next cycle. The absence of progesterone and estrogen signal to the anterior pituitary and hypothalamus to produce FSH, LH, and GnRH, and your next cycle begins.



So that's what happens on the inside. For most of us, the only event we notice on the outside is the result of plummeting progesterone and estrogen – our period. However, these hormones have other subtle effects that can be recognized, measured and recorded, providing us with important information about how our own bodies work.

While the presence and interaction of all the reproductive hormones are necessary to complete a cycle, two of them – estrogen and progesterone – have direct effects that are recognizable for women. The primary signs of fertility are changes that occur in the cervix, the quality of cervical mucus, and your basal body temperature.

Cervical changes

Under the influence of estrogen, the cervix undergoes changes which promote the successful fertilization of the ovum. Your cervix is the most bottom point of your uterus, and is at the end of your vagina. The cervix has an opening, called the os, which feels like a dimple. Since the os is a direct link to the inside of your body cavity, is closed most of the time. However, it opens in response to the reproductive cycle – during the birth process, during menstruation, and at ovulation.

Usually, the cervix feels firm, like the tip of your nose, and the os feels like a dimple. Under the influence of estrogen, as ovulation approaches, the cervix becomes softer, feeling like your lips. Besides becoming softer, it also moves higher in the vagina, and you can feel the opening of the os.

To check your cervix, you need clean hands and short nails. Insert your finger into your vagina and push in at the same angle you would use inserting a tampon. Many women find it easier to find their cervix when they are in a squat, or you can try standing on one leg with the other resting on something higher, like a chair. Be patient with yourself – you do have a cervix. If you still can't feel it, try bearing down by pretending you're blowing up a balloon with your mouth closed. Give yourself time to find the method of finding your cervix that works best for you.

To record cervical changes, you note whether your cervix feels firm, medium, or soft. As well, you also record



whether the os is closed, partially open, or open. It will probably take you two or three cycles to discover the method of observing your cervix, and to be confident in describing the changes.

Cervical mucus

Cervical mucus is the best indicator of female fertility. The qualities of cervical mucus change in response to changing estrogen levels.

The vagina usually has an acidic environment, which offers protection against vaginal infections. Under the influence of estrogen, the cervix produces a more alkaline fluid that allows sperm to live up to five days, rather than a few hours in an acidic environment. The molecular structure of fertile cervical mucus allows sperm to travel easily through the vagina and cervix. This mucus also nourishes the sperm on their relatively long journey from the vagina, through the uterus, and to one of the fallopian tubes. This fertile cervical fluid allows sperm to live for up to five days.

When estrogen levels are low, your cervical mucus is scant, sticky and opaque with cellular matter. As estrogen levels rise, your mucus becomes wetter, cloudy or creamy. When estrogen levels peak, your mucus becomes profuse, and very slippery, like raw eggwhite. A bit of mucus stretched between two fingers would form a long unbroken shimmering thread, called *spinnbarkeit*, or *spinn* for short – a sign of maximum fertility.

You can observe your cervical mucus throughout the day, each time you go to the bathroom, as well as when you check your cervix. Do you have a sensation of dryness, a feeling of slipperiness? Your cervical mucus changes will coincide with your cervical changes and your temperature shift. Many women use these terms to describe their cervical mucus: dry, tacky, wet, spinn. The fertile wet mucus and the extremely fertile spinn mucus indicate rising and peak levels of estrogen. Ovulation usually occurs the day after spinn appears, followed by tacky or dry days, as estrogen dramatically falls off.

Temperature

One of the effects of progesterone is that it raises the body's temperature. This is a subtle rise in tenths of a degree, so you need to take your basal body tempera-

ture, when your body is at rest. Take your temperature when you first wake up, before you do anything else.

You'll need to use a basal body thermometer, one that has increments in tenths of a degree. It doesn't matter whether it's Celcius or Farhenheit (but most of the literature uses Farhenheit). Do use the same system throughout the cycle you're recording. The basal body thermometer is different from the kind of thermometer we use to measure a fever. They are usually available in drugstores, in the birth control section. And since taking your temperature will be the first thing you'll be doing, do yourself and your sleepy eyes a favour – get a digital thermometer that provides a numeric read-out.

Starting on Day 1 of your cycle, take your basal body temperature the first thing every morning, and then record the thermometer reading for that day. After ovulation, when the corpus luteum starts producing high levels of progesterone, your temperature will rise, at least 0.2°F, or 0.1°C. This is called the thermal shift.

The thermal shift coincides with the luteal, or progesterone-dominant phase of your cycle. You'll notice, after charting your cycles for awhile, that your luteal phases are of a consistent length (anywhere from 12-16 days). Any variability in the total length of your cycle will occur in the pre-ovulatory phase of your cycle.

Other signs

Your temperature shift, and the changes to your cervix and cervical mucus, are called primary signs of fertility. The cervical changes, dominated by estrogen, sign that ovulation is approaching or peaking. Your temperature shift, dominated by progesterone, signals that ovulation has occurred and that the next phase is under way.

Women also experience other fertility signs, which are called secondary because not all women have them. They provide useful information, especially when they confirm other events in the fertility cycle.

Secondary signs of fertility include:

- mitselshmerz
- mid-cycle spotting, which coincides with ovulation
- breast tenderness
- mood changes