NATURAL, SCIENTIFIC AND HIGHLY EFFECTIVE TREATMENT FOR INFERTILITY

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Abstract

As God allows science to discover the mysterious functions of reproduction, we were able to conduct a study in Guatemala to help low income married couples who were financially unable to obtain highly sophisticated medical services. The couples enrolled in our study received emphasis on basic health, nutrition, and supplementary vitamins.

They were instructed to recognize the signs of fertility, the unique properties of the secretion which signal fertility and that are essential for the nourishment, survival and protection of the sperm for the achievement of conception. Our study resulted in a 81.4% success rate among 54 couples with fertility problems. The average age of the 54 women in the study was 28.3 years old.

The mean duration of couples attempting to conceive was 2.8 years. 52% of these couples had a prior pregnancy, some of which were miscarriages. None of the couples had attempted treatment with assisted reproductive technology (ART)

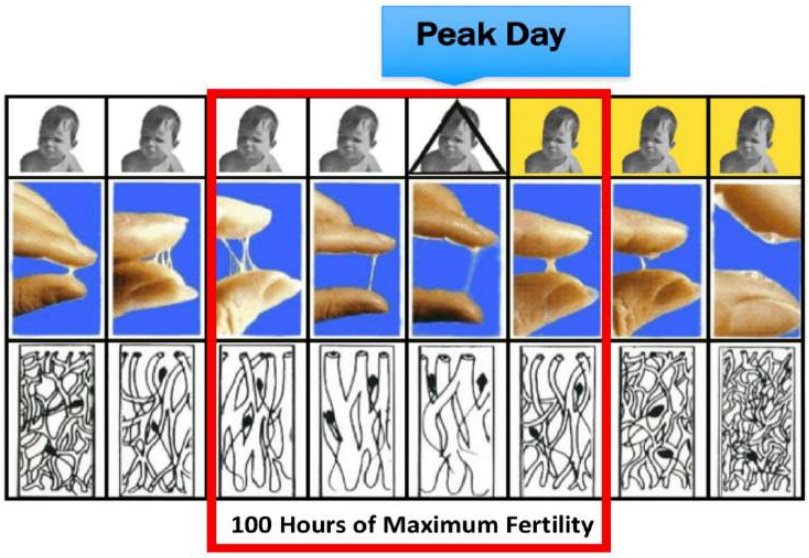
Introduction

The Ovulation Method (OM) is based on teaching women to be aware and recognize the unique properties of a natural secretion that she produces every cycle throughout her reproductive years.

The presence of this secretion signals fertility and it is also essential for the nourishment, survival and protection of the sperm for the achievement of conception. Abstinence from sexual intercourse when this secretion is present is a very simple and effective way of postponing pregnancy naturally.

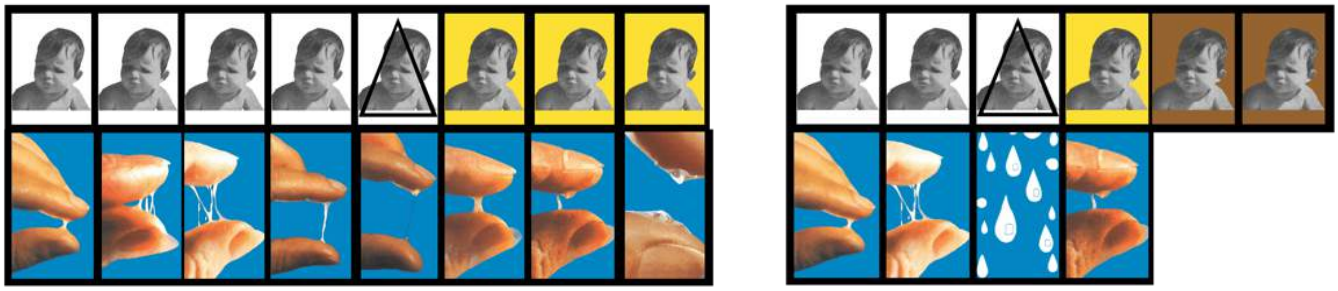
It is also very effective in helping couples achieve pregnancy by recognizing the most fertile days and the peak of their fertility.

Fertile Signs



Pregnancy can only result from an act of sexual relations during the woman's approximately 100 hours of fertility when the pre-ovulatory mucus is most receptive to sperm penetration.

The reproductive years in a woman's life seem to be age dependent on when ovulatory ovarian activity takes place. At the age of about 20 years, the average time for fertile mucus secretion is about 4-5 days, while at 35 years, the average time is only about 1-2 days.



Scientific Verification of the Ovulation Method

Much of the early key research into the Ovulation Method was carried out by Dr. James B. Brown in Melbourne, Australia. In 1962, Dr. John Billings a Neurologist from Melbourne asked Dr. Brown to conduct hormonal studies to correlate the accuracy of women's observations of the cervical mucus pattern associated with ovulation.

Dr. Brown's research showed that the development of the mucus symptom coincided with the estrogen levels in the follicular cycle much better than any other symptom accompanying ovulation. It also helped establish the relationship between estrogen and progesterone, the cervical mucus changes and ovulation.

While Dr. Brown worked on estrogen and progesterone, his colleague, Dr. Henry Burger, an endocrinologist at Monash University in Melbourne, Australia worked on the other hormones which regulate the menstrual cycle: Follicle Stimulating Hormone (FSH) which stimulates the development of the follicle containing the ovum; and Luteinizing Hormone (LH) which triggers ovulation.[1]

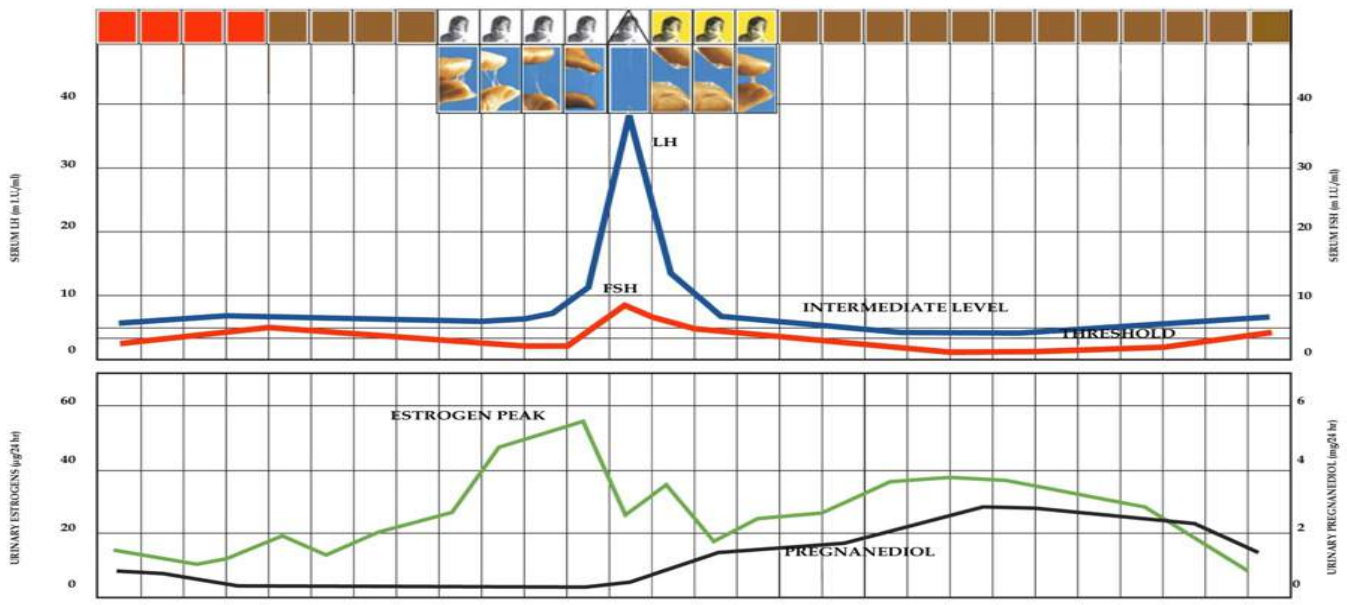
The work of Drs. John and Evelyn Billings, Brown and Burger relating hormonal changes to the mucus symptom was first published in a British medical journal, the Lancet, in 1972. [2]

The ovarian hormones regulate the secretion of cervical mucus. As a result, the components of the cervical mucus change markedly during the cycle, reflecting the preponderance of estrogens or progesterone.

The estrodial (estrogen) peak occurs about thirty-seven hours before ovulation. The LH level begins to rise about thirty to forty hours before ovulation, reaching a peak about seventeen hours before the ovum is released.[3]

The results of over 850,000 hormone assays were obtained by Dr. Brown in collaboration with colleagues and reported in more than 220 publications in academic journals and book-chapters. Measurements of daily urinary estrogen and pregnanediol were performed in 850,000 assays throughout at least 12,000 menstrual cycles.[4]

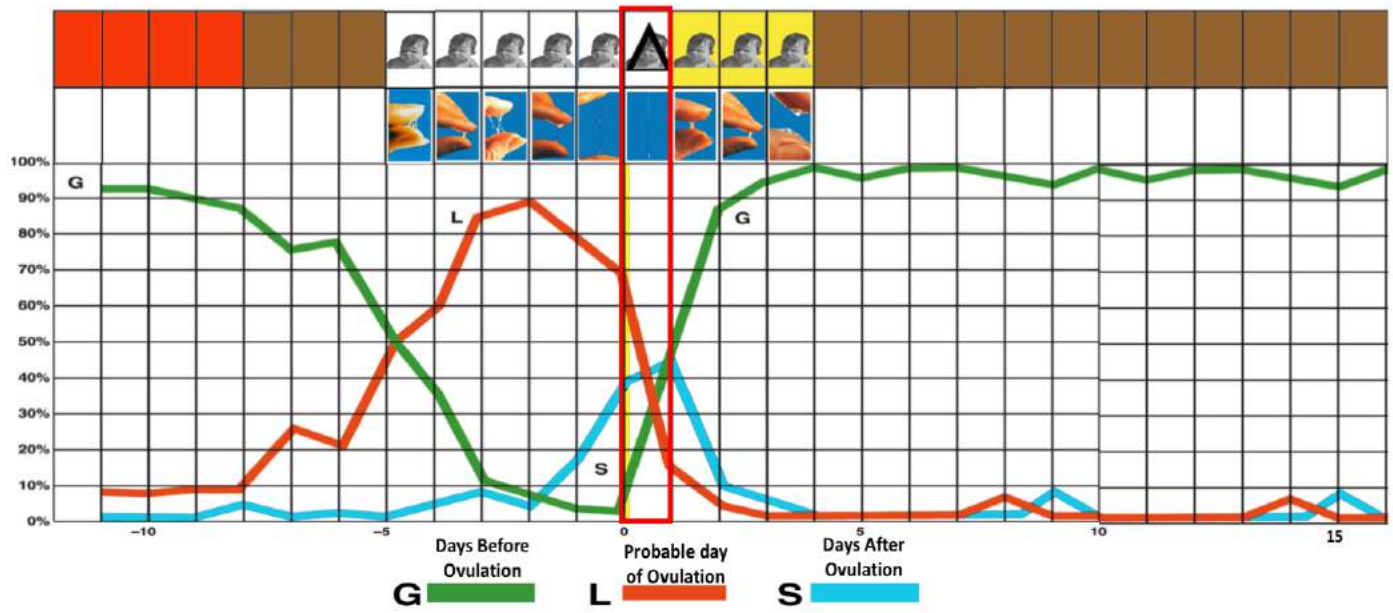
Hormonal Correlations & Cervical Mucus



The Biophysical Properties of the Cervical Secretion

The structure and function of the mucus and its relation to fertility and infertility have been most thoroughly investigated by Dr. Erik Odeblad and his colleagues at the University of Umêa in Sweden.

Elevation of Hormones Coinciding with Cervical Secretions in a Menstrual Cycle **S, L, G** and **P** Cervical Mucus



Cervical Mucus

Cervical mucus is a *complex secretion* produced constantly by the mucus secreting epithelial cells of the endocervix. A small amount of fluid from the endometrium, Fallopian tubes and possibly the follicle also contribute to the cervical mucus. In addition to these, cellular remains from the uterine and cervical lining (epithelia) and white blood cells are also present.

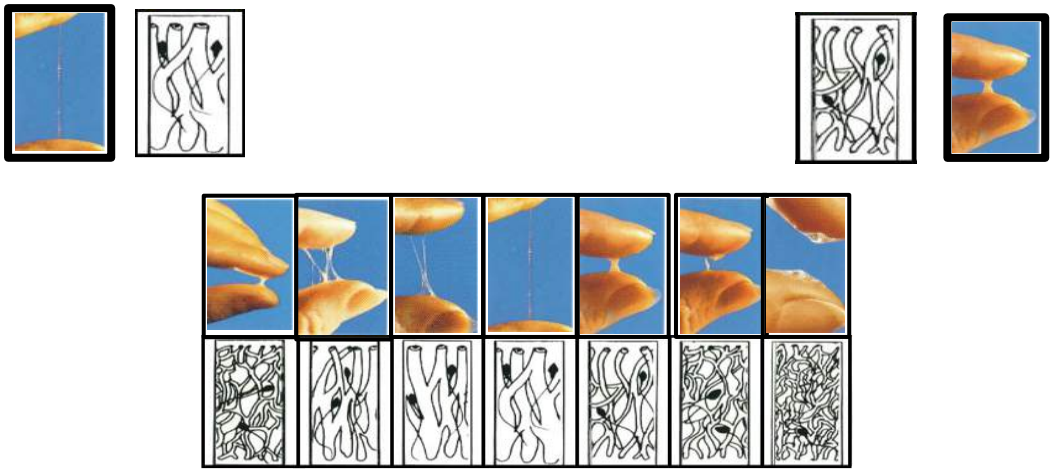
The key discovery made during the years 1977-1993 with respect to cervical mucus production is that there are five different types of mucus, S, L, G, P and F mucus. Their relative proportions change during the menstrual cycle, in such a way that one subtype predominates during a particular phase of the cycle.

There are approximately 400 mucus secreting glandular like units (crypts) in the cervical canal producing mucus at the rate of 20 to 60 mg per day in normal women of reproductive age. During mid cycle, the amount increases tenfold and may reach up to 700 mg per day. The cervical secretion contains about 92% to 94 % water. At ovulation, when the mucus is most abundant, the water content rises to 98 percent.

The Most Important Constituent Of Cervical Mucus

Cervical Mucus is a **hydrogel**, rich in carbohydrates and consisting of glycoproteins of the mucin type. A glycoprotein is one of a group of protein-carbohydrate compounds among which are the mucins; a mucin is a proteinaceous material which, when combined with water, forms mucus. Most of the physical properties of cervical mucus are due to mucins.

Cyclic alterations **- the constituents of cervical mucus influence sperm penetrability, nutrition, and survival. Data demonstrate that optimal changes of *cervical mucus properties* (such as greatest increase in quantity, spinnbarkeit, ferning and pH, and decrease in viscosity and cell content) occur immediately *prior to ovulation*, and are reversed after ovulation. Pre-ovulatory mucus is most receptive to sperm penetration**.



The secretion of cervical mucus is regulated by ovarian hormones. *Estrogen* stimulates the production of abundant amounts of watery mucus, while *progesterone* inhibits the secretory activity of cervical epithelial cells. During the cycle, the components of the **hydrogel** change markedly, reflecting the preponderance of estrogen or progesterone.

The secretion of different types of mucus and, accordingly, their biophysical properties (i.e., spinnbarkeit, crystallization, and consistency) are largely determined by hormonal factors.

Dr. Erik Odeblad's Findings: Structure And Function Of The Mucus And Its Relation To Fertility And Infertility.

- **Three types of cervical mucus, G, L and S** were discovered (1977)
- Subsequently, **two additional mucus types, P** (1990) **and F** (1993) were discovered and characterized.

The G Type Mucus

The function of the G type Mucus is to seal the cervical canal. There are three subtypes thereof: one produced immediately after menstruation, the second during the post-ovulatory phase of the cycle, and a third during pregnancy.

Type G mucus is thick and sticky and it forms a mechanical and immunological barrier, or plug in the cervix during the infertile period.

However, the recently discovere P type mucus seems to degrade and dissolve the G mucus giving space for L and **S** type mucus during the fertile phase.

F type mucus resembles **G** type mucus and is present during the infertile phases.
Unlike **G, L, S**, and **P** type mucus, it is produced between the openings to the crypts. It has no specific function, and because it is most abundant in young women, speculation is that it differentiates into **P, S, L,** and **G** mucus.
The post-menstrual **G** type mucus is supplanted by **L** mucus when the levels of estrogen rise.

The L Type Mucus

The L type mucus, the first fertile mucus symptom of the cycle is a soft, mucinous secretion that turns into a slippery, watery secretion a few days before ovulation when **S** type mucus is produced.

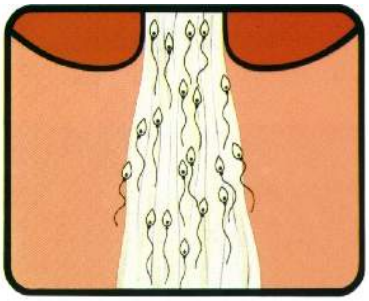
Type L (Loaf) type mucus is a soft translucent gel, that becomes a little bit more elastic. It helps sperm climb up to the uterus and it also acts as a filter in which immature, aged or otherwise

abnormal sperm cells are prevented from entering the uterine cavity. [5] The S type mucus, the sperm receptive mucus, provides low viscosity channels for the sperm by which they gain access into the cervix and uterine cavity. A certain balance between the S and L type secretion seems to be necessary for optimum fertility.

P type mucus is present in greatest amounts on the Peak Day. Its primary function is to convey sperm from the crypts upwards to the uterine cavity.
Shortly after ovulation, L, S, and P type mucus disappear and the post-ovulatory G mucus appears.

The S Type Mucus

The S mucus, the sperm receptive mucus, provides low viscosity channels for the sperm by which they gain access into the cervix and uterine cavity. A certain balance between the S and L type secretion seems to be necessary for optimum fertility.



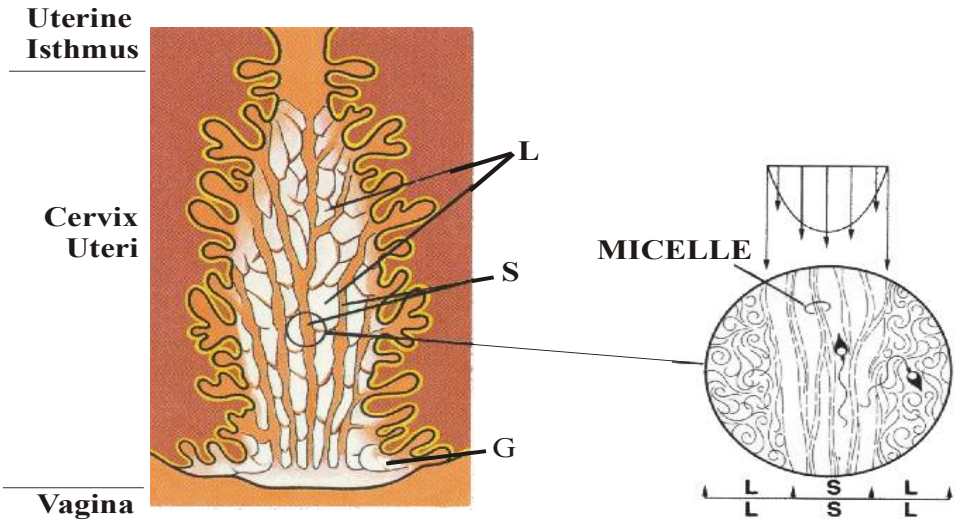
Type S (String) mucus is a clear, stretchy, slippery and watery cervical mucus discharge. Women feel the sensation of wetness and lubrication, as the mucus becomes up to 98 percent water. The S type secretion comprises approximately thirty percent of mid-cycle mucus; the L type secretion, approximately seventy percent. There is, however, a day-to-day percentage variation due to the continuous secretion and outflow of the mucus, and the presence, in small amounts for most women, of P type mucus around the Peak day.

The ellipsoid units of L mucus provide the mechanical framework for the fluid S type mucus and act as a trapping mechanism for sperm, which are presumably not suitable for conception. Professor Odeblad states that it is best to have 30 percent of S type mucus at ovulation time since sperm need L type mucus for direction. Some women who have difficulty conceiving may be producing too much S type mucus at ovulation time and sperm do not know where to swim.[6]

We know from Professor Odeblad's latest research that P6 mucus most probably is responsible for the Peak Day sensation of slipperiness that a woman feels.[7]

Beside and in parallel with Prof. Odeblad's research on the cervix and cervical mucus, several other findings were made. For example, the occurrence of a lymph node and inguinal swollenness around the time of ovulation ("Inguinal syndrome") or changes in the heart rate at ovulation ("Heart rate sign"), or changes in the pupilla of the eyes at ovulation ("Belladonna sign"). Prof. Odeblad also described the circulation of water and solutes in the vagina and the possible role of the element Manganese.

The Cervix is as Specialized as the Eye, Ear, and Nose



On the right we see a string of S mucus, the flow of secretion being indicated by arrows. This flow orients the mucin molecules. Then they interact and form micelles. One sperm is directed to swim upwards. Another sperm, morphologically defective by angulation, is liable to deviate towards the borderline of the S string, and finally it enters the L type mucus and becomes captured.

The ellipsoid units of L type mucus provide the mechanical framework for the fluid S type mucus and act as a trapping mechanism for sperm, which are presumably not suitable for conception.[8]

S Mucus is the Sperm Conducting Vehicle

The L type mucus which surrounds S type mucus strings catches "low-quality" sperm, while "high-quality" sperm reach the highest part of the cervix where they meet the newly discovered P6 type mucus which probably makes an extra selection of sperm. Of the 100 million sperm in the vagina after an ejaculate, only a few are "well-suited" as all sperm are different and unique. Only 10 percent make it into the cervix, and 1 percent go up further. [9]

Studies on the dose-response curve for the **L** and **S** type mucus on estrogenic stimulation indicate that the **L** type mucus requires only low levels of estrogen in circulating blood, while the **S** type mucus requires higher levels. This finding easily explains why **L** mucus occurs before the **S** type mucus in the normal cycle.

The anatomy of the mucus mosaic is such that some sperm swim to the uterine cavity, but most move to the **S** secreting crypts in which they seem to hibernate and form a sperm reservoir with a half time of about 18 hours, but some can stay up to two days before they are ready to continue their journey up the uterine cavity.[10]

Some women notice a reduction in the amount of mucus after marital intercourse during the fertile phase possibly because the crypts are full of sperm and not secreting mucus.

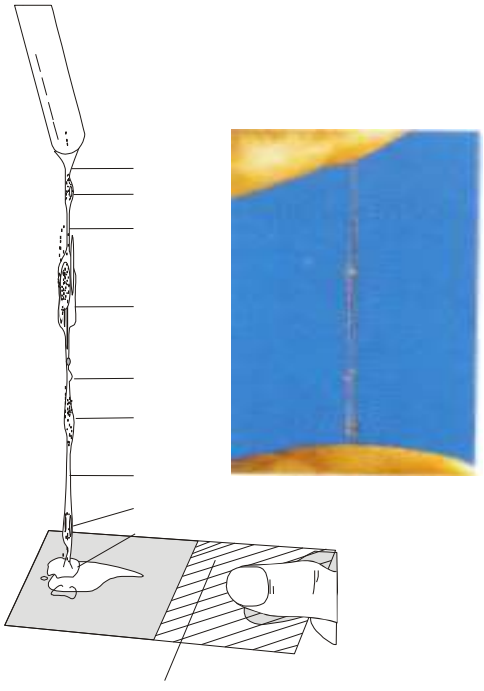
There is only room for about 100 sperm per S crypt. There is a greater amount of mucus two days before ovulation. Wetness increases in the beginning of the fertile phase when cervical mucus appears and it decreases with stretchy mucus and then it increases with slippery P6 type mucus. [11]

Cyclic alterations in the consistency of cervical mucus influence sperm penetrability, nutrition, and survival. Optimal changes of cervical mucus properties, such as greatest increase in quantity, **spinnbarkeit,** ferning and pH, and decrease in viscosity and cell content, occur immediately prior to ovulation, and are reversed after ovulation.

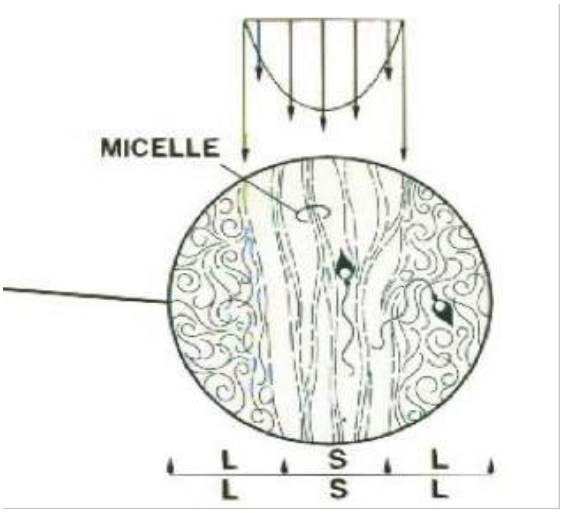
In a **spinnbarkeit** (Elasticity), or **stretch test** it can be seen that the mucus thread is uneven; thin parts being **S** type mucus and thick parts being **L** type; both being translucent, while the **G** type is milky. It has been determined that the fluid for swimming sperm in **S** type mucus is at least as fluid as ordinary water**. (Fig 10)**

The **S** type mucus alters continuously as it streams downward along the string, becoming more viscid in its lower part than that nearest the crypt from which it originates.

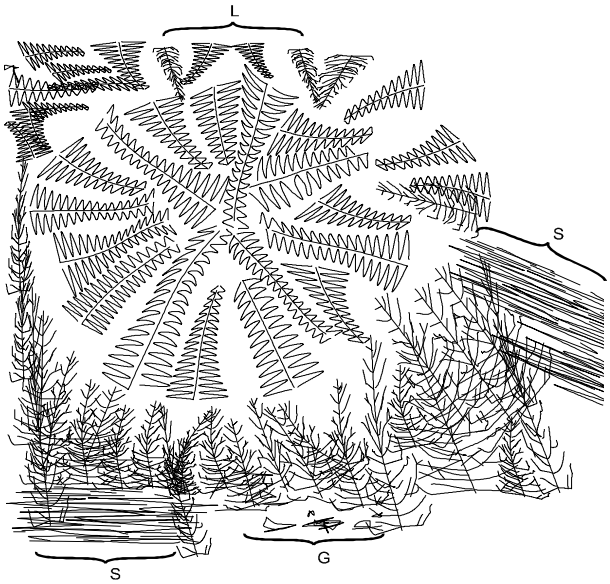
NMR studies have shown that **S** type mucus contains mucin molecules in parallel bundles known as micelles. It also contains large spaces between them containing a watery fluid, which is the natural medium for swimming sperm.



In **L** type mucus the micelles are closer together, thus slowing down the advance of the sperm. One of the physiological functions of **L** type mucus is probably to capture sperm of abnormal structure. **G** type mucus has a much more "split up" and dense molecular network that does not permit sperm to advance.



Crystallization Studies showed that the **S** type mucus formed fine parallel Needles, the L type mucus flower-like arrangements, or large, arborized palm leaf-life crystals. The **G** type mucus shows no crystals at all. Unlike the rectangular branching seen with **L** type mucus, the branching of **P** type mucus is hexagonal and the crystals are very thin. **F** type mucus resembles **G** type mucus, but the leucocytes and lymphocytes found in **G** type mucus are very rare in **F** type mucus.

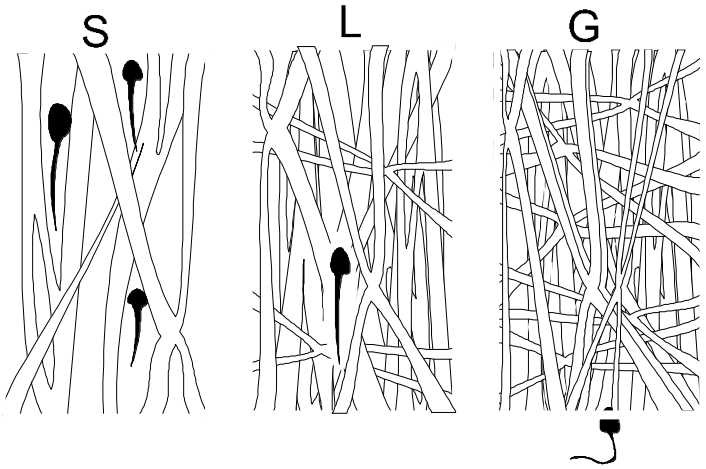


Sperm penetration tests on "punched out" mucus pillars, with internal topography preserved have been most informative. Using special microscopic and T.V. monitor techniques the three-dimensional mosaic pattern of **S** type mucus has been revealed.

They indicate a 3-peak distribution of frontier or leading sperm. Careful examination of sperm movements has shown a kind of cycling behavior approximately in accordance with mathematical group theory, which implies that the sperm communicate with each other.

Recent studies with **RAMAN spectroscopy** indicate that sperm emit very-high frequency vibrational or super-acoustic quanta or "phonons" which are transmitted in water or in micelles and received by other frontier sperm cells. In this way sperm cells can establish intercellular contacts that facilitate the advance of the most vital spermatozoa.

Some of the frontier collection sperm seem to colonize cervical crypts with a residence half time of fifteen hours.



Sperm advancing along a string may proceed directly to a crypt, colonization occurring within fifteen to sixty minutes of sexual relation. Some strings, however, become fractured and join with other strings, providing rapid transit to the internal os and uterine cavity, possibly assisted by uterine contractions.

Abnormal sperm trapped in **L** type mucus, due to the irregular micellar orientation, swim slowly in irregular paths with little probability of escape. As the loaf system moves downward with new loafs being formed, the imprisoned sperm are carried out, eventually being returned to the vagina.

With the rising blood level of estrogen from the ripening follicle there is a response from the cervix, and the biosynthesis of **L** type mucus increases. Under maximum estrogen stimulation the **S** type mucus is synthesized and secreted, but seldom exceeds thirty percent of the total volume of the cervical secretion.

The **S** type mucus flows continuously as long strings of a watery fluid between the loafs of L type mucus. The **S** type mucus is secreted at a high rate and streams rather quickly between the loafs. Due to the streaming, the mucin molecules become oriented in parallel, interconnect and form micelles, which in turn direct swimming sperm. It seems that the continuous flow of the **S** type mucus is essential for the parallel ordering of molecules to micelles.

Shortly after ovulation, the **G type mucus** is secreted by the lowest crypts in the cervical canal and by blocking the external os, aids in retaining the sperm which have entered the cervix. The external os, somewhat dilated during ovulation, narrows considerably after ovulation.

Recent studies indicate that the **G** type secretions produced during the postmenstrual and the postovulatory phases are, in fact, somewhat different, suggesting that progesterone is capable of slightly modulating the function of the **G** producing units.

In the isthmus region, where the cervix joins the body of the uterus, the glands are different, histologically and functionally, from those of the cervical canal. There is evidence that the isthmus secretion is capable of stimulating sperm motility. Odeblad has tentatively named this substance **axreveillin**.

The S secretion probably differs from L and G secretions in several important aspects and the factors regulating it are not easily understood. The S type secretion is much more rapid, more variable and seems more sensitive to neural, emotional and stress factors. The period of S type mucus secretion normally lasts about three days.

Vaginal secretions may have the function to set up a pH gradient in the spermatic pool, thereby orienting or "focusing" the sperm on the external os and the cervical mucus plug. Mucus coming from the cervix coats its surface, flowing into the left and right and posterior fornices mostly. It may flow to the middle of the vaginal cavity. From these sites it flows downwards to the lower part of the vagina where some re-absorption of liquid seems to take place. It can be sensed well here as also on reaching the vulva.

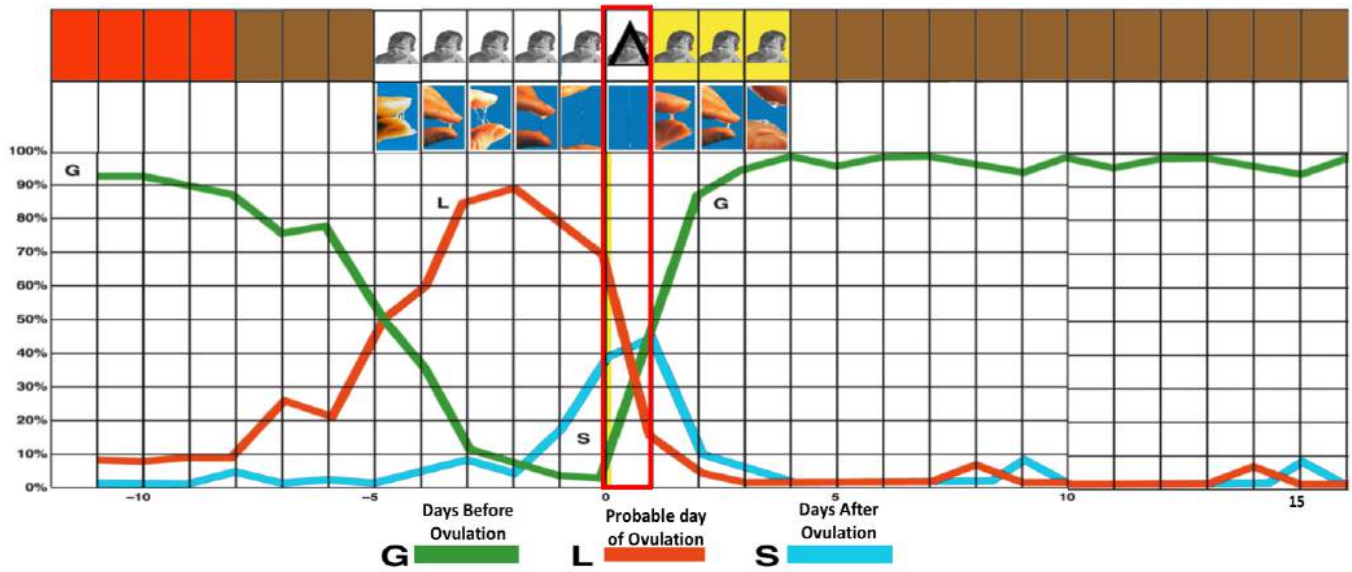
There is a natural convection of material from the cervix downwards, possibly due to a natural re-absorption of water from the lower vagina. If the mucus is transported quickly in this way without disintegration, it can be felt and observed in the lower vagina and on the vulva. If the mucus transport is slower and it disintegrates more quickly, mucus will not be felt at the vulva. Apparently, several factors play a role in observing mucus at the vulva and the lower vagina:

- The cervical secretory rate
- The quality of the mucus **(S, L, G or P)**
- The re-absorption of aqueous material in the lower vagina
- The speed of intravaginal transport downward
- The speed of intravaginal mucus disintegration
- The vaginal contents -- normal or infected, hormonal stimulus related to the area available for re-absorption

Percentages of G * L * S Type Mucus

The L secretion appears a few days before the S type secretion begins, paralleling the concentration of estrogen levels in the blood. There is also a parallelism between the Peak Symptom and the S type mucus.

The factor or factors regulating S secretion are not known. **The S production seems to be sensitive to stimulation of the involuntary or autonomic nervous system.**

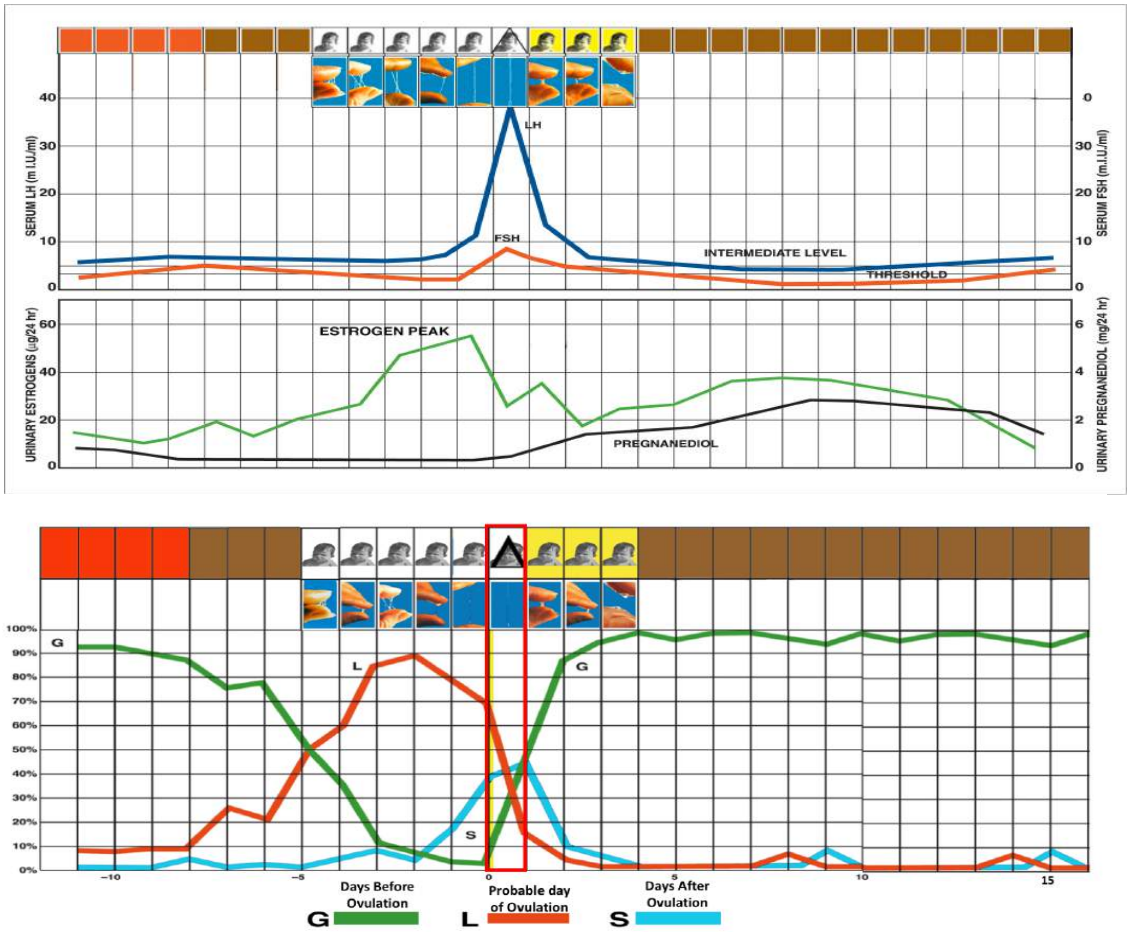


Both inhibition and increase of secretion seem to occur, depending on emotional and autonomic factors. Odeblad reports that female students under the stress of an exam have been known to produce excessive amounts of S-like cervical secretion, so that the cervix may be filled with a thin liquid, incapable of orienting the sperm advance in an upward direction.

There may be 400 strings and some 2000 loafs in the cervical canal at mid cycle. Unlike the continuous nature of **S** type mucus secretion, each **L** producing area or unit becomes filled by gelatinous secretion that is suddenly released. This build-up and release occurs at intervals of 1-6 hours.

High quality sperm probably pass rapidly upwards inside the strings of S mucus while low quality sperm with irregular motion or angulated headtail junctions tend to become captured by a loaf and imprisoned, later on being expelled with the flow of secretion. Therefore, the S-L system acts as a biological filter, probably favoring the advance of high quality sperm.

There is also evidence that the **S** type mucus "steals" molecules from **the L** type mucus causing it to change a little on its way from the crypt to the external os. This change is less marked if the flow of **S** type secretion is rapid and more so, if it is slower. If the flow ceases completely, as in a sample removed from the cervix, then a more or less complex mixing of **S** and **L** secretion occurs within a couple of hours, the **S** and **L** type mucus ceasing to exist as distinguishable entities.



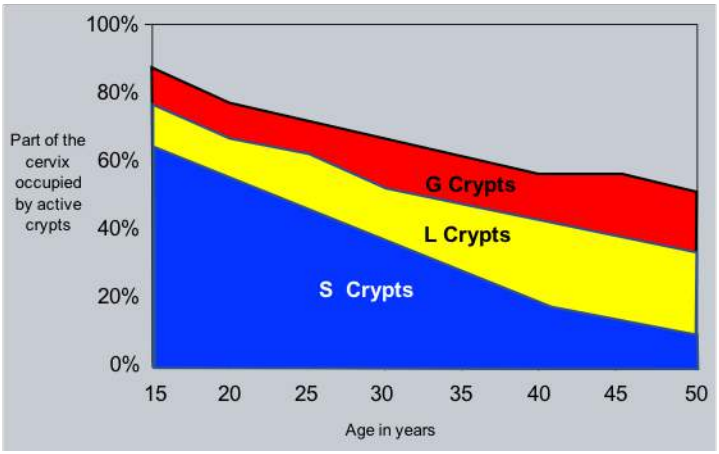
Studies on the dose-response curves for the L and S type mucus on estrogenic stimulation indicate that the L type mucus requires only low doses of estrogen in circulating blood, while the S type mucus requires higher levels. This finding easily explains why L type mucus occurs before the S type mucus in the normal cycle. But it is still not understood why the S type mucus can be produced when the estrogen levels decrease after the estrogen peak. This problem is presently being studied in detail.

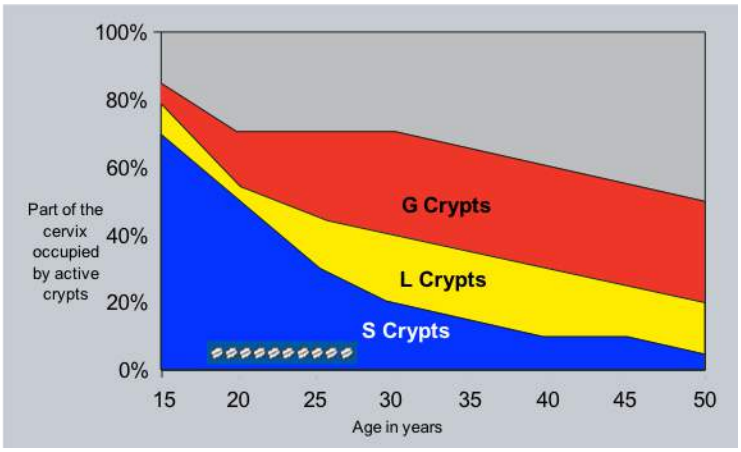
A simple method has recently been developed to study the length of the micelles formed when the mucin molecules in S type mucus line up in the mucus flow and aggregate forming these molecular chains of various lengths. The preliminary studies have shown that when the secretion of S type mucus begins, the micelles are short, a minute fraction of a millimeter.

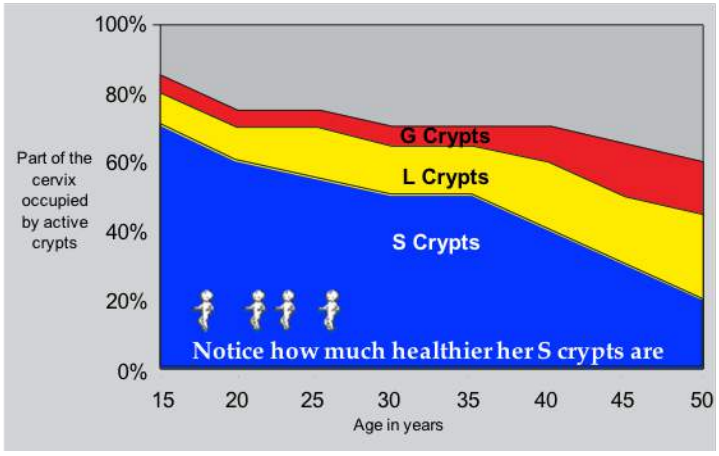
After several days the micelles are longer and on the day of ovulation have an average length of about one millimeter; after ovulation they continue to grow, but begin to branch on day 2-3 after ovulation. In cases of infertility of cervical origin, for example after discontinuing the contraceptive Pill, the micelles do not have the capacity to grow, but remain short, a situation that apparently is unfavorable for sperm progress in S type mucus. This quality factor of the S type mucus is extremely important and requires extended studies.

Post-IUD inflammatory conditions and other similar sequelae of sexually transmitted diseases, many of which have been promoted by the use of the Pill, are also being studied.[12] It seems that

inflammatory conditions may alter the capacity of the cervix to produce mucus of good quality. It has been shown that long-term Pill use (10-15 years) can seriously decrease the number of S type crypts, explaining, in part, residual infertility for long-term Pill users. Pregnancy rejuvenates the cervix by about 2-3 years, while the Pill causes aging of the cervix by one extra year for each year it is taken.







INFECTIOUS vs. FERTILE SECRETIONS

INFECTIONS	FERTILITY
Odor offensive -	Elasticity
Color – greenish, yellow or perhaps white	Sensation of slippery wetness
Pain - itching, burning or swollenness	White or clear in color

Infections

Infections do make it a little more difficult for the woman to recognize her fertile time, but it does not make it at all impossible. The characteristics of secretions of infections and those of fertile mucus are mutually exclusive.

- Infections have an odor that is offensive, while fertile mucus has only the natural smell of the body.
- Infections cause a secretion that is accompanied by a burning or itchy sensation and the vulva may feel swollen or tender. Fertile mucus causes no such sensations.
- Infections have frequently a greenish or yellowish color. Both fertile mucus and infections may be white. Fertile mucus is not greenish or brown.

In case of an infection, the teacher should:

- Advice the woman that she should see a doctor for treatment.
- Abstain from marital relations during the time of treatment since the treatment may disguise the signs of fertility.
- Suggest that the husband also be treated since very often the couple could reinfect one another.
- Make careful observations of the secretions in order to tell her doctor and/or instructor.
- Once treatment has been completed, return to the three "Early Day Rules" until "Peak Day" has been confidently identified.

These are the rules of the ovulation method.

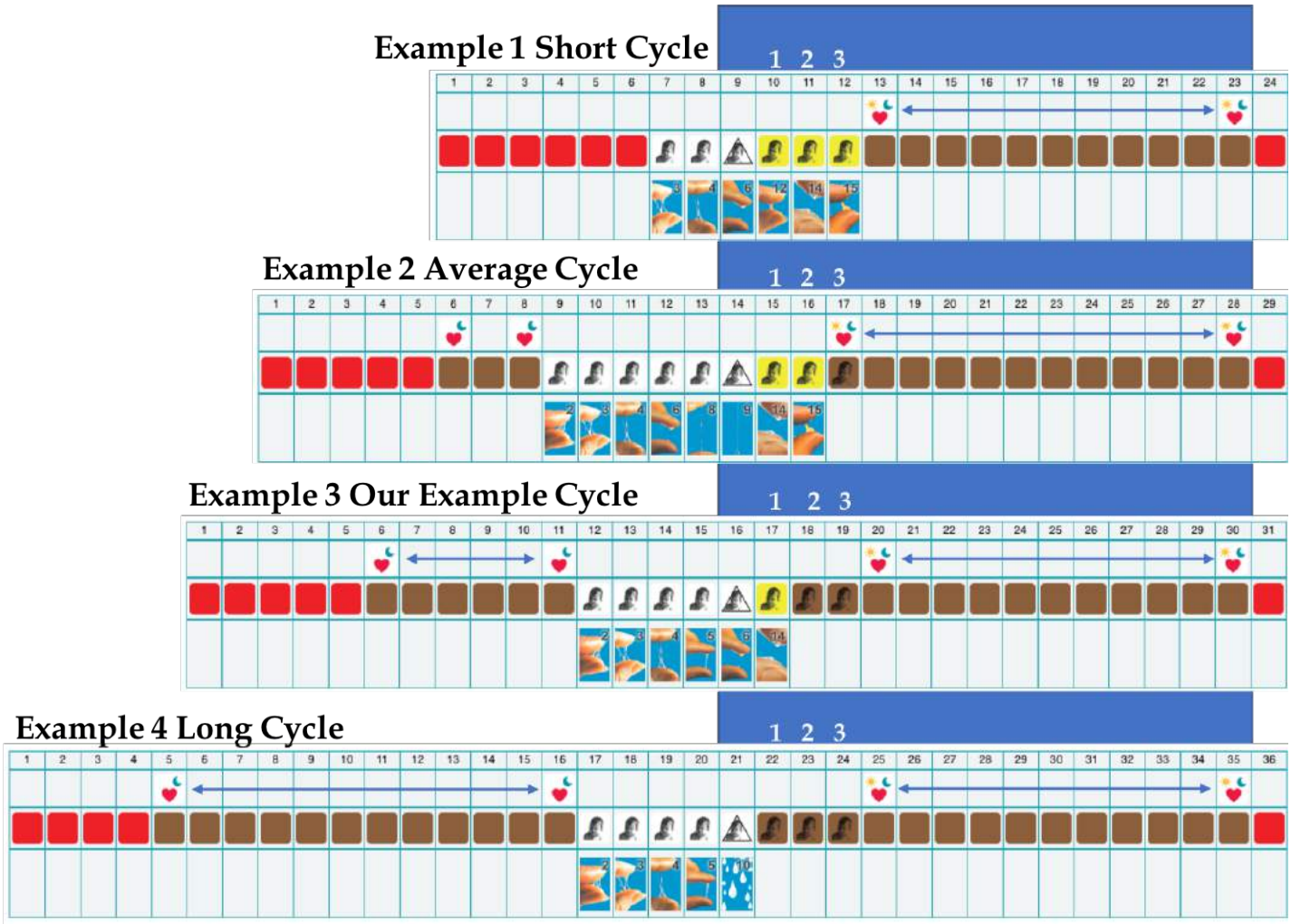
- If for some reason, the woman cannot or refuses to be treated for a chronic case of fungus, monilia or some other infection, she can still use the **Ovulation Method**. If she knows how she is all the time, she will know her fertile time by the changes that are presented at that time. She can also establish her Basic infertile Pattern (BIP) of constant secretions, and will know her fertile time by any change and follow the third rule. [13]
- Instructors should not prescribe for infections unless they are doctors of medicine.
- If the infection makes it impossible to identify the "Peak Day" with certainty, then the couple must use the "Early Day Rules" Instructions only and not the fourth "Peak Day" Rule. [14]

Regularity of Cycles NOT Required

Unlike the old Rhythm Method, the Ovulation Method does not require regularity of cycles to be successful. The signs of fertility will inform the woman of the approaching fertility when it comes early as Example 1 or when it comes late as an Example 4. What is fairly consistent is the fact that from the Peak of fertility to the next menstrual flow it is approximately two weeks.

There can be a variation of 10 to 16 days. If bleeding appears prior to 10 days it is probably an anovulatory cycle as Dr. James Brown discovered throughout his innumerable assays. If bleeding does not appear after 16 days from Peak Day, the woman is probably pregnant. [12]

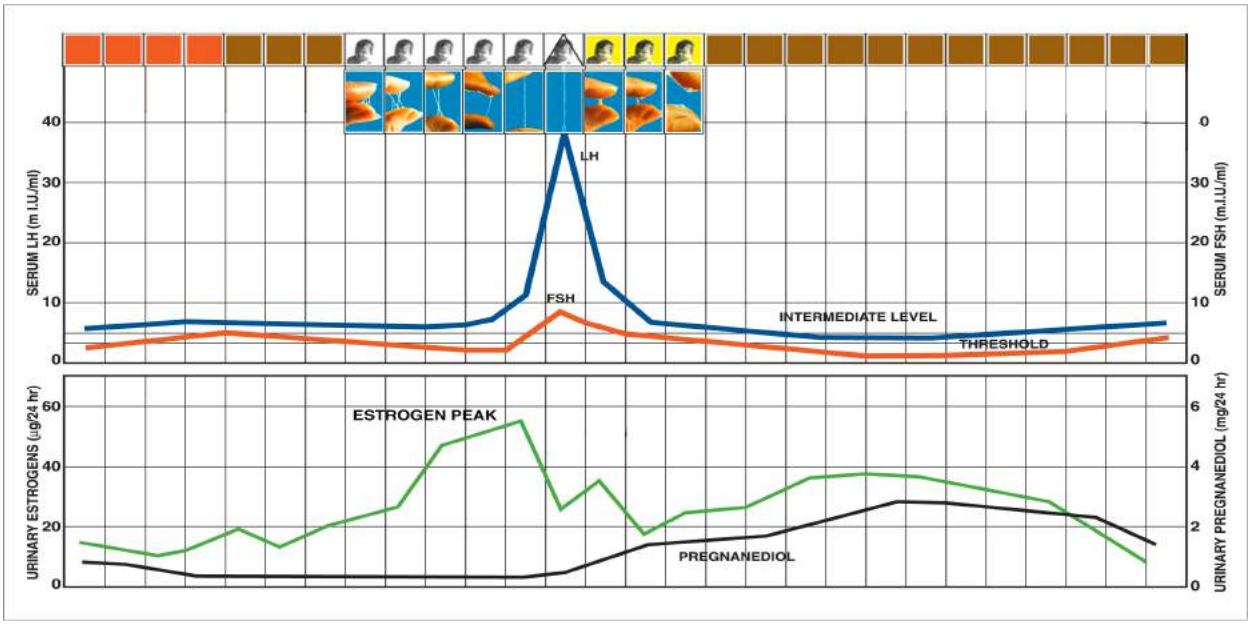
Actual Charts of Women with Short, Average and Long Cycles



Variants of the Menstrual Cycle [15]
When there is a Normal Menstrual Cycle

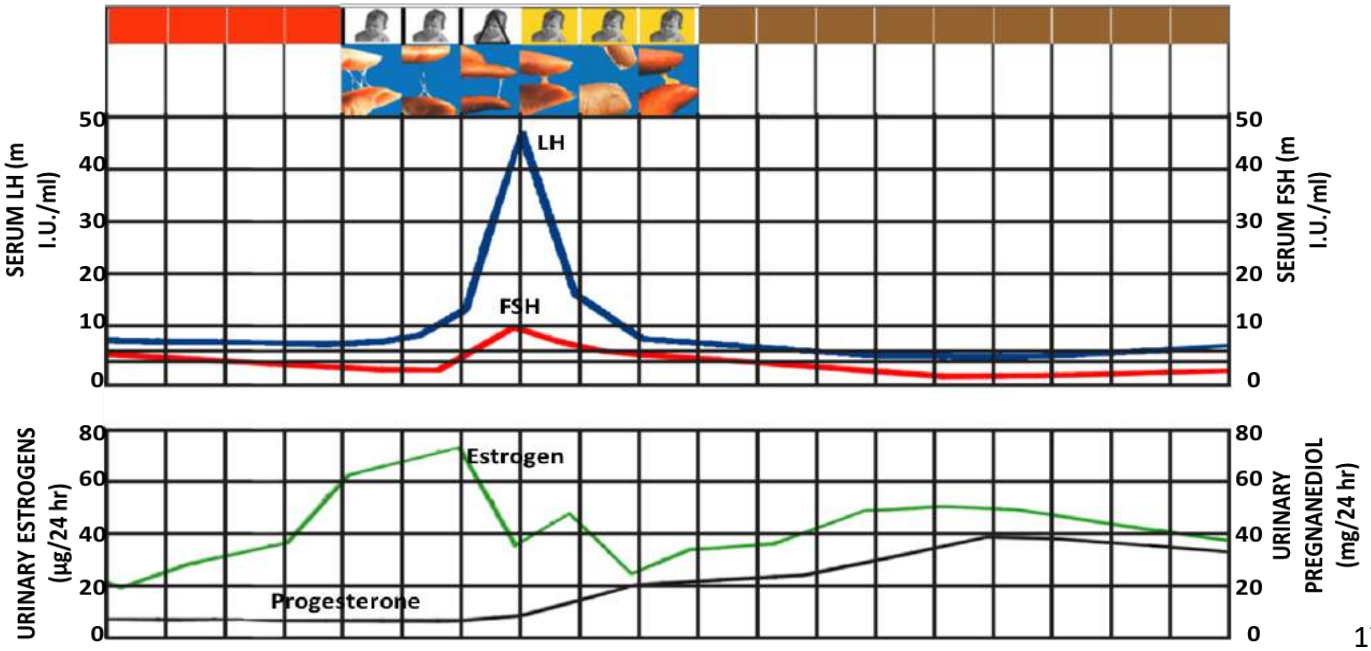
According to Dr. James B. Brown, many variants of the 28-day ovulatory cycle may occur. Ovulatory cycles as short as 19 days are due to very early rising of Follicle Stimulating Hormone (FSH). Long ovulatory cycles are due to delayed FSH production.

Average Graph of Normal Hormonal Levels That Elevate in the Middle of a Woman's Cycle



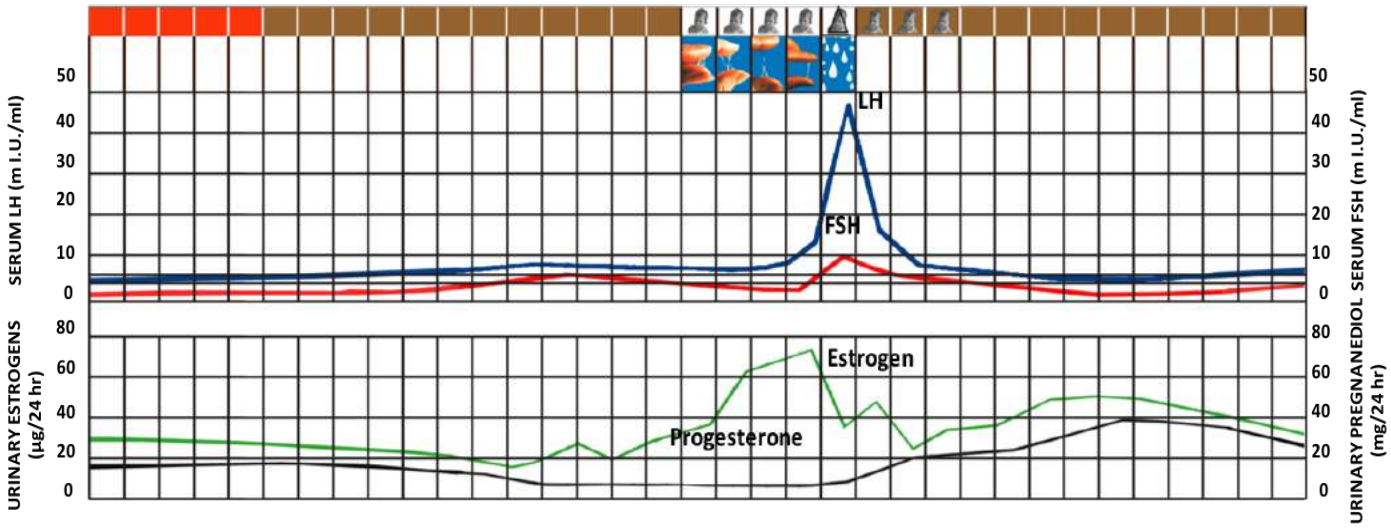
When There is an Early Rise of FSH

Ovulatory cycles as short as 19 days are due to very early rising of the Follicle Stimulating Hormone (FSH).



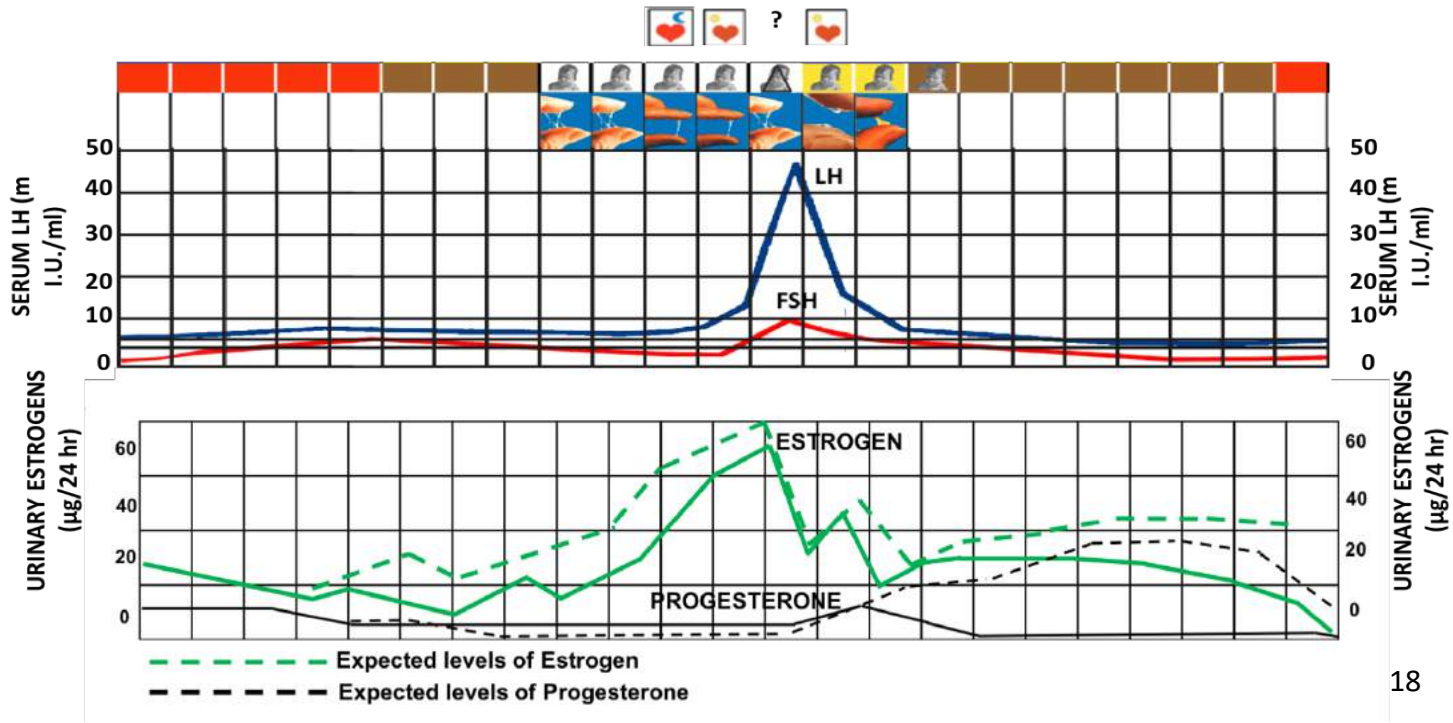
When Delayed FSH Production Causes a Cycle to be Long

When ovarian activity is absent and no estrogen is being produced, there is usually no discharge and the feeling is one of dryness (brown stamps) which persists during the period of inactivity. Long ovulatory cycles are due to delayed FSH production. This delay can be due to illness, medication, stress, poor nutrition, etc.



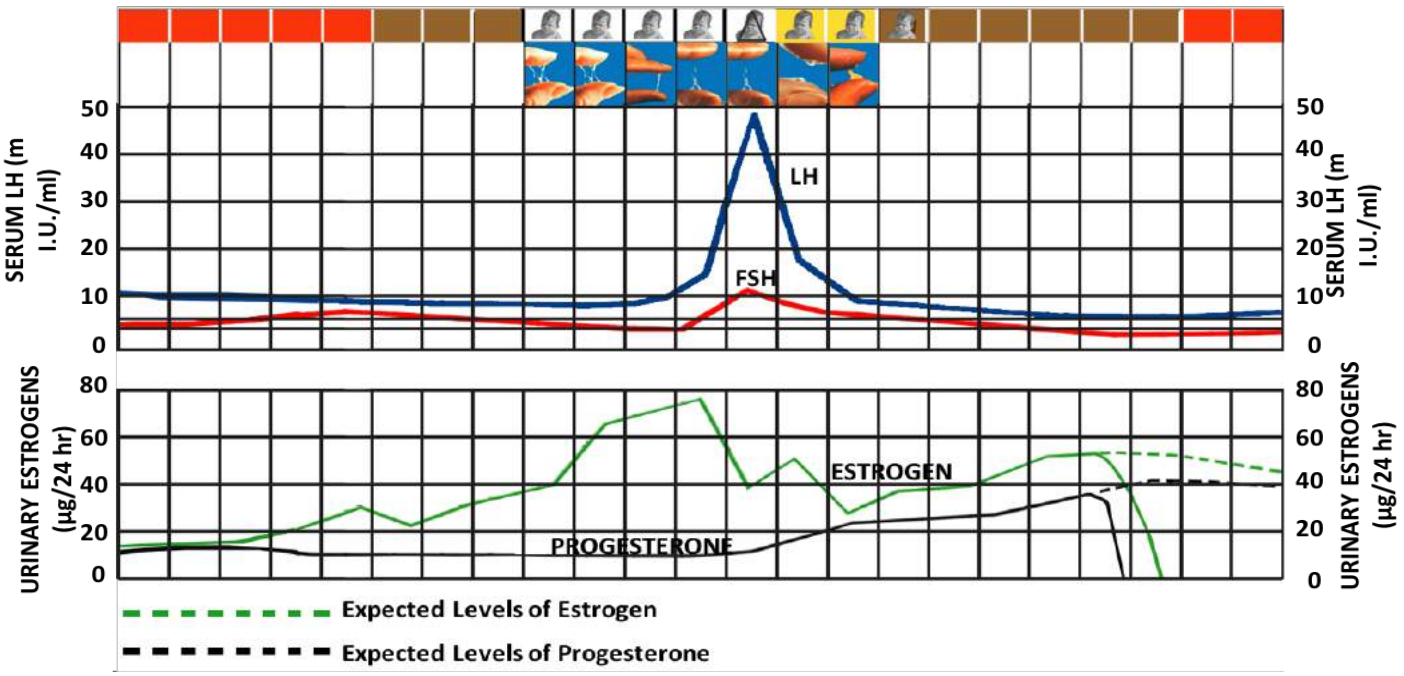
When Insufficient Progesterone Levels Fail to Support Pregnancy

In this variant, the Luteinizing Hormone (LH) surge is sufficient to cause ovulation, but not enough to support the pregnancy because the progesterone rise did not reach the necessary level to support a pregnancy; this is called "Deficient Luteal Phase". Often women do not recognize a clear Peak Day.



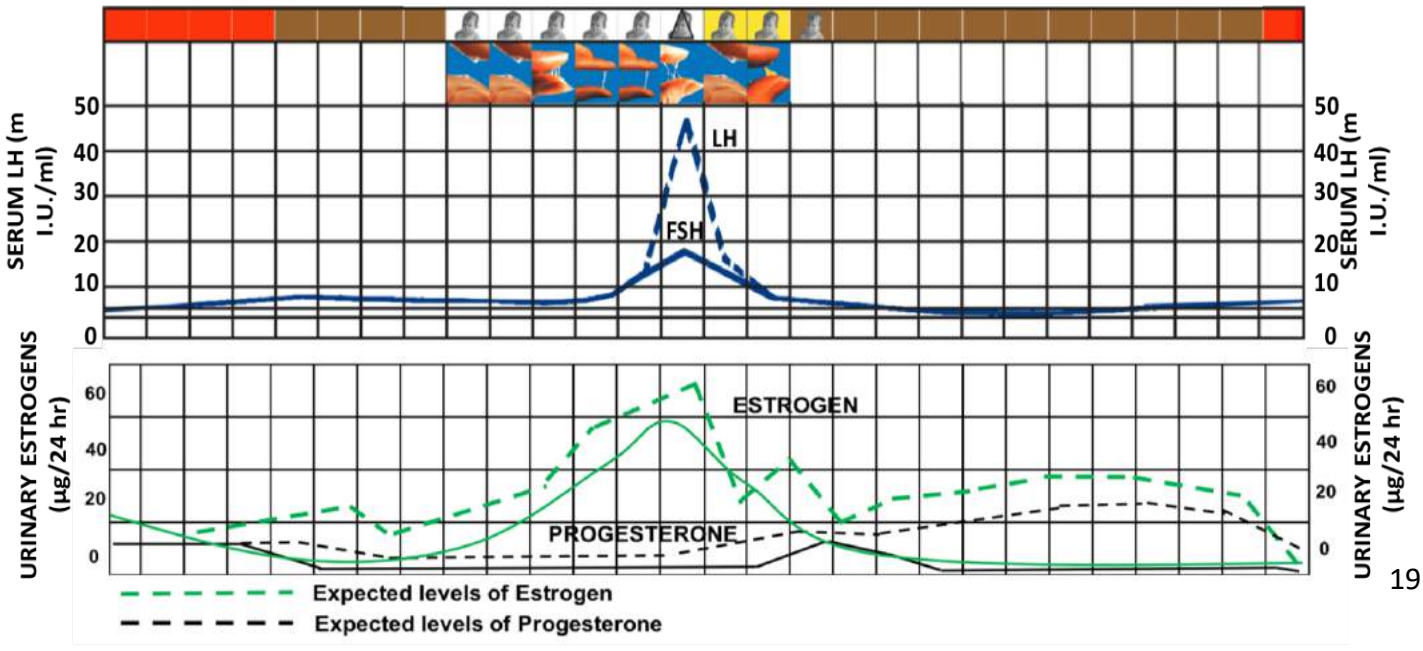
When Progesterone Levels Fall Prematurely

When progesterone levels reach normal post-ovulatory values, but fall prematurely so that bleeding occurs 10 days or less after ovulation, it is called a "Short Luteal Phase". It is recognized by the woman when she experiences a shortened interval between the Peak Day and menstruation. This could be caused by lack of healthy nutrition and vitamins.



Anovulatory Cycle

An Anovulatory Cycle is when the follicle develops, but does not progress to ovulation. There is production of estrogen which later decreases. Depending on the amount of estrogen produced and the sensitivity of the endometrium, the decreasing estrogen levels may or may not produce bleeding (withdrawal bleeding). There may be fertile days that may not progress to **Peak Day** because there was no ovulation.



Implementing the Discovery

As God allows us to discover the mysterious functions of the reproductive organs within the human body, we are able to present our experience in helping couples who experienced difficulty conceiving a child. Helping couples conceive a baby has been successful in a variety of cultural contexts already, but this paper is specifically dedicated to emphasizing the incredible success obtained among low income married couples in Guatemala, Central America who are financially unable to obtain highly sophisticated medical services and have received emphasis on nutrition, the health of the mother and supplementary vitamins.

The couple themselves, without costly medical intervention, can correct the most common reasons for infertility. These simple guidelines in many cases will avoid the need to introduce foreign chemicals into the woman's body to artificially stimulate ovulation or regulate her cycles. Often a well-balanced nutritional diet, supplementary vitamins and reducing anxiety will naturally correct the woman's infertility.

It is important to recognize that medical intervention is necessary in cases such as blockage of the Fallopian tubes, or the woman is suffering from endometriosis or cysts in the ovaries, or other infections that may be caused by sexually transmitted diseases, in order to be successful when trying to conceive.

The Most Common Reasons for Infertility

For Women

There are certain situations in a woman's life that impede the required level of estrogen from elevating to the necessary threshold level for ovulation to occur. They are the following:

1. Excessive exercise.
2. Excessive amount of work.
3. Stress due to anxiety to become pregnant.
4. Overweight.
5. Underweight.
6. Poor nutrition.

For Men

Low sperm count can be a contributor to infertility. It may be due to:

1. High temperature working conditions.
2. Extremely hot baths or showers.
3. Close fitting underwear.
4. Certain drugs and medications can affect fertility
5. Prolonged use of addictive drugs and alcohol may impair the quality of sperm.

If the Poor Can Be Successful, It Can Be Applied to Anyone Anywhere

During His short years in public life, Our Lord gave us constant reminders of His love for the poor. He cured them, fed them, taught them and we could even say He gave them preferential treatment in so far as kindness and generosity is concerned.

It stands to reason and logic that God in His wisdom and fairness would not have ignored the cry of the poor as they also encounter difficulties conceiving. Infertility could be due to the lack of adequate nutrition, overweight or underweight, or from having used artificial methods of birth control or from having been sterilized, willingly or not.

Couples from low income brackets, particularly in the cities of poor nations around the world are not informed of the serious side effects of artificial methods of birth control, and its abortifacient effect. Prolonged use often destroys temporarily and sometimes permanently, women's precious gift of fertility.

We live in such contradictory times. First, couples pay to have their gift of fertility and procreation altered/destroyed, or if you are poor, they are persuaded to have it done for free or at low cost. Then, for whatever reason, convenience, health reasons, or perhaps their anguish for not being able to conceive a baby, they get desperate and are willing to pay any price to achieve what they once rejected the gift of procreation.

Others may feel reproach, they repent and feel a strong desire to return to fertility and respect the Natural and Divine Laws. They discontinue using artificial methods, or ask their physician to have their fertility restored if they have been sterilized.

This Research Was Conducted from July 2010 to July 2013

We studied **54 couples** from low-income brackets that have had trouble conceiving anywhere from 1 to 12 years. Of the 54 couples, 52 have achieved pregnancy from July 2010 through July 2013. Eight of the 52 did not carry the pregnancy to term. Two have not yet become to pregnant.

This research has an extraordinary success rate of **81.48%,** requiring no cost to the couples except the educational component, sponsored by our foundation.

It would be unfair to even imagine that God who is just and kind would ignore those who could not afford the expensive tests that are commonly done on women in developed countries to try to restore their fertility.

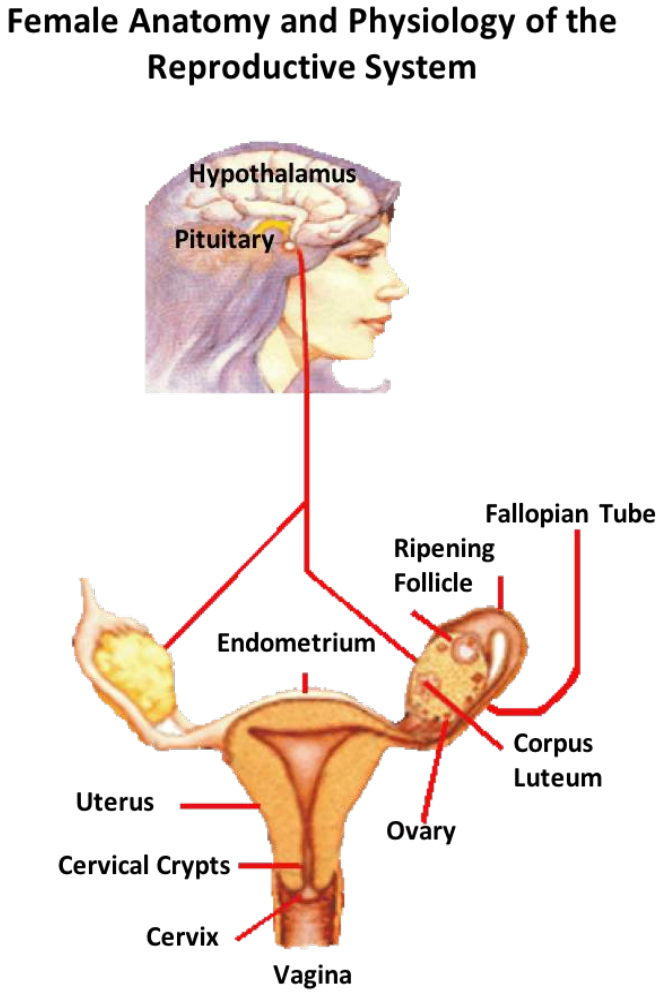
It is a lesson in humility and a revelation for humanity to realize that the answers to complex problems are often found within our own bodies. If only we listen, learn, and follow, most solutions can be discovered within us without the need of dangerous chemicals or artificial insemination.

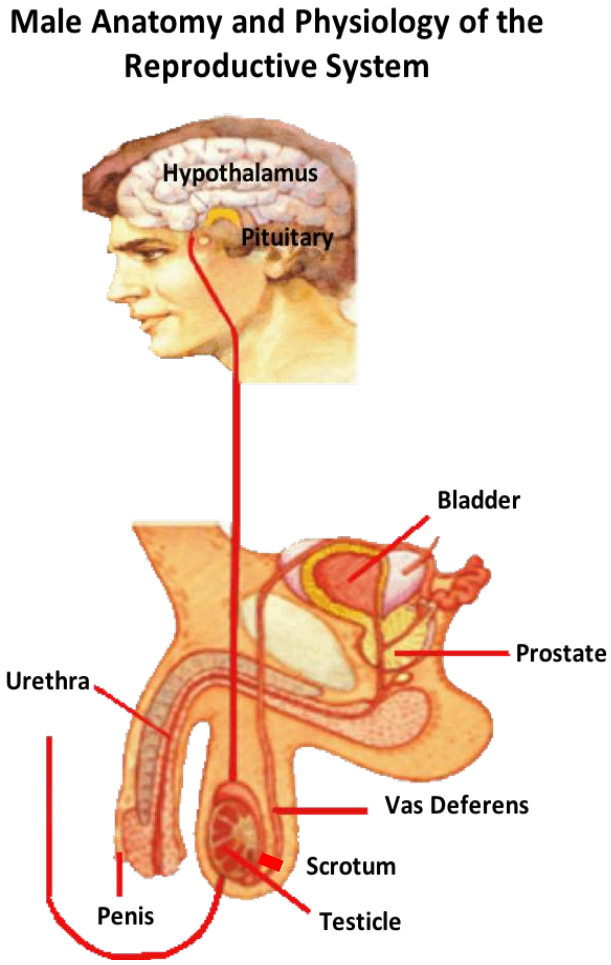
Following we present some of the remarkable results of the cases that we followed for three years. The results are worthy of attention by members of the medical profession, particularly those who deal with infertility problems.

Some of the Simple Educational Materials and Methods Used in The Study

Detailed personal information was gathered from each couple who wished to practice the Ovulation Method to try to conceive. They were given a class and a chart on how to keep daily observations of their cycle in order for us to continue follow-ups personally or by phone.

Female and Male Anatomy and Physiology of the Reproductive System

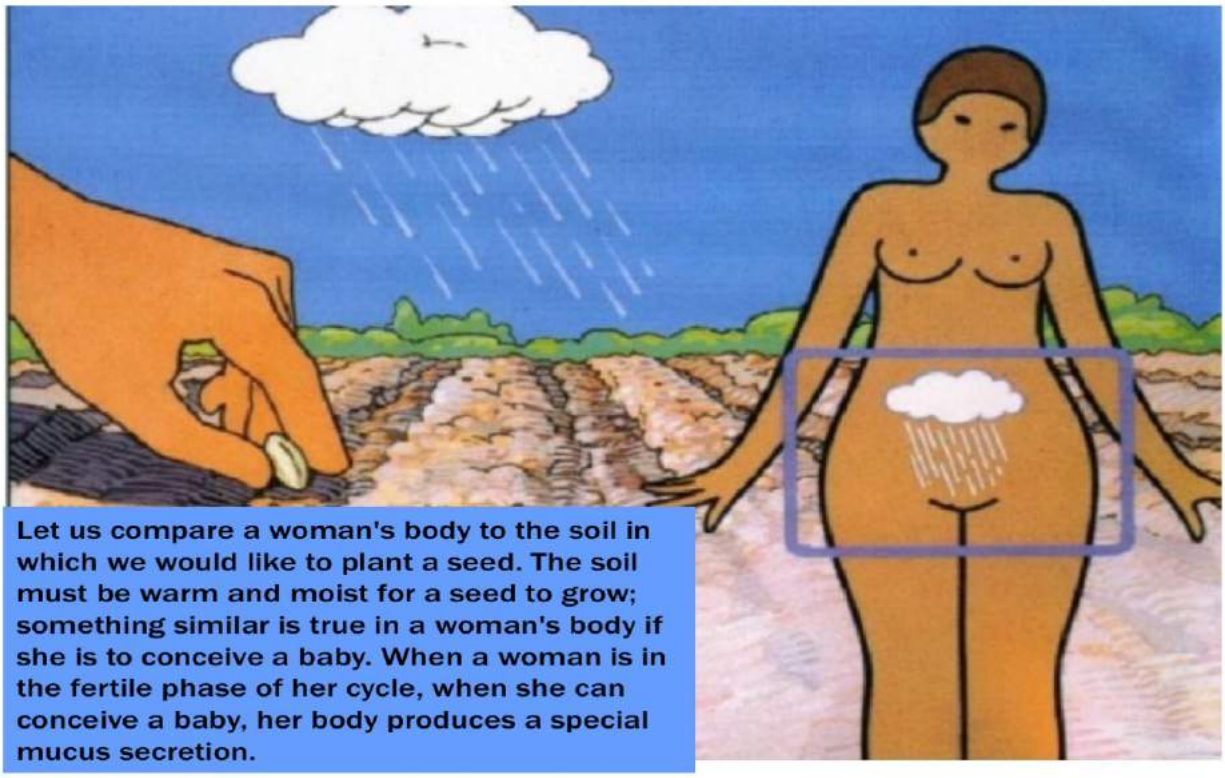




Fertility of the Land

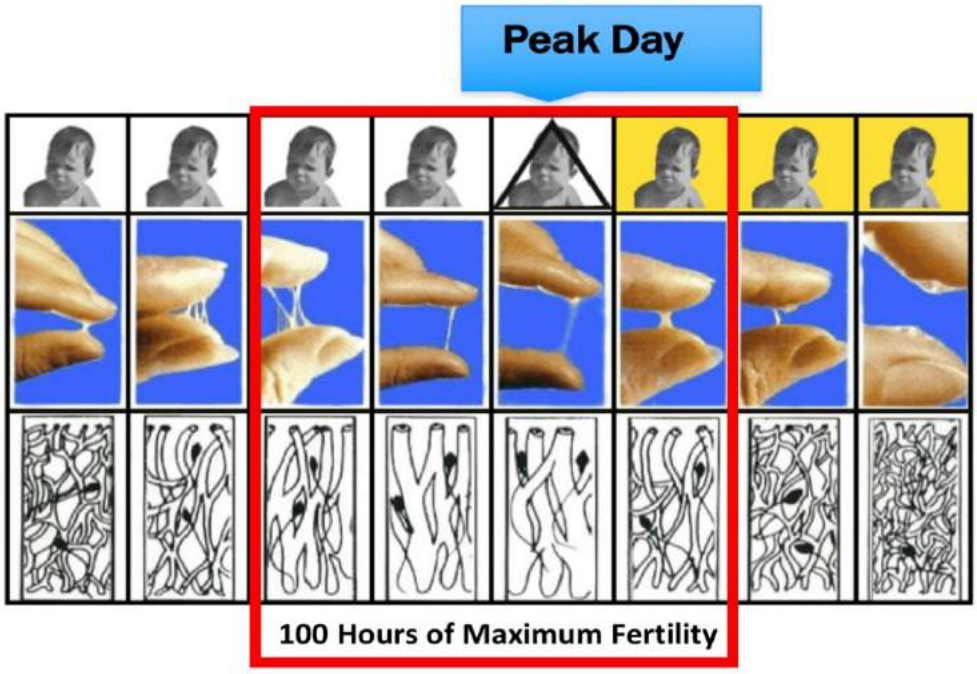
Infertility of The Land

Just Like Mother Nature – is Mother Woman



Days of Maximum Fertility

The Ovulation Method is based on teaching women the significance of a natural secretion that usually appears around the middle of her cycle. They are taught to recognize the days of maximum fertility.



Simple Charting Instructions Given to Low-Income Couples

Sun and Moon — The couple themselves drew the symbols of the sun and the moon. These refer to the days when the couple had marital relations (sun=during the day, moon=at night). The couple should record each time they have marital relations before the PEAK DAY, and at least the first time they have relations after the PEAK DAY.

Red Stamps — This stamp is used on days of menstruation, bleeding or spotting. If pregnancy is to be postponed, it is recommended that marital relations are avoided during the days of menstruation. There is medical support for abstinence during menstruation.

Brown Stamps — This stamp is used during dry days. No mucus is observed, a dry sensation is felt throughout the day. A dry day is an infertile day when it occurs in the early days of the cycle before the fertile phase has begun.

White Stamps With Baby — This stamp is used on mucus days before the Peak when mucus is seen or a slippery wet sensation is felt. Chart a white baby stamp indicating that these days are fertile and pregnancy can occur if marital relations or any genital contact takes place.

Mucus Stamps — These stamps are placed below the white or yellow baby stamps when the woman observes the secretion or feels wetness. Each day she chooses the stamp that most closely resembles the secretion she observes. These are all fertile days.

White Stamp With Baby and Triangle — This stamp is used when the woman observes her PEAK DAY. The **PEAK DAY** is the last day that a clear, stretchy secretion is observed or a wet and slippery sensation is felt. The woman identifies her PEAK DAY the day after it occurs, because the secretion changes to either sticky and non- elastic or she no longer sees or feels any sensation of wetness or lubrication. This is a fertile day.

Yellow Stamps With Baby — These stamps are used on any of the three days of mucus after the PEAK DAY. This mucus must be sticky, thick and non-elastic, when there is no slippery or wet sensation. These three days immediately after the PEAK DAY are considered fertile.

Brown Stamps With Baby — These stamps are used on any of the three days after the Peak Day if they are dry days, when no mucus is observed and a dry sensation is felt. Even though they are dry days, these three days immediately after the PEAK DAY are considered fertile.

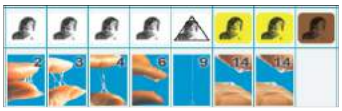
Yellow Stamp — These stamps are used when non-elastic, thick, creamy or sticky mucus appears more than three days after the Peak Day has been identified with certainty.

NOTES:

1. Abstinence from marital relations and from all genital contact is recommended for 2 to 4 weeks while the couple is learning the Ovulation Method, so the woman may clearly observe her pattern of fertility.
2. The stamps should be placed on the chart every night before going to sleep.
3. The woman should be aware throughout the day of the sensation of wetness or dryness at the vaginal opening, and of the presence of any visible mucus secretion. At the end of the day the couple should chart the most fertile sign that was either felt or seen, throughout the day.
4. IMPORTANT! The couple would have used this stamp if there had been any days when the woman had felt a sensation of wetness but had not observed any secretion. Such a day is considered a fertile day because the mucus is present but may be so watery she is unable to observe it. This is why what the woman feels is just as important as what she sees.

RECORD KEEPING CHART

The Ovulation Method of Natural Family Planning

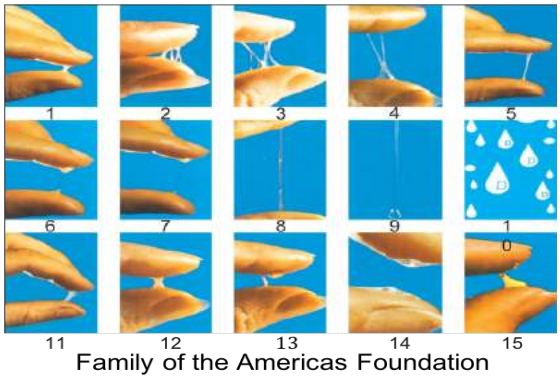


One of the most fundamental observation of life around us is that nature provides moisture necessary for seeds to germinate. Man has long recognized the presence of secretion as an indicator of fertility in animals. It is logical and natural that the simple phenomenon would also appear in human reproduction. The Discovery of the unique properties if the cervical mucus a woman observes regularly throughout her reproductive years is one of the most significant findings of the 20th century in the field of human reproduction. No only does the presence of this secretion signal fertility, but it has been found to be essential for conception.

In Guatemala we developed a simple charting system that we presented to the Drs. Billings who incorporated it into their teaching system as well.

OBSERVING:

Be aware throughout the day of the sensation of wetness and dryness at the vaginal Opening and the presence of any mucus secretion. Internal examinations are not necessary and should be avoided. Vaginal Douches should also be avoided.



Family of the Americas Foundation
5929 Talbot Rd. Lothian MD 20711
Phone 301-627-3346
Webpage: www.Familyplanning.net
Email: familyplanning@yahoo.com App: naturalmethod.org

Four Cycles Chart being used by Participants

CHARTING: Begin charting as soon as the Method is learned. Begin a new row of the chart on the first day of each menstruation.
1. Chart every night before going to sleep.
2. Chart the most fertile sign observed throughout the day.
3. You can check one of these two symbols to indicate in which part of the day marital relations occurred. ☼ ☾

DATE _____ NAME _____

	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
	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾	☼ ☾
CYCLE																												
MUCUS STAMPS																												

DATE _____

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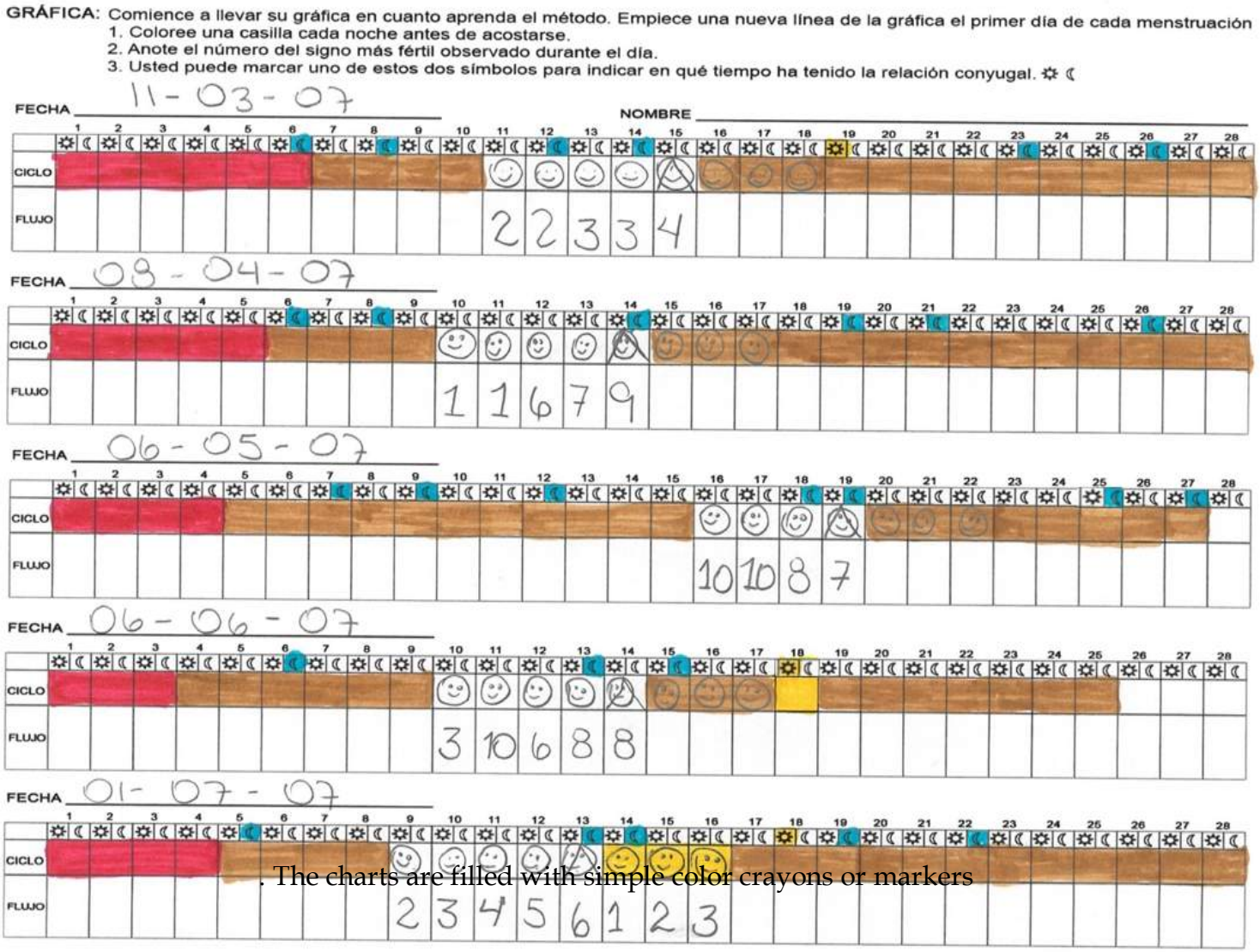
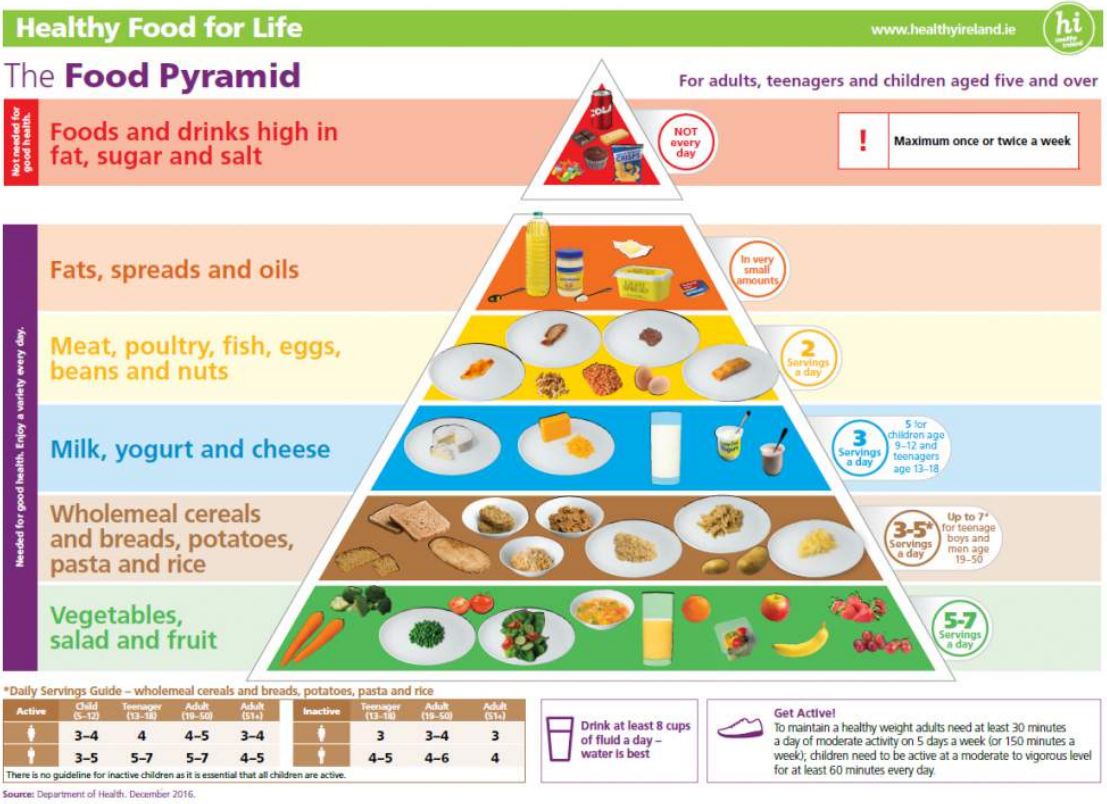
CYCLE																												
MUCUS STAMPS																												

Example of an Actual Chart



. The charts are filled with simple color crayons or markers

Because Overweight or Underweight Affects Fertility, Strong Emphasis is Made to Improve Nutrition and Supplementary Vitamins



In Guatemala, the staple diet consists of black beans, corn tortillas and rice as well as fruits and Vegetables. Meat is not consumed every day by low income families. So, if they are overweight, we emphasize less sugar, carbohydrates and eat smaller portions in their diet, no soda drinks and exercise if time permits as they all work. We only recommended the one a day vitamins and mineral supplement that was affordable to them.

(Each country must use the healthy nutritional diet of its population)

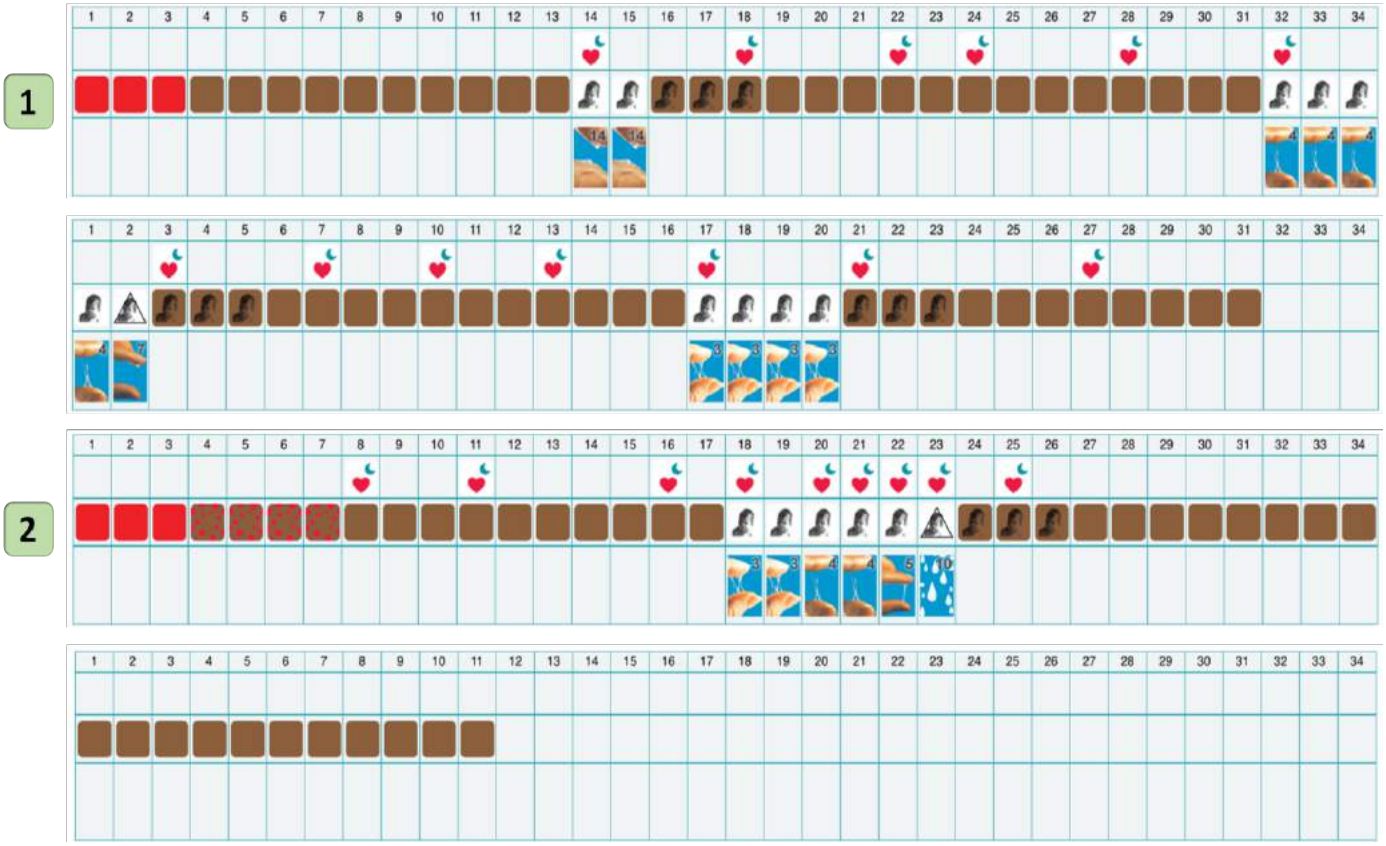
Average Age and Ranges of the 54 Women in the Study

Never Used Artificial Birth Control	Used Artificial Birth Control	Average Age of all 54 women
27.83 (From 19 To 41 years old)	28.09 (from 17 to 39 years old)	27.95 (from 17 to 41 years old)

Group 1

Cases of Couples Having Trouble Conceiving For At Least One Year Who Never Used Artificial Methods of Birth Control

CASE 101



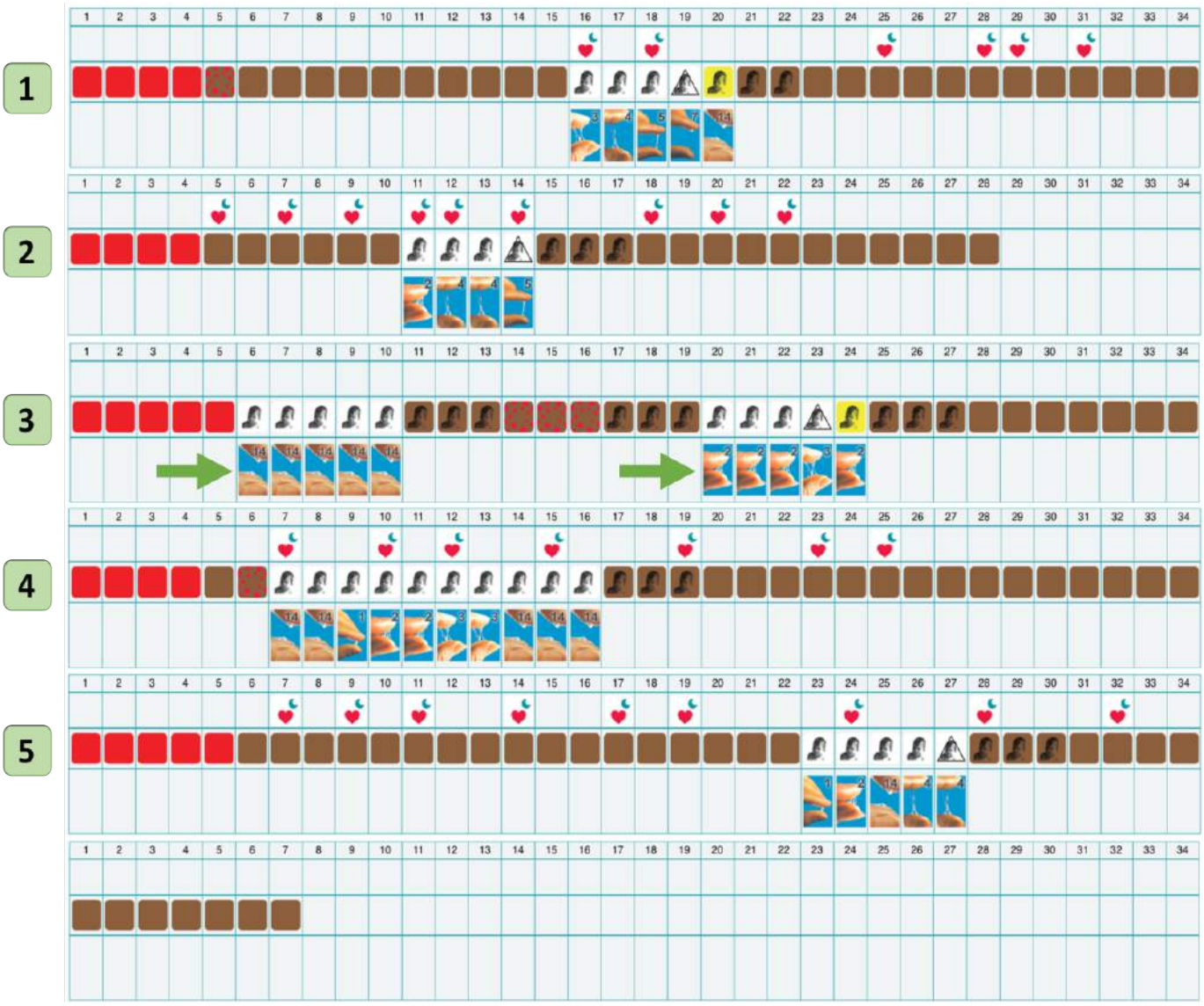
27-year-old woman, who was very depressed as she and her husband had been trying to conceive for seven years. Her height is 5 feet, weight 130 pounds.

For that age and height, the ideal weight should be 95 – 110 pounds. She was advised to eat more fruits and vegetables and less fattening foods, as well as multi-vitamins, and moderate exercise to lose some weight.

She started charting February 2011. In the first cycle, she observed good signs of fertility.

On the second cycle, she was advised to use the most fertile time of her cycle and she became pregnant for the first time after seven years. She got pregnant in May 2011, but she lost the baby in July 2011 perhaps due to a death of a close family member. She became pregnant again in November 2011. She had her baby in July 2012.

CASE 104 A



32-year-old woman. Her height is 4 feet 10 inches. Weight 125 pounds, also overweight Trying for 5 years to get pregnant. She had a fever for 8 months due to urinary and vaginal infections that was treated at the public hospital. Our teacher instructed the couple to recognize her fertile signs.

She had two normal ovulatory cycles. On the third cycle, she did not ovulate as she did not observe any mucus of fertile characteristics.

On the fourth cycle, she had two days of the fertile type of mucus, but apparently not in sufficient quantity to keep her husband's sperm alive.

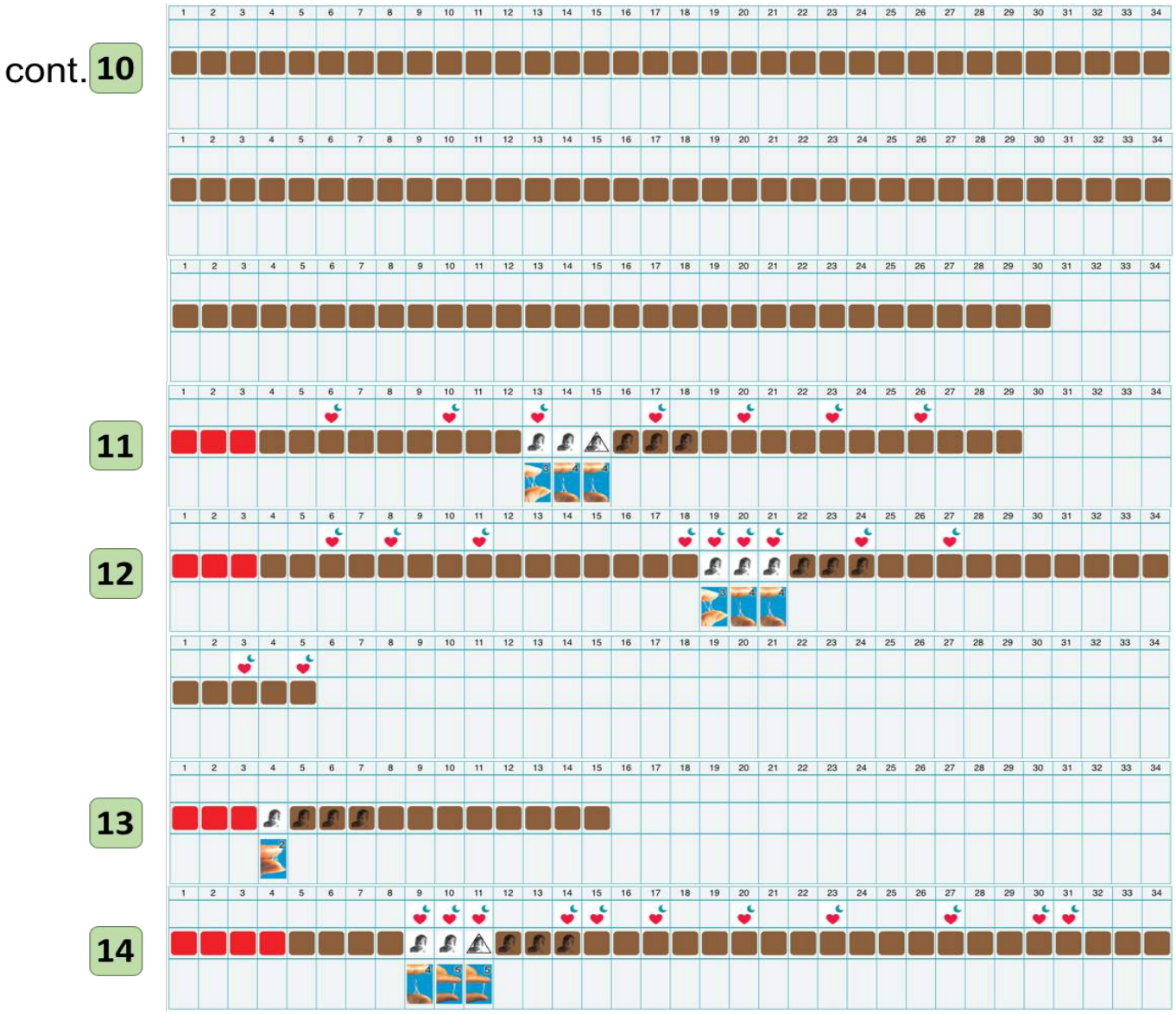
Apparently, she ovulated again on the fifth cycle.

CASE 104 B

She probably ovulated on the sixth, seventh, eighth and ninth cycles.

On the tenth cycle, she had patches of fertile and infertile mucus

CASE 104 C



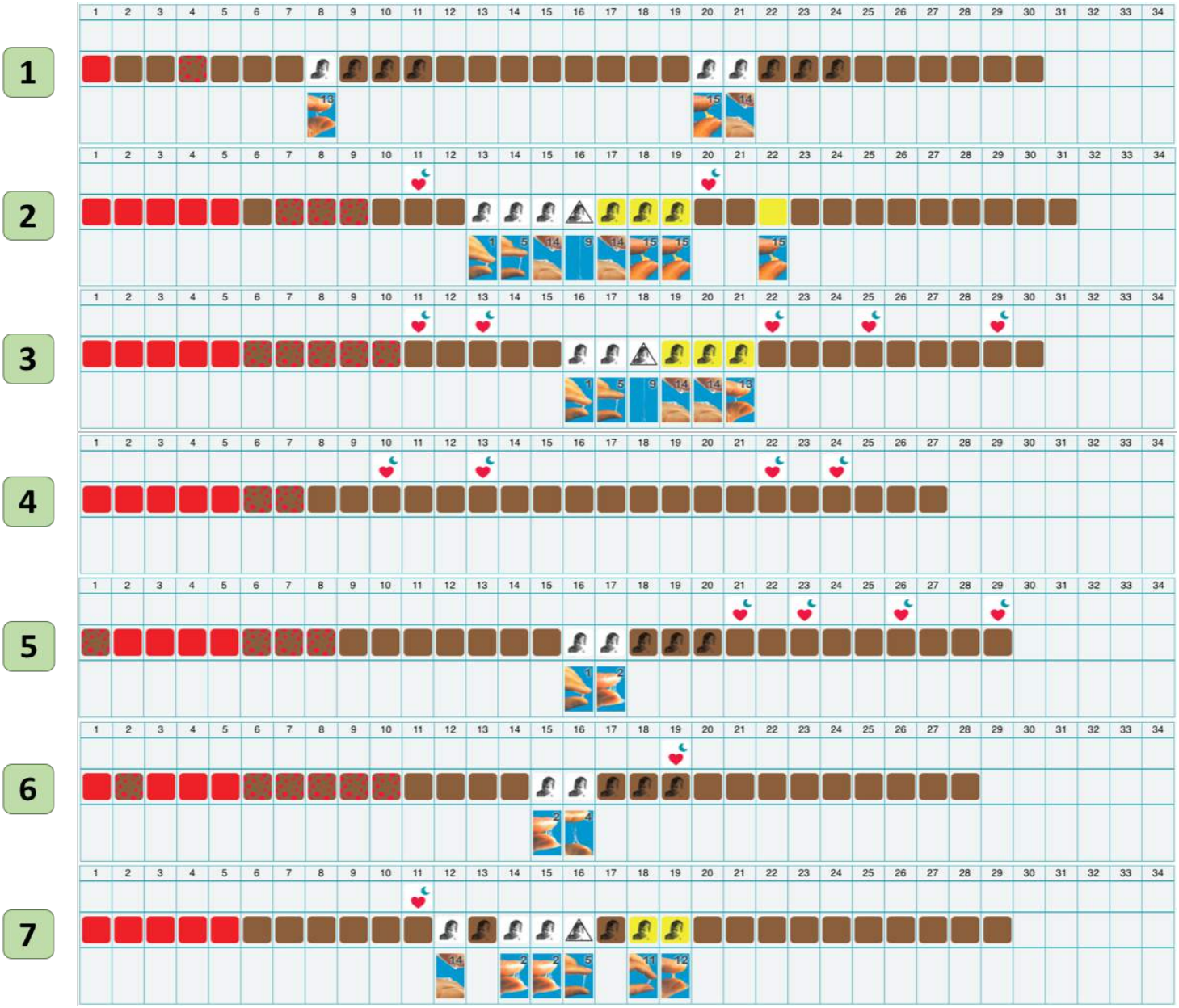
She then continued dry for 112 days. She was working extremely hard selling vegetables in the public market and apparently under a lot of stress.

She was advised by our teacher to work less, eat a balanced diet and take multi-vitamins including folic acid, and her cycles appeared to normalize.

On the eleventh and twelfth cycles, she had mucus with fertile characteristics, the couple had marital relations at the fertile time and yet, she did not become pregnant. The thirteenth cycle appears to be anovulatory.

The fourteenth cycle was normal. The couple had marital relations on the three days with mucus of fertile characteristics and she became pregnant in September 2011. Ultrasound confirmed she was pregnant with a baby boy.

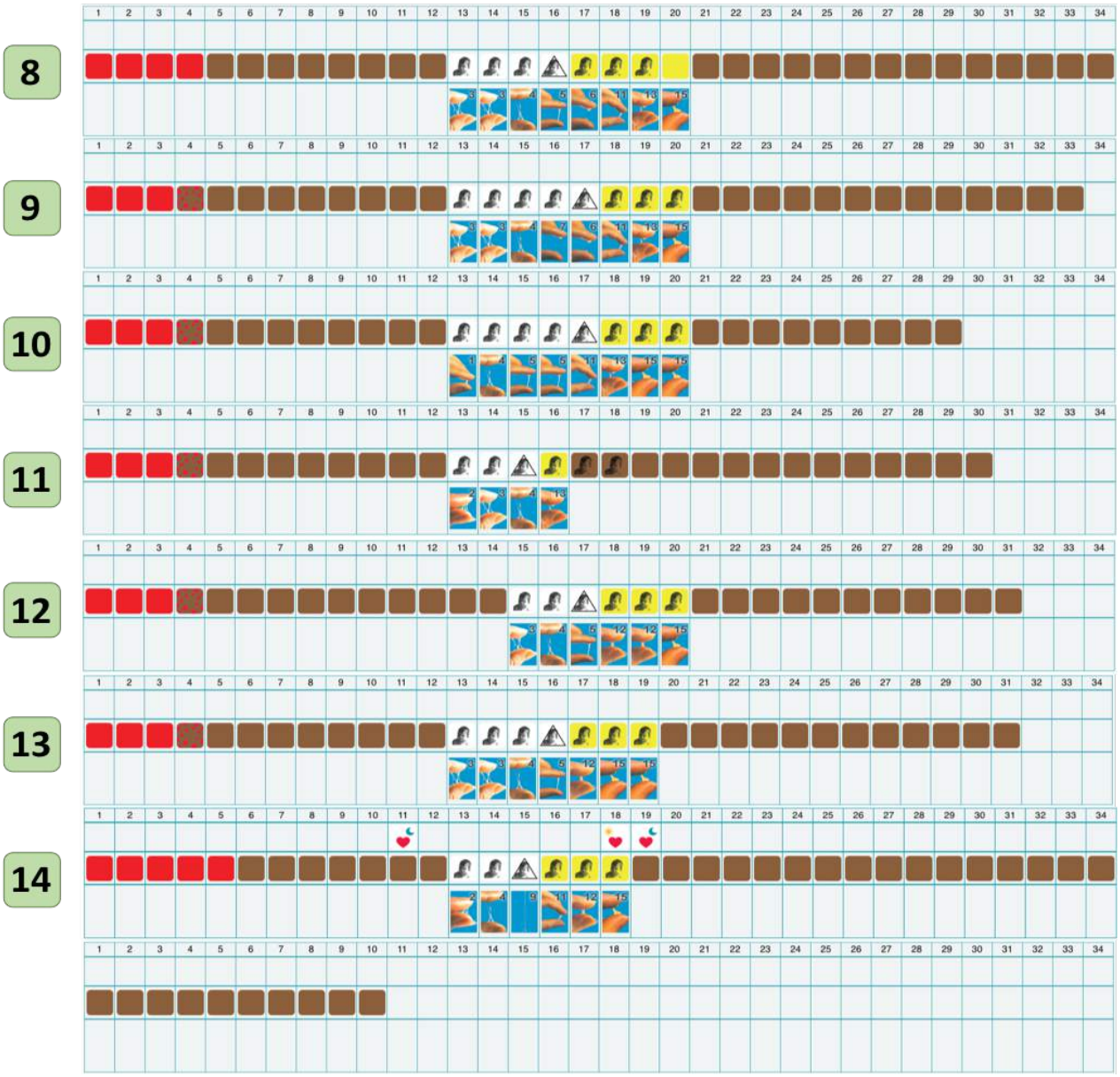
CASE 107 A



20-year-old woman who became pregnant, but had a miscarriage. She had never used artificial methods. After a year and a half of trying to become pregnant she learned the Ovulation Method from one of our teachers at the hospital and started keeping a chart of her cycle.

From her record keeping chart the teacher noticed that she had a variety of fertile and anovulatory cycles. She was told to improve her nutritional intake and to take multi-vitamins.

CASE 107 B

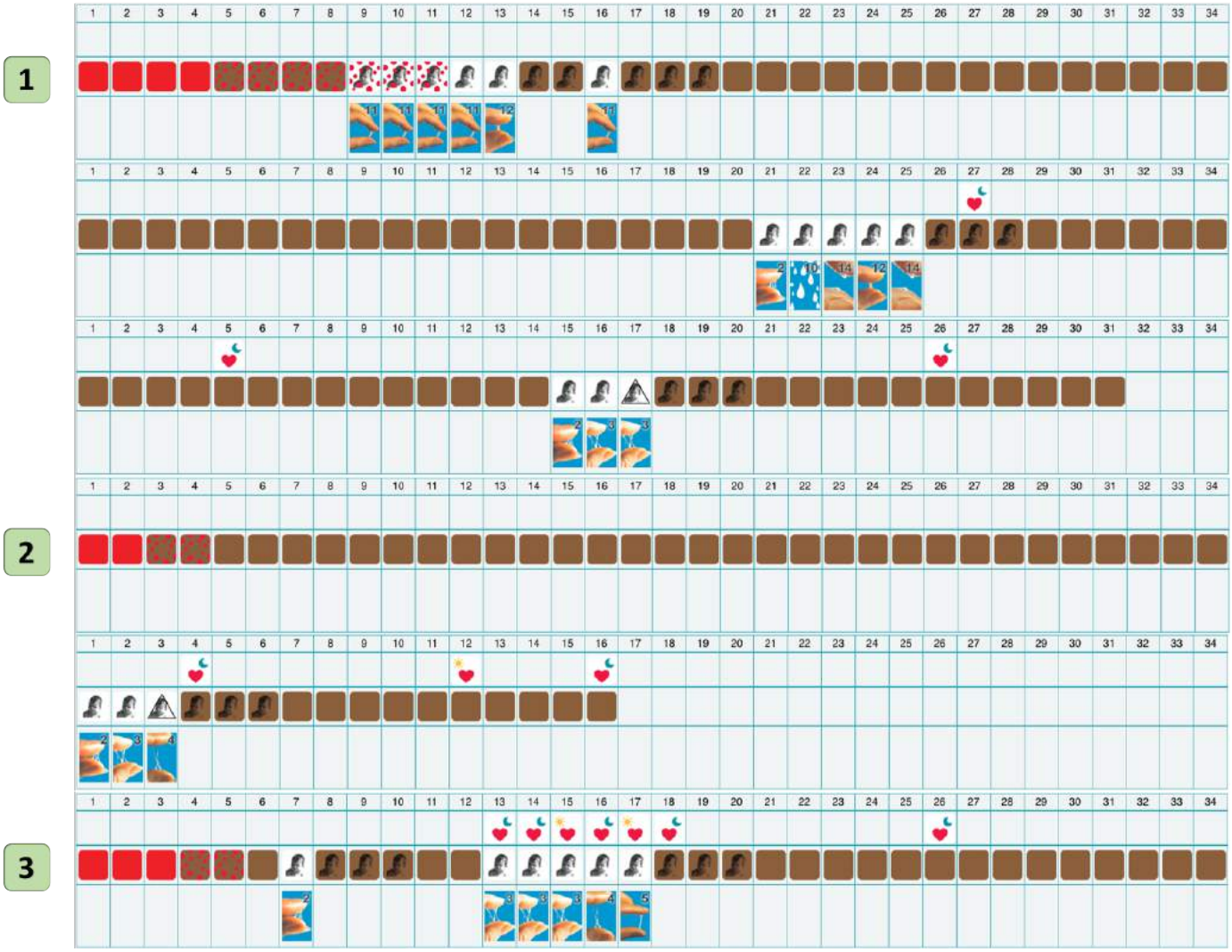


Note how the intake of vitamins regulated her 8th 9th 10th 11th 12th 13th cycles.

On the 14th cycle, the couple decided to try to conceive having marital relations three days after the Peak Day and became pregnant. Baby was born May 2012

This is a good example of how seldom women ovulate two days after **peak** day and can still become pregnant by having marital relation on the third day after the **peak day**

CASE 120



36-year-old woman. Height 5.1 feet. Weight, 169 lbs. Married for 6 years, she had a miscarriage during the first year of marriage. She had been trying to get pregnant ever since.

She had never used artificial methods of birth control, but she was overweight. Before she learned the Ovulation Method, she had surgery of the cervix because she had a "Naboth cyst" (a cyst that can normally be found on the surface of the cervix). She was under a lot of stress because she thought, after this surgery; she would not be able to get pregnant, which might have affected her first cycles.

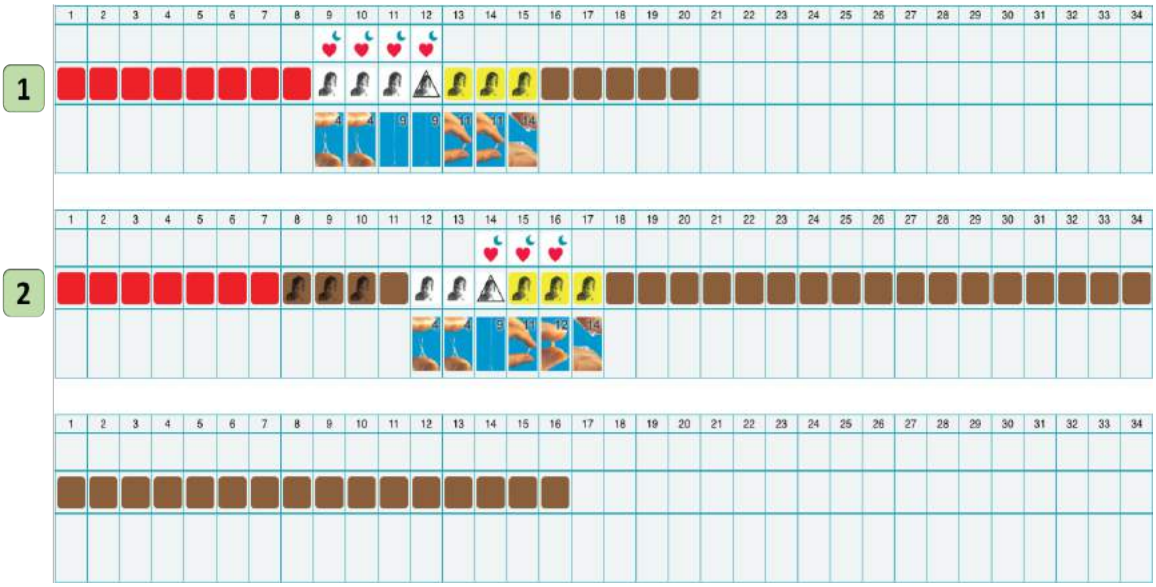
She was advised to eat well to lose weight and take supplementary vitamins and folic acid.

During the 3rd cycle using the Ovulation Method, she had marital relations everyday she observed the quality and characteristics of cervical mucus including the day after the Peak Day.

She became pregnant and her baby boy was born September 2012.

Group 2
Cases of Couples Having Trouble Conceiving For at Least One Year, After Having Used Artificial Methods of Birth Control

CASE 203

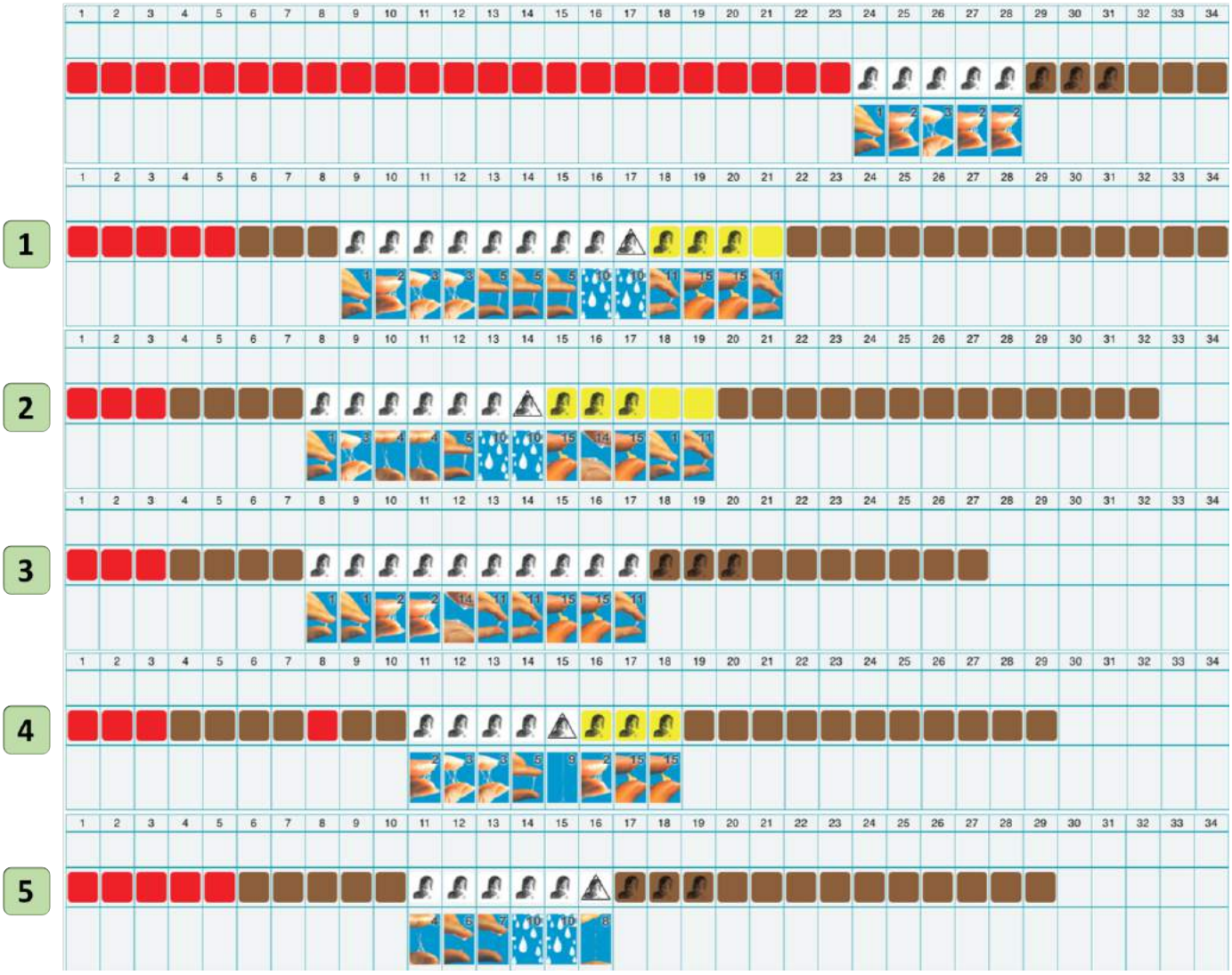


33-year-old woman, trying to become pregnant for 12 years. She took medication for cysts and eventually she needed to have surgery. She still had not achieved pregnancy. She worked very hard, 7 days a week and she was 20 lbs. overweight. She was told to lose weight, eat healthy food and take supplementary vitamins.

On the first cycle, she appeared to have normal fertility, but judging by the post-ovulatory phase it was an anovulatory cycle even though they had marital relations during the fertile phase of the cycle. According to Professor Brown, a post-ovulatory phase of less than 10 days is not a fertile cycle, because there is not enough endometrial growth to sustain a pregnancy.

On the second cycle the couple had marital relations on the most fertile time and pregnancy was confirmed.

Case# 211 A

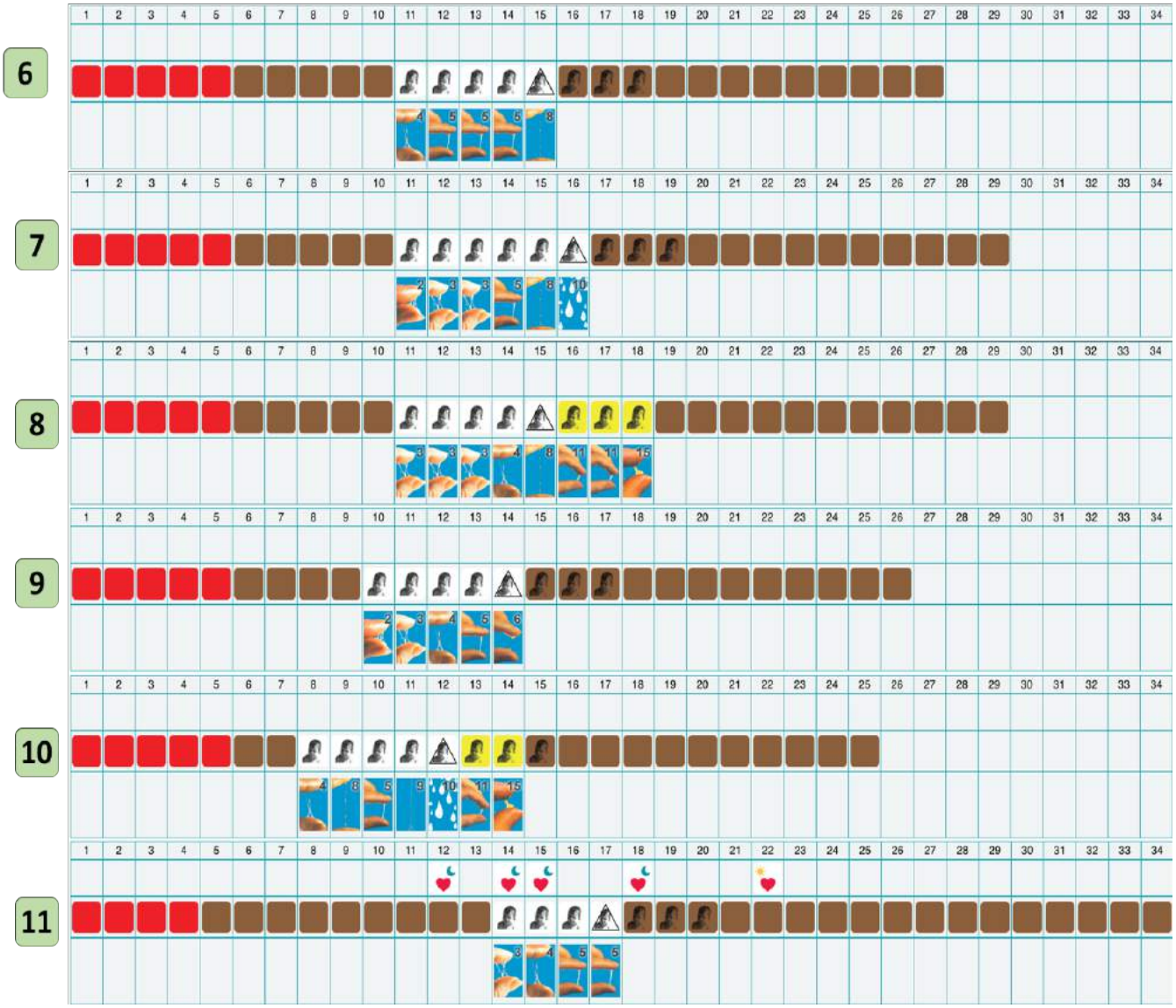


33-year-old woman, with 2 miscarriages, the last one in 2008. She was given the three-month Depo-Provera injection after miscarriages, an unfortunate medical procedure. She had been trying to conceive for two years.

Please note the 23 days of bleeding due to the Depo-Provera injection she was given after the last miscarriage.

Because the poor are humble, they are afraid to question the recommendation of the doctors who often do not instruct them on the serious side effects of such dangerous hormonal chemicals of birth control.

CASE #211 B

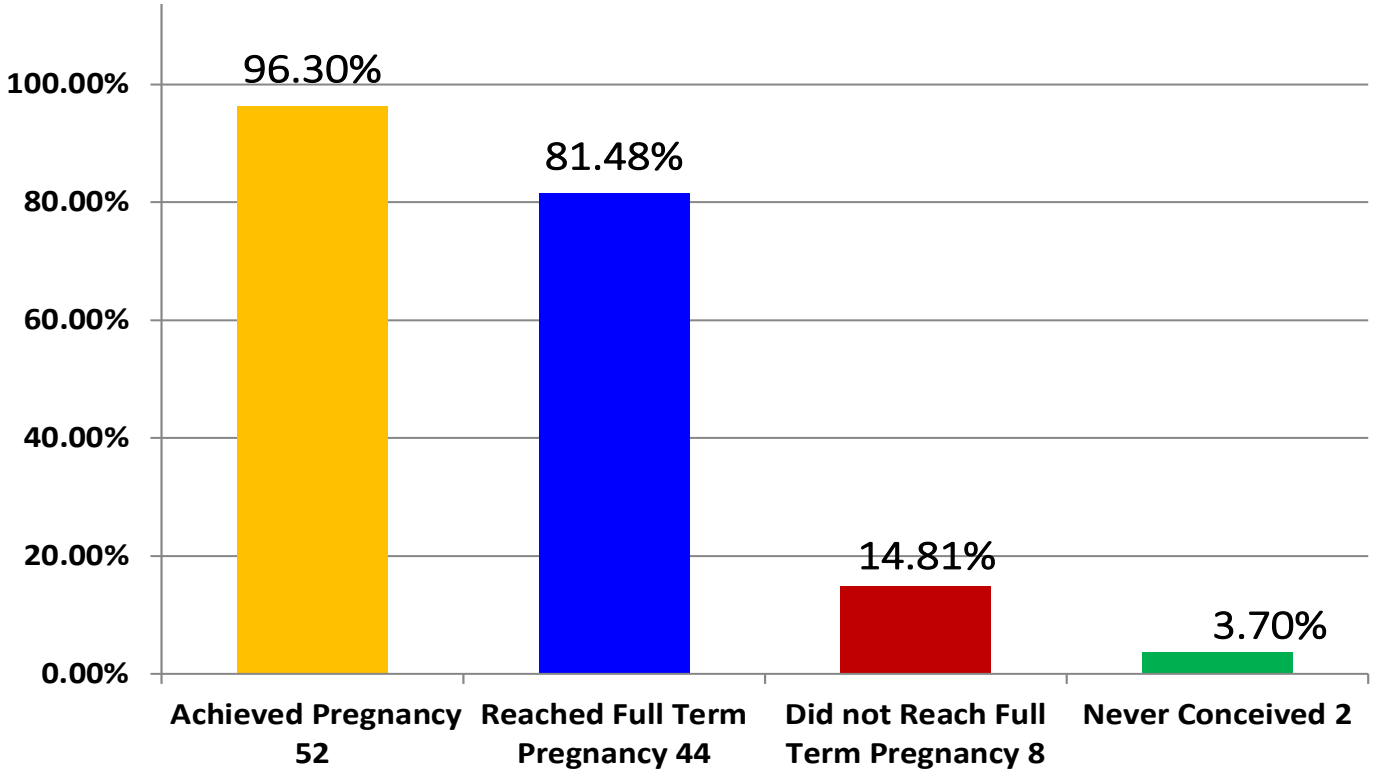


She was instructed by our teacher not to have any more injections as they could damage her future fertility. She was also asked to wait a few months before trying to become pregnant so that the effects of the injection may be expelled from her body.

She was asked to take vitamins and have good nutritional intake.

After she had normal cycles, she conceived on the eleventh cycle. A baby girl was born nine months later.

54 Cases Studied
Achieved pregnancy 52
Reached full term pregnancy 44
Did not reach full term Pregnancy 8
Never Conceive 2



Information on the 2 Couples that Continued Trying to Conceive

Never Used Artificial Methods of Birth Control

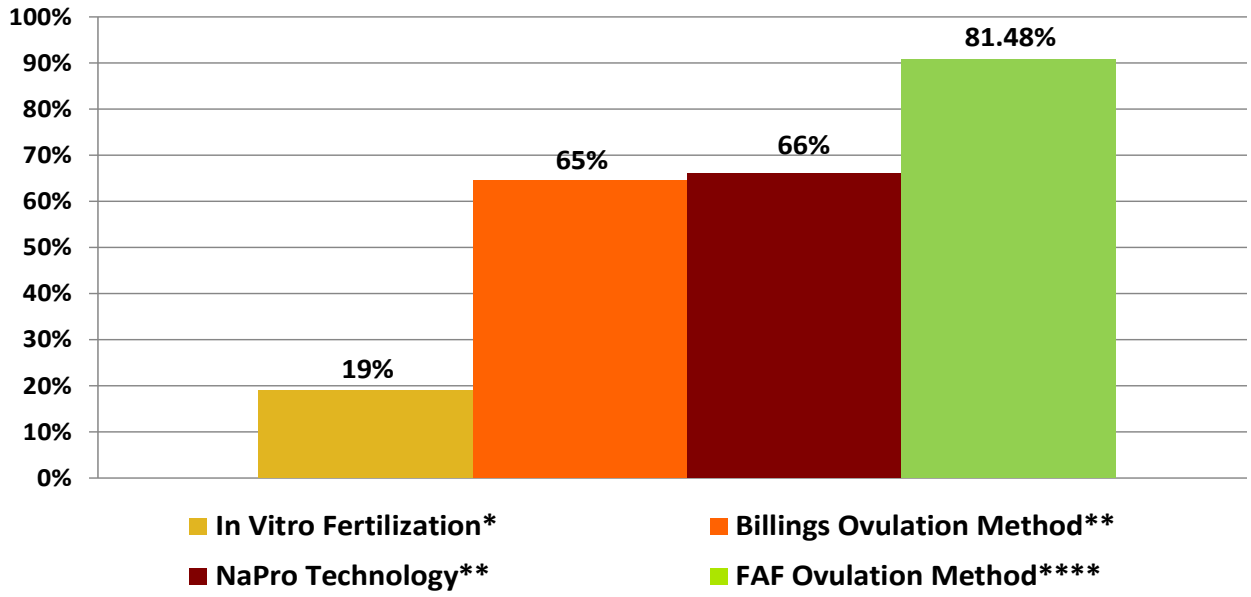
1. CASE 124: 31-year-old woman trying to achieve pregnancy for 3 years.

Used Artificial Methods of Birth Control

1. CASE 224: 25-year-old mother without children. Used the Depo-Provera injection for 3 years. She had been trying to conceive for 1 year.

It is not unusual for women who have used steroid hormones for several years to have problems conceiving.

Success Rate Comparison



* American Pregnancy Association - http://www.americanpregnancy.org/infertility/ivf.html
** Study conducted by Research Team of Ovulation Method Research and Reference Centre of Australia Ltd. - http://www.thebillingsovulationmethod.org/es/how-effective-is-the-billings-ovulation-method%E2%84%A2/success-in-achieving-pregnancy.html
*** Fertility Care - http://www.fertilitycare.ie
**** Study Conducted in Guatemala by Family of The Americas Foundation - https://www.familyplanning.net/sites/default/files/Libros/achieving_pregnancy_guatemala.pdf

Assisted Reproductive Technology (ART) which includes in vitro fertilization, has very poor results overall, and yet it is represented worldwide as the method of choice for infertility.

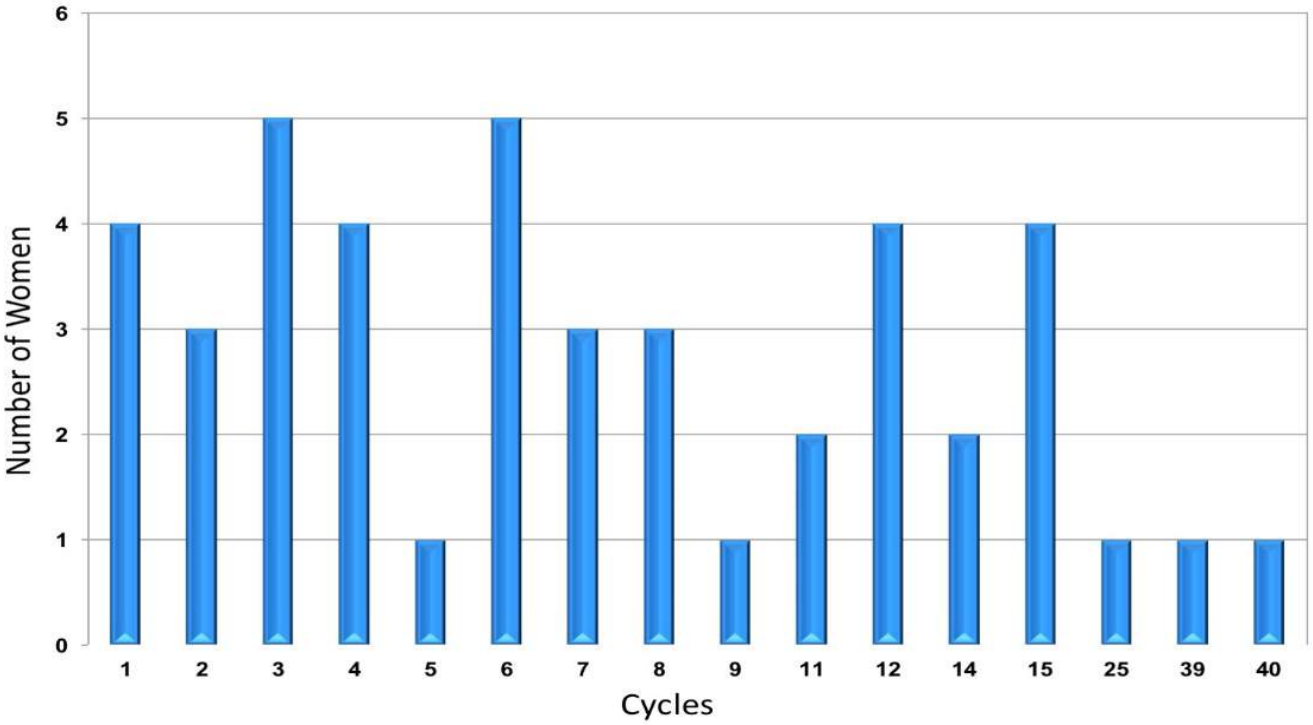
The Billings Ovulation Method, NaProTECHNOLOGY which is a part of the CREIGHTON MODEL FertilityCare™ System (CrMS), and the Family of the Americas Ovulation Method are all based on the same research done by Drs. John and Evelyn Billings and the 850,000 hormonal correlations conducted by the famous Professor James B. Brown of Melbourne Australia on the application of hormone assays in the identification of the faces of fertility and infertility during the menstrual cycle.

Dr. Brown used these assays in helping Drs. John and Evelyn Billings develop and validate the Ovulation Method. The difference among the three systems (the Billings Method, The Creighton Method and The Ovulation Method) is in the teaching techniques that each organization has adopted.
The Family of the Americas Ovulation Method simplified the charting system in Guatemala, making it possible even for those who cannot read or write to follow and interpret their own cycle changes.

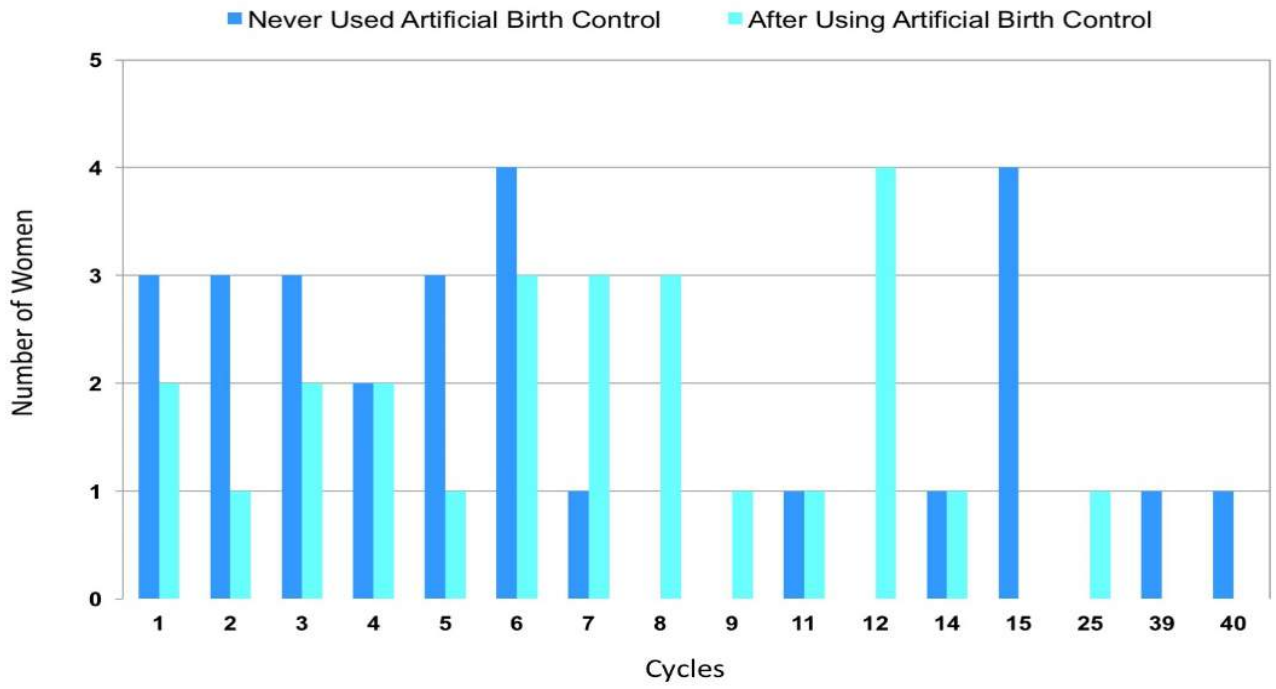
The work of Drs. Billings, Brown, and Berger relating hormone changes to the mucus symptom was first published in The Lancet in 1972. This study showed that the time of ovulation could be identified by the women themselves when charting their mucus symptom without recourse to either basal body temperature measurement or more specialized tests.

The study established a relationship between the surge of LH, ovulation, and the observation of the peak mucus symptom.

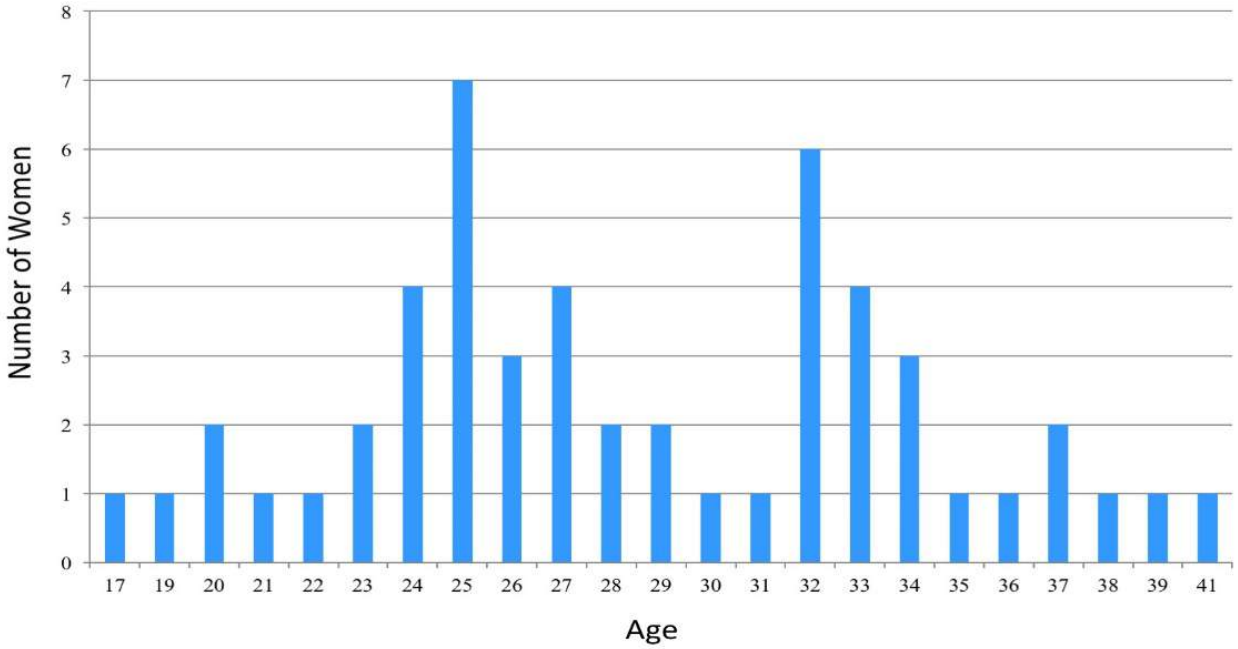
Number of Cycles of 44 Full Term Pregnancies



Number of cycles before Achieving Pregnancy



Total Number of Women by Age who achieved Pregnancy



Pictures of Some Babies Who Were Born During this Study

Conclusion

It is important to recognize that since our participants in this study are in their majority of low income, they are by nature humble and in general, reluctant to share their personal marital relations. Except, when they conceive, then they share their joyful confirmation of achieving pregnancy during the most fertile time. Additionally, it is not customary for our teachers to ask couples coming to us with infertility problems, personal questions such as their "lifetime sexual partners". Our teachers would regard such intruding questions as "improper" taking into account the fact that all our cases of infertility are from married couples. If a couple comes to our teachers while living together outside of marriage, as is the case so often in the USA, our teachers would NOT teach them the Ovulation Method to Achieve Pregnancy. The simple reason being that our teachers are concerned about the future of a child in such an improper and unstable union. Perhaps this may sound conservative and traditional, but this is still the way our instructors perceive their responsibility to be.

We have also been asked if "sexually transmitted diseases" are some of the main factors related to infertility in our country. Venereal diseases are not so prevalent among our poor people as is so common and in epidemic proportions in the United States, where the Center for disease Control recently reported that 1 in every 3 persons, have or have had a venereal disease. Physicians in Western countries appear to be used to seeing a large percentage of such cases as a common occurrence among young couples who live together, are not married and often change different partners periodically.

A very important discovery that we have revealed to our teachers worldwide is the importance of nutrition, supplementary vitamins and fertility as factual knowledge and wisdom to be imparted to help couples wishing to conceive human life. Without a doubt, both, nutrition and fertility go together, without forgetting the most fundamental and indispensable component for life to begin – God's Will who wishes to impart the gift of life to a couple.

Through our 47 years of experience, we have concluded that prayer, (to be worthy of His gift), healthy nutrition and supplementary vitamins are essential for the success of achieving pregnancy. The simple graphs of the woman's chart, showed exactly that when the wife improves her nutrition and takes supplementary vitamins, her cycles become regular and conception often occurs after years of trying to become pregnant. In contrast, the medical profession often tends to dispense dangerous chemicals and synthetic hormones to women to regulate their cycles, and to get them pregnant, while endangering their health unnecessarily when a simple solution could solve their infertility problem. In principle, to give hormones to girls or women before they have had a full term pregnancy, places them in danger of developing breast cancer 10 or 12 years later. This is why teenagers should be warned by the leadership of the Church and the medical profession about the extreme danger they are placing on future generations. I have a full chapter in my book "Love & Fertility" on the subject, written and researched by Dr. Angela Lanfranchi. [16]

As the twenty first century advances rapidly, millions of lives are being discarded, both in the womb and among the elderly and handicapped. This has made us ever more determined to illumine the minds and hearts of the people to realize that so many countries are voluntarily drifting towards extinction. I personally believe that the Western countries, in particular, are committing suicide more rapidly than the rest of the world and very few people, demographers or scientists are bringing this matter to the world's attention. It is one of the main reasons that we have written this important paper, to help those married couples who feel desperate to conceive and are willing to go to extremes, to achieve the gift of life, that only God can give. They are often misled into trying methods that endanger their physical, moral and spiritual lives, when there is a more effective natural alternative.

Even though this is such a small study, it has proven that the window of fertility is the secret to our natural key to conception. Such simple teaching of our normal functions is seldom explained to women and men. We are conscious, however, of the financial potential that exists in keeping this knowledge from the world. It threatens a billion dollar industry. It is therefore, our duty to expose the truth to those who ignore the simplicity of a natural solution created and designed by Almighty God.

We are presently conducting a second study in Guatemala, and it is presenting similar results as the first one, with a higher number of participants, (103). This seems to indicate that we are in the right pathway for helping more couples in the future. With this simple knowledge, they will not have to endure the hardships, suffering and expense of artificial insemination, to conceive human life when there is a simple, natural, moral and far more effective natural solution.

All our teachers encourage couples to accept a pregnancy as a gift from God.
More studies of this nature need to be done in order to draw more precise conclusions. What is verifiable is that:

- **The simple recognition of the signs of fertility are present in our body.**
- **This Method Provides a simple solution for either achieving or postponing pregnancy naturally.**
- **Good nutrition and supplementary vitamins are essential and visibly impacts fertility as shown in the study**.

In poor countries, it is not always possible even in public hospitals, to receive the kind of services that private Western clinics can give to infertile couples. In our study some of our couples were diagnosed with depression, vaginal infection, uterine fibroids, Naboth cysts, and fallopian tube blockage. They were all treated at their local public hospital. Nevertheless, this short study proved that extraordinary success can be achieved without major expense.

It is time for us to thank the wisdom of the researchers who look for natural ways to help humanity. The answer is pure, simple and economical, within the mysterious intricacies of our own bodies. God is letting us discover them according to His own design and will.

I would like to conclude with a beautiful testimony on bioethics that Prof. Jerome Lejeune always taught to his students. He explained that "the mission of the physician and the scientist is to give himself to the service of his patients":

1. The life of every patient is valuable because he is a person, regardless of his age, sickness or the suffering caused by the disease.
2. We, the scientists must combat diseases. It is not a triumph, but an act of cowardness to discard the sick and infirm when we feel hopeless for not being able to find the cure. Medical and scientific actions are not foreign to ethics.
3. Science must be at the service of the person, not the person at the service of science.
4. The limits of science are based on respect to the laws of nature itself.
5. Only God can truly forgive those who violate the natural laws; man can forgive twice, but nature never forgives.

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