

GAUGING A WOMAN'S HEALTH BY HER FERTILITY SIGNALS: INTEGRATING WESTERN WITH TRADITIONAL CHINESE MEDICAL OBSERVATIONS

Dagmar Ehling, DOM, and Katie Singer, CFE

Dagmar Ehling is a doctor of Oriental medicine, author of *The Chinese Herbalist's Handbook*, and an international lecturer.

Katie Singer is a certified fertility educator and teaches Fertility Awareness at Women's Health Services in Santa Fe, NM.

This article presents observations of traditional Chinese medical and Western concepts of a woman's fertility signals. A woman of child-bearing age cycles through processes of heating and cooling and moistening and drying to make her fertile. Her fertility signals—basal body temperature, cervical fluid, and cervix changes—can be observed and charted to gauge the woman's gynecological health as well as to avoid or enhance her chances of achieving pregnancy. Introductory information about charting fertility signals, an introduction to traditional Chinese medicine theories, and various basal body temperature charts with analysis from traditional Chinese medicine and Western medical perspectives are included. (Altern Ther Health Med. 1999;5(6):70-83)

The earth's surface continues to develop through processes of heating and cooling, which in turn create moistening and drying, which in turn provide the environment for bacteria and other microorganisms to evolve. Rocks, glaciers, plants, and animals all evolve in concert with these processes.

And so do humans. Our reproductive systems cycle through cooling and heating and moistening and drying to make us fertile. While maturing ovum or sperm, humans prefer cooler temperatures. While preparing to gestate a fetus, females warm up. Females of childbearing age also produce slippery fluid in their cervixes that increases the chance of pregnancy every cycle. Until the woman ovulates, cervical fluid can nourish sperm in the cervix for up to 5 days. This fluid also filters out impaired sperm and functions as a sort of freeway on which sperm can travel toward the egg at ovulation.

Three primary signals can alert a woman about her gynecological health and fertility: changes in the basal body temperature (BBT), cervical fluid, and the cervix's position, texture, and openness. These external fertility signals mirror hormonal changes and

patterns. Meteorologists and geologists look for patterns in the earth's surface to predict weather and geological changes. Similarly, a woman can observe her body's signals to know her own health and the days she can and cannot conceive. Charting these signals can be referred to as Fertility Awareness, the Sympto-Thermal Method, or Natural Family Planning (note 1). Used properly, Fertility Awareness is virtually as effective as oral contraceptives and is an excellent aid for couples who want to conceive a child. It has no side effects.

Traditional Chinese medicine (TCM) has evolved over thousands of years from observations about the earth's cycles of cooling and heating, dampening and drying, darkness and light. Using research that is not widely known in the West, Dr Xia Gui-sheng,¹ director of the Gynecology Department of the Jiangsu Province Hospital for Chinese Medicine, has developed a method for incorporating the BBT into women's healthcare (note 2). In China, the BBT is used for birth control and as a diagnostic tool.

This article presents an introduction to a woman's fertility signals from Western and TCM perspectives. To make this information accessible to the largest possible readership, instruction about using fertility charts for birth control or as an aid to conceiving—as well as TCM theories—has been kept to a minimum (note 3). Following a brief introduction to TCM and TCM diagnosis, the article proceeds with a review of the roles of estrogen and progesterone, followed by an overview of women's primary fertility signals (basal body temperature, cervical fluid, and cervix changes), a look at the Fertility Awareness method for avoiding or achieving conception, and 2 sections that detail the TCM perspective on BBT.

TRADITIONAL CHINESE MEDICINE: A BRIEF INTRODUCTION

TCM has developed over thousands of years from observing the interplay between geological patterns and their effects on human health. All forms of Oriental medicine rely on correspondence thinking: life arises from the endless interplay of the polar forces of yin and yang, heaven and earth, active and passive, light and dark, heating and cooling, moistening and drying, contracting and relaxing. Everything is classified in terms of yin and yang; everything contains yin and yang in unique and constantly changing proportions. Yin includes yang and yang includes yin. Yin and yang attract and repel each other continuously. Their interplay creates all energy, matter, and the dynamic movement of life.

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Qi (pronounced *chee*), which translates as “ether,” “life force,” or “energy,” can be detected through Oriental methods of diagnosis. Disease is caused by imbalances between qi, yin, yang, and Blood, as well as organ pathologies, external pathogens, and emotional factors (note 4). Each disease is classified as a pattern of disharmony. (For example, Liver depression, qi stagnation with Blood stasis, Kidney yin vacuity, Spleen qi, and Blood vacuity might be a TCM diagnosis for painful menstruation.) Treatment aims to restore a harmonious pattern by controlling and regulating the flow and balance of energy. Just as nature is in a continuous state of flux, diagnostic patterns make continuous subtle shifts. TCM treatment mirrors these corrections.

TCM includes internal medicine (gynecology; urology; oncology; cardiology; gastrointestinal diseases; infectious diseases; neurology; psychiatry; ear, nose, and throat; ophthalmology; and pediatrics) and external medicine (orthopedics, dermatology, and trauma medicine). Early texts on gynecology and obstetrics can be traced as far back as approximately 1000 BCE and include discussions of menstrual diseases, leukorrhea (abnormal vaginal discharge), gestation and birthing problems, and postpartum disorders (note 2).²⁵

TCM Organ theory categorizes 12 Organs (*Zang Fu*) into Viscera and Bowels. The Viscera (yin or *Zang* Organs) are Heart, Liver, Lungs, Spleen, Kidneys, and Pericardium. The Bowels (yang or *Fu* Organs) are Small Intestine, Gallbladder, Large Intestine, Stomach, Bladder, and Triple Burner.⁶ *Zang* translates as “to store (house),” meaning that the solid Viscera store Vital Substances. *Fu* Organs, in contrast, are hollow; they allow the storage and passage of food and fluids. Each Organ has its own acupuncture meridian and function.^{7,8}

Chinese medical theory also categorizes the 6 Extraordinary Organs together because they store Vital Substances (a yin function), but have the hollow shape of a yang Organ. The 6 Extraordinary Organs are the Brain, Bones, Marrow, Blood Vessels, Gallbladder, and Uterus.

The uterus (*Zi Gong*, or “baby place”) stores and drains. It stores Essence (one of the Vital Substances) and a fetus; it drains blood during menstruation and the baby during delivery. The TCM term “Uterus” also includes the fallopian tubes and the ovaries. Further explication of Organ theory as well as TCM understanding of the monthly cycle are complex and beyond the scope of this paper (note 2).^{3,4,8}

To gauge a person’s overall health, a TCM practitioner conducts the Four Examinations^{6,9}: questioning, inspection, smelling and listening, and palpation. Questioning requires a history of the patient’s general health and lifestyle and a woman’s gynecological and obstetric history. Patients are inspected for their physique, facial coloring, and hair, skin, and nail consistency. The tongue is also examined for shape, color, moistness, and coating. The limbs and skin are inspected for temperature, color, and areas of swelling. The strength and sound of the voice is noted. Bilateral palpation of the radial pulse reveals additional vacuity or repletion patterns. Pulse examination includes rate, depth, width, length, and regularity. Twenty-eight different pulse qualities are discussed in all. Lastly, abdominal palpation and other relevant palpations are part of a routine examination.

Through the Four Examinations, a practitioner gathers the data necessary to diagnose one or several patterns of disharmony. The treatment that is then developed includes one or more of the following: Chinese herbal medicine, acupuncture, cupping (the application of suction cups on a certain area of the skin), *tui na* (massage), qigong (movement and breathing exercises), moxibustion (burning of *Artemisia vulgaris* on an acupuncture needle, area, or point), electrical stimulation, and lifestyle counseling.

A REVIEW OF THE INFLUENCES OF ESTROGEN AND PROGESTERONE

When a woman begins a new cycle, estrogen causes about a dozen follicles (sacks that hold unripe eggs) to begin maturing in one of the woman’s ovaries. The word “estrogen” comes from a Greek word that means “to make mad with desire.” The hormone also cools the woman’s body slightly, produces cervical fluid, and softens, raises, and opens the woman’s cervix.

When one (or, approximately 10% of the time, more than one) follicle becomes mature, the egg within it bursts out of the ovary, and the fallopian tube’s fimbria reach out and secure the mature egg. This process is called ovulation. A ripe egg can live in a fallopian tube for 6 to 24 hours.

If there are sperm in the woman’s cervix or if the couple has intercourse while an egg is alive in a fallopian tube, sperm (aided by cervical fluid) can travel through the uterus and the fallopian tube and attempt to fertilize the egg. After ovulation (whether the egg is fertilized or not), the leftover follicle remains in the ovary and changes its name and function: now it is known as the corpus luteum and produces progesterone.

During the luteal phase, progesterone becomes more dominant than estrogen. It warms the woman’s temperature, dries up her cervical fluid, closes her cervix, and builds up her uterine lining to prepare for implantation and gestation of a fertilized egg. If pregnancy does not occur, the woman will shed that cycle’s lining during menstruation.

A WOMAN’S PRIMARY FERTILITY SIGNALS

Basal Body Temperature, Cervical Fluid, Cervix Changes

Basal Body Temperature. Sometimes called the waking temperature, the BBT is taken every day at about the same time, after at least 3 hours of restful sleep and before eating, drinking, talking, or excessive movement. Basal thermometers are used to gauge the subtle but distinct difference between temperatures before and after ovulation. Whereas a (mercury) fever thermometer spans 96° to 106°F (36°-41°C) and measures temperatures by two tenths of a degree, basal thermometers reach only 100°F (38°C) and measure temperatures by one tenth of a degree.

Temperatures can be affected by such things as a heated water bed or an electric blanket, consumption of alcohol the night before, restless sleep, illness, travel, waking significantly later or earlier than usual, and sleeping embraced with a partner or child. These factors should be noted on the chart.

Recording the BBT every day of the cycle is necessary to determine which temperatures are high in comparison to the lows. Daily

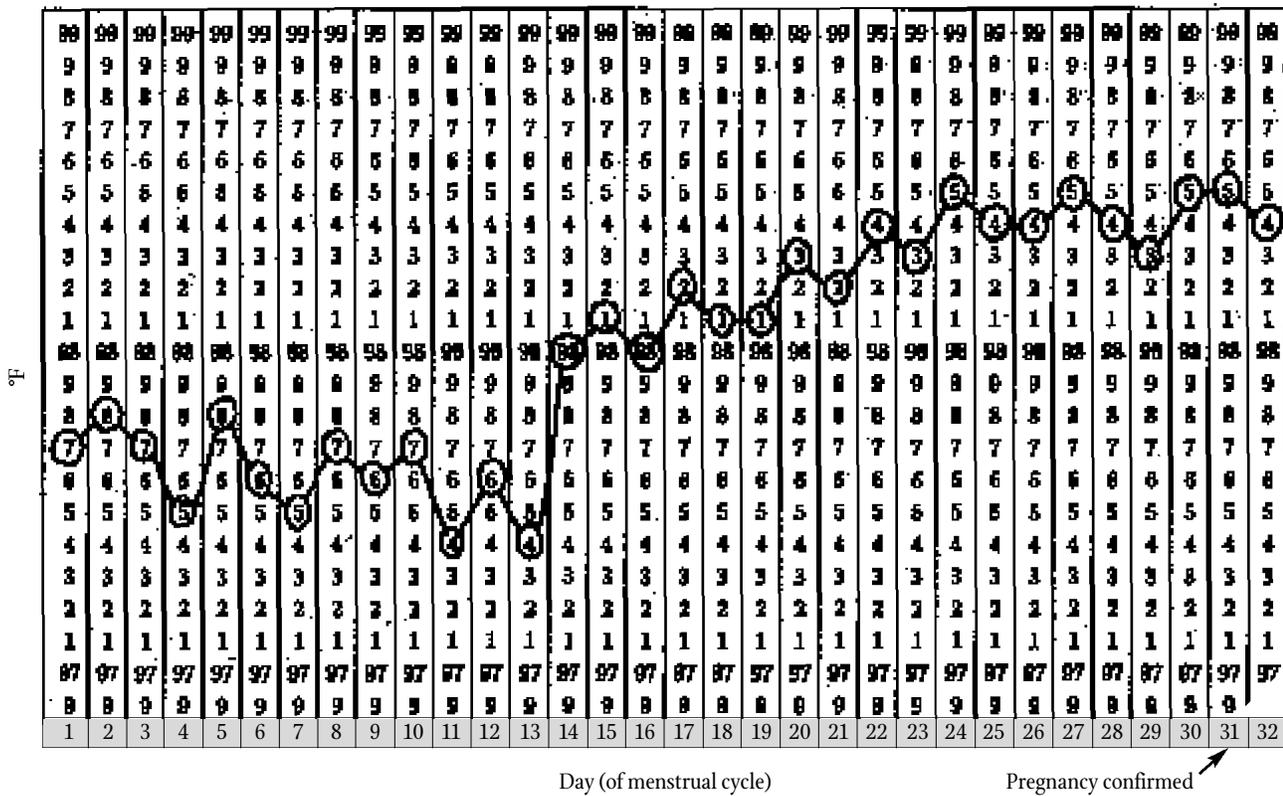


FIGURE 2 Pregnancy chart

arousal fluid is produced by the vaginal walls to lubricate the woman so that intercourse is not painful. Arousal fluid cannot keep sperm viable or perform cervical fluid's other functions.

Women who are on the Pill will not show a change in their cervical fluid pattern unless the prescription is inadequate. Cervical fluid readings can be obscured if the woman has a vaginal infection, takes antihistamines or cough syrup, swims in a chlorinated pool, or takes the fertility drug Clomid (clomiphene citrate).¹⁰

Cervix Changes. During a woman's fertile phase, the cervix

softens and rises and the cervical opening (the os) widens. When the woman is not fertile, the cervix hardens and lowers in the vaginal canal and the os closes. Changes in the cervix can be used to corroborate a woman's other fertility signals, indicating whether she is in a fertile or infertile phase. These changes can be especially helpful to women who are breastfeeding and coming off the Pill, or to those who want to conceive.

Cervix changes can be discerned by the woman inserting a clean finger (with a trimmed nail) into her vagina while squatting.

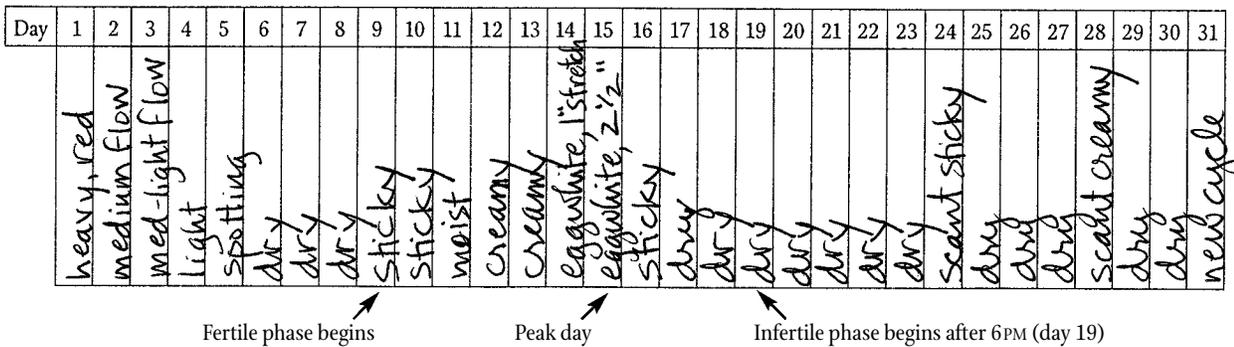


FIGURE 3 Cervical fluid (plus blood flow)

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
						F	F	F	M	M	M	M	S	S	S	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
						•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

FIGURE 4 Cervix changes. F indicates firm; M, medium; and S, soft.

Squatting is the most effective position because it pushes the cervix toward the vaginal opening. With the letters F, M, and S standing for firm, medium, and soft, a chart of cervical changes might look like the one in Figure 4.

TABLE 1 A summary of fertility awareness rules for birth control*

During the Period

Cervical fluid cannot be discerned through blood; it can keep sperm alive while blood is present. Therefore, to be conservative, consider the period a fertile time.

Dry Day Rule

Before ovulation, the woman is safe on the evening of a dry day. Sperm cannot survive in a dry vaginal environment, and lack of cervical fluid indicates that estrogen levels are too low for ovulation to occur.

Peak Day Rule

A woman is safe the evening of the fourth consecutive day after her peak day. The last day of wet cervical fluid or wet vaginal sensation indicates the woman is about to ovulate. Allowing 4 days for drying up ensures that any eggs released are gone. The return of a dry vaginal environment is inhospitable to sperm survival.

Temperature Shift Rule

A woman is safe the evening of the third consecutive day her basal temperature is above her coverline. The coverline is drawn one tenth of a degree above the highest of the 6 low temperatures before the rise.

The rise in temperature due to the release of progesterone indicates that ovulation has occurred. Waiting 3 days allows for the possible release of 2 or more eggs over a 24-hour period, with each one living a full day.

A Cautionary Note

Although this is a useful summary of Fertility Awareness rules for birth control, each rule must be thoroughly understood before this method can be used effectively. It is also critical that a woman does not consider herself infertile on a given day unless all the rules indicate that she is. If there are any doubts, one should not take the risk.

*This information is adapted from Toni Weschler's *Taking Charge of Your Fertility* (New York, NY: Harper Perennial; 1995). Used with permission.

FERTILITY AWARENESS AS AN AID TO AVOIDING OR ACHIEVING CONCEPTION

Medical doctors were researching changes in women's basal body temperature as early as the 19th century. In 1945, Barton and Weiser published a report that definitively claimed that "the waking temperature cycle is closely related with the ovarian cycle."¹¹

The benefit of the BBT is its ability to confirm when ovulation has occurred; but it can neither prove infertility before ovulation nor inform couples who want to conceive of their most fertile time. For couples who want genital-genital contact before ovulation without the risk of pregnancy—including women who are breastfeeding, peri-menopausal, or coming off the Pill—changes in cervical fluid must be charted. For those who want to conceive, charting cervical fluid along with the BBT will again produce optimum information.

According to a 5-nation study conducted by the World Health Organization, the method effectiveness of charting cervical fluid alone as birth control is 97.4%.¹² Combined with the BBT, this method's effectiveness is 99.2%.¹³

Tables 1 and 2 provide a summary of birth control rules and guidelines for conceiving. Figure 5 shows one woman's cycle with all the fertility signals charted.

INTERPRETATION OF BBT IN TRADITIONAL CHINESE MEDICINE

In TCM, the physiology of the menstrual cycle is a complex scenario that involves various Organs, meridian pathways, and Blood, yin, yang, and qi. Some modern TCM practitioners divide the menstrual cycle into 4 phases: Blood, yin, yang, and qi (note 4).

TABLE 2 A summary of ways to optimize chances of getting pregnant*

1. Have intercourse on the *peak day*—the last day of egg-white cervical fluid or lubricative vaginal sensation. If the woman doesn't observe egg white, her peak day is still the last day of the slipperiest cervical fluid she has.
2. If the man's sperm count is normal, have intercourse each day the woman has fertile cervical fluid. If the man's sperm count is low, have intercourse every other day that the woman has fertile cervical fluid. In either case, try to have intercourse on the peak day through to and including the first morning of her temperature rise.

*This information is adapted from Toni Weschler's *Taking Charge of Your Fertility* (New York, NY: Harper Perennial; 1995). Used with permission.

The Blood phase refers to days 1 through 7, the time that the woman is bleeding. The uterus, lined with blood, empties itself over a period of 3 to 5 days. Blood and qi are closely related: the formation and coursing of Blood depends on the abundance of qi, whereas the formation and distribution of qi depends on Blood.⁶ Therefore, if Blood is vacuous, qi becomes vacuous and will loosen its root and course upward recklessly. If qi is weak, it will not be able to engender Blood. This may be presented in a weak, thready

pulse during the first phase of a woman's cycle.³ Estrogen levels are low during the first phase.²⁰

A woman with chronic Blood vacuity (in TCM, Blood vacuity refers to a pattern of disharmony and doesn't necessarily correlate with Western concepts of anemia) might experience dry hair and skin, pale or brittle nails, constipation, scanty or pale menstrual bleeding, a delayed period (caused by prolonged follicular phase), lethargy, palpitations, and/or insomnia.⁷

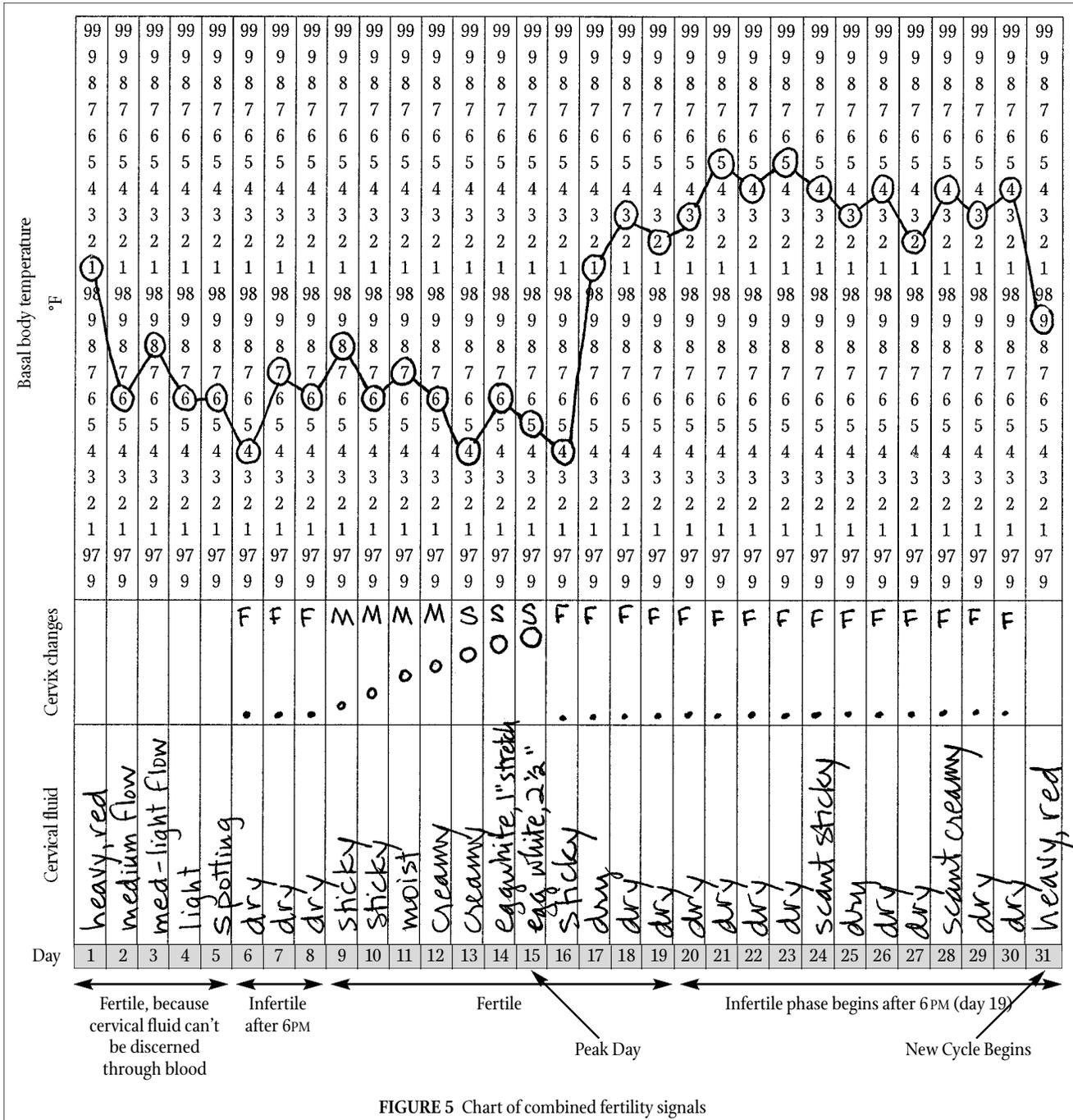


FIGURE 5 Chart of combined fertility signals

The second phase is the yin phase, normally days 7 through 14. In Oriental medicine, yin is anything cooling, moist, night-time, calming (passive), feminine. Regarding the menstrual cycle, during the yin phase the body replenishes itself after losing blood. Abundant yin enables production of cervical fluid, softening of the cervix, and the hormonal buildup that culminates in ovulation. Estrogen levels have begun to rise, peaking just before ovulation. The pulse tends to become fuller and less thready.

Patients with chronic cases of yin vacuity present with the inability to cool and moisten their body properly. They will be hot at night and have heat and dryness symptoms in general, such as hot palms, soles, and chest. They might also lack cervical fluid. (According to TCM, anything fluid and moist is yin, so a patient with yin vacuity may lack cervical fluid. This would be relevant to a woman trying to conceive.) The woman's pulse will be thready and rapid and her tongue will be red, dry, and cracked.⁷ If yin is extremely vacuous (as it is commonly in peri-menopausal and postmenopausal women), anovulation can result.

The harmonious transition from yin to yang phase, signified by the rise in BBT, requires that yin be abundant. Yin builds until around day 14, then transforms into yang; at this transformation, ovulation occurs. Likewise, when the luteinizing hormone surges, ovulation occurs.

In TCM, a healthy Liver ensures smooth coursing of qi throughout the body, particularly if it is moistened by abundant yin and Blood. If yin and Blood are vacuous, the Liver lacks moisture and the flow of qi becomes depressed.⁷ Proper Liver coursing is required to assist in the transformation of yin into yang during ovulation.

TCM refers to the third phase, the postovulatory phase, normally between days 14 and 21, as the yang phase. Yang is anything warming, dry, daytime, active, and masculine. During this phase, estrogen levels, yin decreases slightly, and yang increases (Figure 6). As a result, cervical fluid dries up and the cervix becomes hard and closed. Progesterone levels begin to rise above estrogen levels, signified by a rise in the BBT and drying up of cervical fluid. Qi begins to increase gradually and Blood builds.

A patient with chronic yang vacuity may present with coldness and weakness in the back and knees, frequent urination, decreased libido, cold hands and feet, a frail pulse, and a pale tongue.⁷

If fertilization occurs, sufficient yin, yang, qi, and Blood allow and sustain implantation.

Days 21 through 28 are the qi phase, the premenstrual phase. Qi can be translated as "life energy," "steam," "gas," or "vapor." It is nonmaterial and can assume a number of characteristics in various situations. During this fourth phase of the cycle, qi is abundant while Blood becomes more plentiful. Lack of smooth coursing of qi can lead to qi stagnation, which many women experience as premenstrual syndrome. Symptoms can include irritability, breast distention and swelling, sugar cravings, weight gain, weepiness or emotional lability, headaches, lower abdominal tenderness, digestive symptoms, and, in severe cases, vomiting, migraines, exacerbated mental and/or emotional states, and depression—all primarily affected by Liver depression, qi stagnation.^{7,8}

While Blood continues to build during this phase, yin is still

fairly abundant. Both Blood and yin are needed to moisten the Liver for proper coursing of qi. Two or 3 days before the cycle ends, estrogen and progesterone levels decrease rapidly, and blood vessels in the endometrium become narrowed. This action reduces the supply of oxygen and nutrients to the thickened uterine lining, and these tissues soon break down. Blood escapes from damaged capillaries, creating the flow of blood and cellular debris that pass as menstruum. In Oriental terms, yin and yang decline as qi and Blood increase (and sometimes stagnate). Once menstruation occurs, qi stagnation is (temporarily) guided out via the blood, and premenstrual syndrome symptoms disappear. Yin and yang both become vacuous and the basal body temperature becomes cooler. Qi and Blood decrease as menstrual bleeding progresses.

When Blood, yin, yang, and qi are in equilibrium, homeostasis is present. The menstrual cycle is regular, there are no cramps or blood clots, and the flow is medium and colored bright to medium red.³

TCM Interpretations of Different BBT Curves

When fertility charts of a woman of childbearing age are included in the Oriental medical practice of pattern discrimination, the practitioner can discern which phase the patient is in and treat the woman accordingly.

Normal, Biphasic Curve. A normal, biphasic curve has a well-defined follicular phase followed by a luteal phase (Figure 1). Yin and yang and qi and Blood are in harmony. Qi and Blood flow smoothly. This is a normal, desirable curve.

Monophasic or Saw-toothed Monophasic Curve. With a monophasic (or saw-toothed monophasic) curve (Figure 7), the BBT does not show a clearly defined cool or warm phase. This woman is not ovulating. Pattern discrimination as well as hormonal blood work may be required for more thorough assessment. Figure 7 also shows erratic dips below 97°F (36°C), which might indicate thyroid dysfunction. This can be a factor in fertility issues. Hypothyroidism can cause anovulation in some women.

Saw-toothed Follicular Phase (Figure 8). If during the follicular phase building up to ovulation there are significant surges and dips, the transformation from yin to yang is out of balance. However, this imbalance does not necessarily affect the woman's ability to conceive or carry a pregnancy to term.⁴

Prolonged Follicular Phase. When the follicular phase is prolonged (Figure 9)—significantly longer than 14 days—the transformation from yin to yang is lengthened. This woman ovulates less frequently than does a woman with normal cycles, though her ability to conceive is not necessarily impaired. Her cycles may be 32 to 45 days or longer. This might be normal for a particular woman, though pattern discrimination might reveal a yin or Blood vacuity.⁴

Prolonged Transition From the Follicular Phase to the Luteal Phase (Figure 10). In healthy women, the transition between phases takes 3 days or less. Longer transitions can signal yang vacuity or Liver depression, qi stagnation, or qi stagnation due to yin vacuity, which then fails to sustain yang.⁴ Women with these conditions might have problems sustaining a pregnancy, because yang or progesterone are not exuberant enough to foster implantation.

Horse-shaped Luteal Phase. A horse-shaped luteal phase

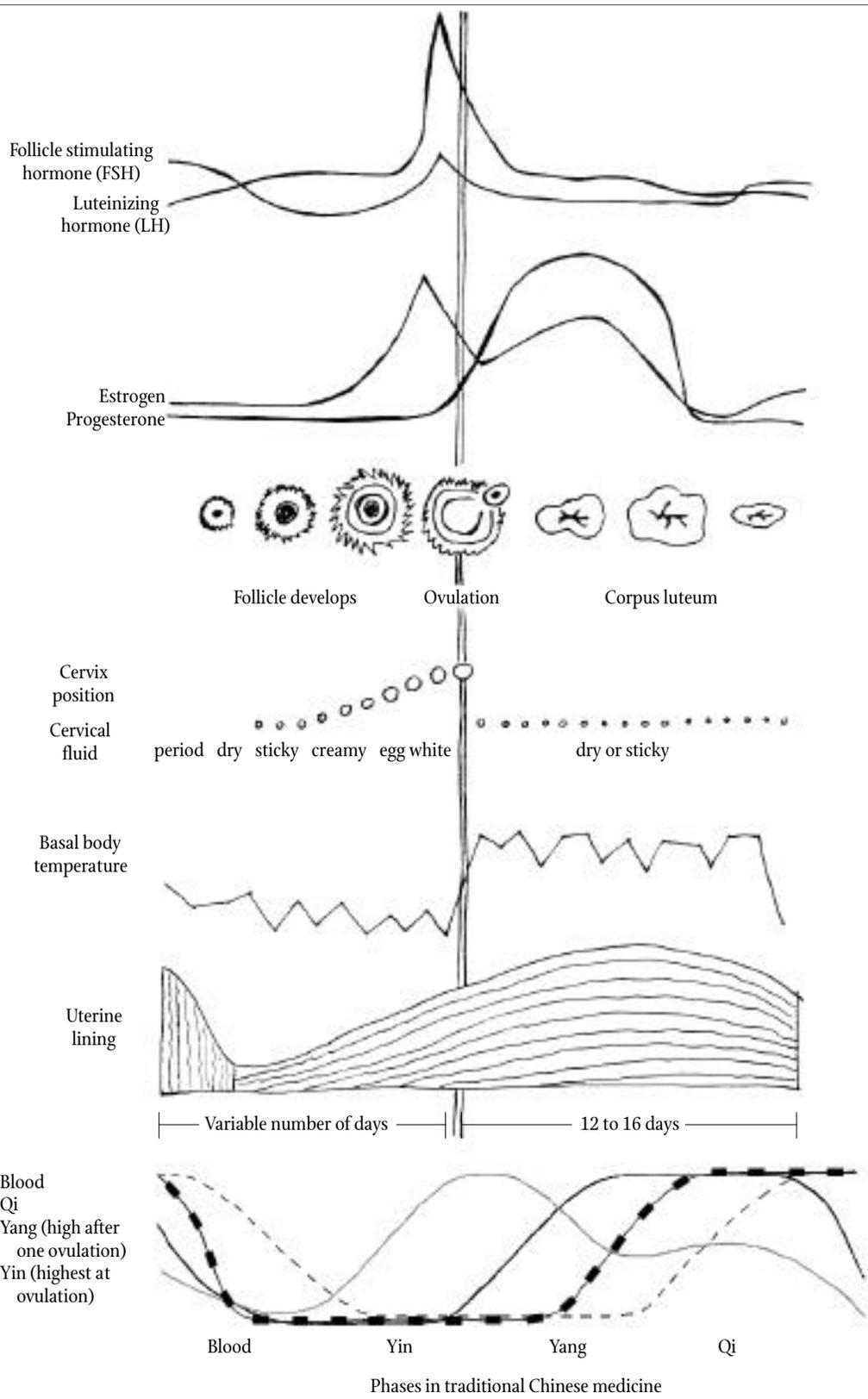


FIGURE 6 Graphic integration of a healthy woman's cyclical changes. All figures (except bottom graphic) adapted from Toni Weschler's *Taking Charge of Your Fertility* (New York, NY: Harper Perennial; 1995). Bottom graphic created by Dagmar Ehling. Used with permission.

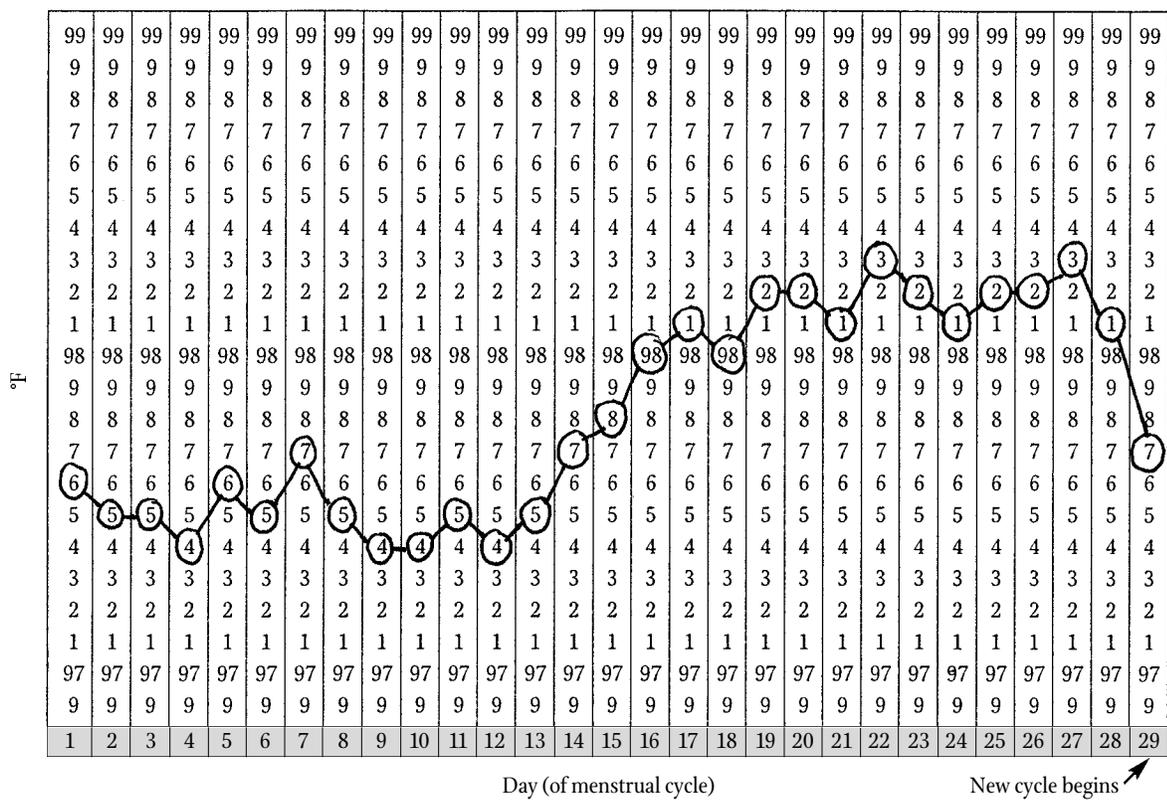


FIGURE 10 Prolonged transition from the follicular to the luteal phase

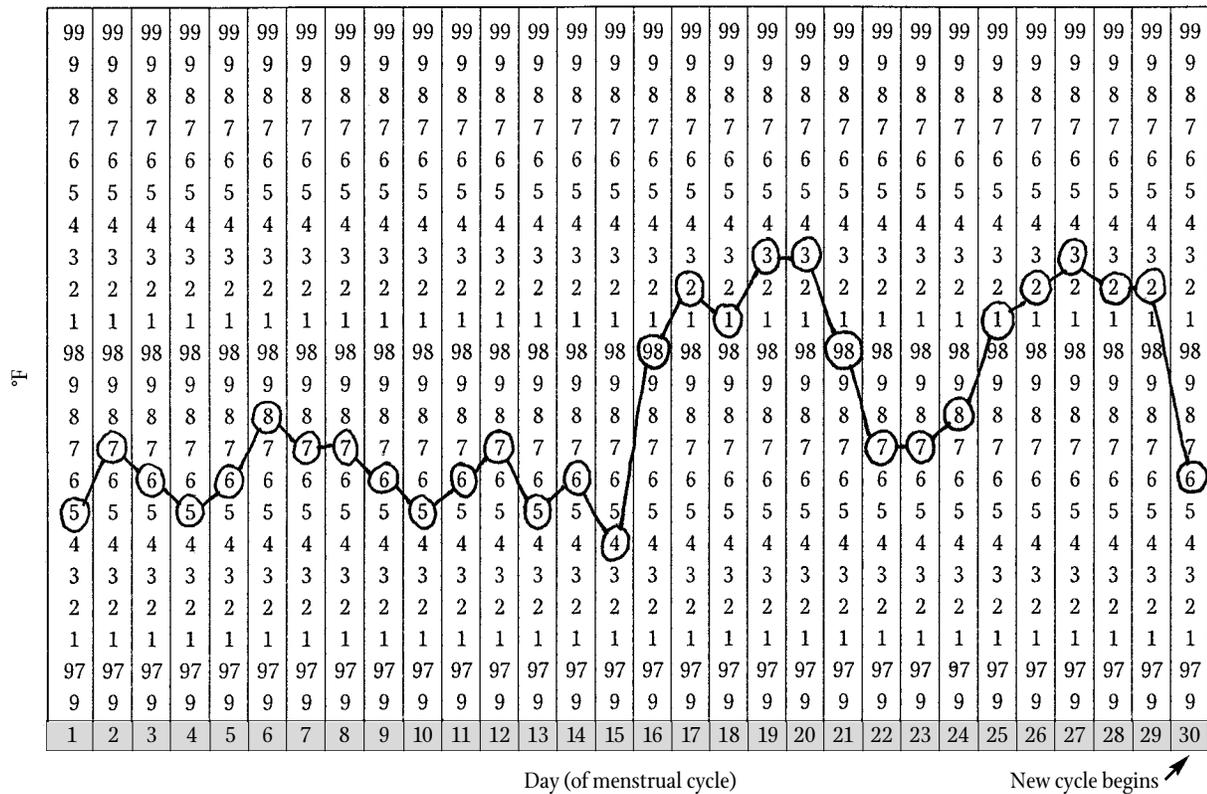


FIGURE 11 Horse-shaped luteal phase

