Differences Between the Billings Ovulation Method and Other Methods of Natural Family Planning

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Introduction

This paper is prepared for the purpose of introducing to the BOM (Billings Ovulation Method) teacher the differences between other methods of natural family planning (NFP) and the BOM, so that she/he is in a better position to answer any questions that BOM learners/users/patients may ask.

The information in this paper is the result of in-depth study of the methods that came about when the writer was trying to find out these differences.

The writer has tried to be as objective and as impartial as possible in giving an over-view of what each method teaches and he then compares it with the BOM, of which he is a trained teacher.

Training in the Billings Ovulation Method involves qualification by an Accredited Course, as well as fulfillment of other conditions, by a Body currently affiliated to WOOMB International.

The methods to be considered are :

The last part of the paper contains two sections; one with definitions of some BOM terms, and the other gives references used in preparing this paper.

1. Calendar Rhythm Method

1.1 History of the Rhythm Method

The origin of the Rhythm Method is found in the work of Dr H Knaus of Austria and Dr K Ogino of Japan, who were working independently. Both Knaus and Ogino, in 1929 and 1930 respectively, stated that the time of ovulation is related in time not to the beginning of the menstrual cycle but to the end. This knowledge and the knowledge of sperm and ovum survival were used to develop the Calendar Rhythm Method.

1.2 How does Calendar Rhythm Method work?

The Calendar Rhythm Method is based on calendar calculations using cycle length information of a certain number of previous cycles which would help a couple estimate when the woman could be considered infertile during future cycles. In other words, based on records of previous cycles, a projected estimate is made to determine the fertile and infertile phases of future cycles. This means that the cycles should be fairly regular to be able to project estimates.

Although many couples may be able to space the births of their children for several decades using the Calendar Rhythm Method, it has not been promoted as a method of NFP for many years because women with irregular cycles or who are breast feeding or who have delayed ovulation (such as due to stress) cannot depend on the Calendar Rhythm Method.

Compared with other methods of natural family planning, this method requires more abstinence and for those wishing to avoid conception it has a higher pregnancy rate.

For those couples trying to conceive it gives no information on the optimal fertile time.

Comment from the Perspective of a BOM Teacher: It is a fact that many people still think that Calendar Rhythm Method is the only natural method of fertility regulation, even among some medical professionals. Some people still think that it is a reliable method.

One formula of determining the fertile phase is:
1st day of fertile phase = Length of shortest cycle minus 20
Last day of fertile phase = Length of longest cycle minus 10

So if the record of a particular lady over 6-12 months shows that her shortest cycle was 25 days and her longest cycle was 35 days, then by Calendar Rhythm calculations, she would consider herself fertile from Day 5 to Day 25 of her cycles. She would then abstain from sexual intercourse during this period every cycle thereafter.

1.3 Reliability

For typical users of the Rhythm Method, it is less than 87% effective in postponing pregnancy.[12] More commonly, a figure of 70% is accepted for Rhythm Method reliability.

Comment from the Perspective of a BOM Teacher: It is a fact that the Calendar Rhythm Method is reliable only for fairly regular cycles. The more irregular the cycles the less time there is for sexual intercourse if the intention is to postpone pregnancy.

Although cycles may remain fairly regular, there will be times when they can become irregular without notice, such as during stress. The Calendar Rhythm Method will also be of no use following delivery of a baby and during breast feeding or during peri-menopause.

"Calendar thinking" is very unreliable- but also it leads to making assumptions instead of observing nature day by day under all circumstances. It is focused on the dates of bleeding instead of on fertility and infertility, on nature's BIP and on nature's two points of change.

2. Temperature Method

2.1 History of the Temperature Method

In 1827 Von Baer first identified the existence of the ovum but the occurrence of ovulation in relation to the menstrual cycle was still unknown at that time. In 1868, Squire discovered that the Basal Body Temperature (BBT) was relatively higher during pregnancy and did not vary. He also discovered that there was considerable fall in BBT during menstruation and a rise shortly before menstruation [12]

In 1904, Van de Velde, a well-known Dutch researcher pointed out the relationship between the BBT fluctuations and ovulation. In 1928, he pointed out that the higher level of temperature which occurs in the later part of the menstrual cycle was due to the secretion of progesterone by the corpus luteum[12]

Wilhelm Hillebrand was the first person to utilize the temperature discoveries in the practical application of Natural Family Planning in 1935.

In the 1960s, Fr Maurice Catarinich of Melbourne formulated excellent guidelines and conditions for its use and devised comprehensive charts and the marginal line.

2.2 How does the Temperature Method work?

Progesterone rises after ovulation and falls just prior to menstruation. As Van de Velde rightly pointed out in 1928, this rise in progesterone causes an increase in the BBT, generally in the range of 0.4^{o} F to 1.0^{o} F (0.2^{o} -0.6^{o} C).[12] Detecting this small rise in temperature is what the Temperature Method is all about.

There are varying procedures of identifying the “thermal shift”, this being the change from a lower level of temperature before ovulation to a higher level after ovulation. Once the temperature has shifted to the higher level, the post-ovulatory infertile phase has begun.

Comment from the Perspective of a BOM Teacher: It gives no information or help for the pre-ovulatory phase. Since the temperature rises only after ovulation, if the method is to be used for postponing pregnancy in women having long cycles such as during breast feeding or peri-menopause, there may be extremely long periods of abstinence and only about two weeks of post-ovulatory infertile phase to use. In a woman who is not ovulating at all, the couple will virtually have to abstain indefinitely.

Couples who find difficulty in conceiving often think of or are introduced to the temperature method as a means of assisting conception. But the fact is that the temperature rises only after ovulation which means that if they have intercourse once the temperature rises, it may be too late, taking into consideration that the ovum lives only 12-24 hours.

The BBT is a hormone indicator which responds irregularly to the rise in progesterone which occurs around the time of ovulation. It is subject to influence by fever, alcohol, anti-depressants, and other circumstances.

In practice the approach is strict and rigorous and involves relatively more abstinence Generally, three consecutive days of raised BBT following six consecutive days of low BBT is required as proof of ovulation.

2.3 Reliability

No reliability statistics of the Temperature Method were available.

3. Family of the Americas Foundation - Ovulation Method

3.1 What is the FAF Ovulation Method?

The Ovulation Method promoted and taught by FAF is an alteration of the BOM. It is stated in the FAF website that "*The Ovulation Method is not the old rhythm method or the temperature method. It is a new scientifically proven method, researched by Dr. John Billings with the scientific research confirmed by the famous endocrinologist James B. Brown. This method is based on the simple recognition of natural signs of fertility that appear for a few days during the woman's menstrual cycle. Family of the Americas (FAF) was instrumental in simplifying the teaching and charting system of the Ovulation Method that made it applicable for universal use*."

The main person behind the programme is Mercedes Arzu Wilson. She first heard of and learnt the BOM while she was living in Melbourne in 1968. Her fascination led her to establish the FAF. She claims that the teaching technique has been simplified so that 'it would be easily understood by people of different cultural levels, especially those in the developing countries where many cannot even read or write.' She devised stamps which eventually differed from the BOM, including stamps with pictures of mucus between fingers.

Comment from the Perspective of a BOM Teacher: The BOM, as it is, has no difficulty in being taught to illiterate people, as it is extremely simple. It has not experienced any setbacks in developing countries. The same BOM is taught wherever it is used with 2 charting options, namely the use of coloured stamps or the international symbols.

The introduction by FAF of different colours and pictures of mucus has caused confusion to some BOM users and is not consistent with our updated understanding of the scientific basis of the BOM . Mercedes' stamps emphasis the visual - you can't have a picture of sensation.

Therefore the BOM and the FAF-OM are to be treated as two different methods.

3.2 Reliability

Quoting BOM trial results, the FAF-OM claims a method effectiveness of more than 99%. There is no evidence of any effectiveness study carried out directly on the FAF-OM.

3.3 Observation and Keeping a Record

Women are taught to observe the sensation at the vulva as they go about their normal daily activities and notice whether or not cervical mucus is visible when they use the bathroom.

The FAF-OM does caution that it is not necessary to check the mucus with fingers or to do any kind of internal examination. Its presence and changing pattern can be observed when the vaginal opening is **wiped with tissue after urination**.

Recording is with stamps of various colours as shown in the table below, in comparison with the BOM. The differences are highlighted in bold.

FAF – OM	**Observation Represented**	**BOM**
Red	Bleeding	Red
-	Spotting	Red dots
Brown	Dry	**Green**
Baby faces on White background (Additional stickers used on these days – the mucus photo stickers) *	Fertile	Baby on White background
Baby faces on White background with **a** ∆ superimposed	Peak Day	**Baby** on White background with **'X'**
Yellow	Discharge but infertile	Yellow
Baby faces on Brown background **(User does not write down 1,2,3)**	Dry within 3 days post-Peak	**Baby** on Green background **(User writes down 1,2,3)**
Baby **faces** on Yellow background **(User does not write down 1,2,3)**	Some discharge within 3 days post-Peak	**Baby** on Yellow background **(User writes down 1,2,3)**
Baby faces on Brown background **(User does not write down 1,2,3)**	Dry within 3 days following some changing pattern without Peak	Green background (No baby) **(User writes down 1,2,3)**
Baby **faces** on Yellow background **(User does not write down 1,2,3)**	Some discharge within 3 days following some changing pattern without Peak	Yellow background (No baby) **(User writes down 1,2,3)**

* During the fertile phase, **additional stickers with mucus (between fingers) photos** are used to indicate what they observed. There are a number of such stickers with different types of mucus.

Comment from the Perspective of a BOM Teacher: The introduction of different colours and pictures of mucus by FAF-OM has caused confusion and is not consistent with our updated understanding of the science which is behind the BOM. In particular, the use of stickers with mucus photos has a great tendency of leading learners and users to emphasize the visual observation and forget the sensation at the vulva which is the key of the BOM, as shown by the findings of Prof Erik Odeblad. The day of maximum amount of mucus may be 1 or 2 days before Peak Day.

3.4 Definition of Peak Day

FAF-OM defines Peak Day as the last day on which the woman feels wet and slippery. It is further qualified as "*the last day that the mucus is stretchy or a wet slippery sensation is felt at the vulva, even if mucus is not seen*." But typical illustrations in the FAF-OM instruction manual show a mucus change from stretchy to pasty.

Comment from the Perspective of a BOM Teacher: The definition is similar to the BOM but the typical illustrations do not support the definition.

3.5 Does the FAF-OM Peak Day stand on its own?

In the instruction manual, under the heading **Special Consideration**, it is stated: "If a woman is uncertain that she has identified the Peak Day, she should continue to consider herself in the early days of the cycle to which the Early Day Rules apply". [1]

It is further stated: "If menstruation does not occur within 16 days after the Peak Day symptom, it is likely that the Peak Day was incorrectly identified. The woman should then apply the Early Day Rules so that the fertile phase and the true Peak Day can be recognised when they occur".

Comment from the Perspective of a BOM Teacher: Thus, the FAF OM seems to be still struggling with false Peaks and true Peaks, which is a thing of the past for BOM. In the BOM, a Peak is identified at the time. If there is any doubt, a Peak is not recognised and Early Day Rules continue to be applied.

3.6 Guidelines to Postpone Pregnancy

Under the heading "**Guidelines to Postpone Pregnancy"** in "Love and Fertility" [1] the following were set as the guidelines:

1. *Avoid marital relations on the days of menstrual bleeding*
2. *Delay marital relations during this dry time until the evening of every other dry day after observing throughout the day for any change from dryness.*
3. *Avoid marital relations once there is a change from dryness until the 4th day after Peak Day.*

However, it further stated:

But what should the couple do when the woman has very long cycles or is breastfeeding?

During these times, which may last weeks or even months, the woman knows that she is NOT FERTILE, either because of dryness or because of the constant presence of an unchanging vaginal discharge which remains the same day after day after day.

This discharge is quite different from the mucus seen when a woman is ovulating normally, and must be observed for two weeks without change before it is considered infertile, or what we call the Basic Infertile Pattern (BIP). Rules 4 and 5 are applied to postpone pregnancy in these circumstances.

4. *Delay marital relations until the evening of every other day of dryness or of unchanging discharge.*
5. *Avoid marital relations altogether when there is a change from dryness or from the unchanging discharge until the 4th evening after the same pattern of infertility returns.*

BUT under "**Summary of Rules for Postponing Pregnancy"** the following were set down:

During Menstruation

1. *Avoid marital relations on the days of menstrual bleeding.*

Early Dry Days

2. *Marital relations are open to the couple on alternate evenings of dry days immediately following menstruation. (Dry days are defined as those when no mucus is seen and there is no feeling of wetness or lubrication.)*

The Fertile Phase

3. *At the first sign of change from dryness to the presence of mucus or to a sensation of wetness, the couple who wishes to postpone or avoid pregnancy must abstain from marital relations and genital contact until the Peak Day has been clearly identified, plus 3 full days following the Peak Day. Marital relations can resume on the morning of the 4th day after Peak Day.*

The Late Infertile Phase

4. *Count 4 days of dryness (or sticky pasty mucus) after the Peak Day. Relations are open to the couple, day or evening, starting on the 4th day and thereafter until menstruation.*

The **Summary of Rules for Postponing Pregnancy** further lists *'Additional Guidelines for Postponing pregnancy'* in special circumstances which include:

A. While Breastfeeding

- Explanations are given for "*When mucus patches appear*" and "*When weaning*"

B. Special circumstances

- Stress, Post-chemical contraception
- Pre-menopause, where inter-menstrual bleeding and short luteal phase are covered.

Comment from the Perspective of a BOM Teacher: The rules or guidelines are presented in a rather confusing way firstly under "**Guidelines to Postpone Pregnancy"** and later under "**Summary of Rules for Postponing Pregnancy"** in the same instruction manual.

The Billings Ovulation Method teaches the same 4 Rules whatever the situation. 3 Early Day Rules for the pre-ovulatory phase and the Peak Rule post-ovulatory.

<u>Further Overall Comments from the Perspective of a BOM Teacher</u>

It seems that the FAF-OM does not recognise a BIP of unchanging discharge in cycles of less than 35 days, only in long cycles.

- By separating normal cycles and special circumstances, the FAF-OM does not recognise the concept of Brown's continuum. While a woman may be able to ascertain when she is breastfeeding or in post-chemical contraception, she may not know when she is entering into stress or pre-menopause.
- It seems to suggest that inter-menstrual bleeding and short luteal phase occur only in menopause.
- The FAF-OM materials liberally quote BOM sources such as the research of Drs Lyn and John Billings, Prof James Brown and Prof Erik Odeblad. This can cause confusion in the minds of those who read the literature, thinking that FAF-OM and BOM are one and the same thing. It is one thing to insert references: it is another thing to understand them, to undertake to learn them, and to be open to the practical implications of research, as the BOM has always been and remains. A BOM teacher who keeps up authenticity by re-accreditation will give little weight to such quotations in view of the earlier observations given here on this method.

4 Sympto-Thermal Method (STM)

4.1 Introduction

The term “Natural Family Planning” is used liberally by some groups to mean Sympto-Thermal Method (STM). There are many different groups teaching STM, many include variations in their methodology. The literature for this review has been taken from The Northwest Family Services and The Couple-to-Couple League, both from the USA

4.2 Reliability

Northwest Family Services, which teaches the STM, claims a 98 - 99.9 % effectiveness rate for couples who are taught well, understand the method, are clear about their family planning intention, and carefully follow all the rules for avoiding a pregnancy all the time[2]. Dr Thomas McGovern[3] states in their textbook that in reality, it can be used at the 99% effectiveness rate by married couples who understand the method and always follow the rules.
A 2007 German study of an STM revealed a 99.6% effectiveness rate.

4.3 Three Parameters for Monitoring

The STM is commonly based on 3 parameters, namely the woman’s waking or resting temperature (basal body temperature), cervical mucus, and palpation of her cervix to determine the phases of fertility and infertility. There is in effect a 4th parameter, the part reintroduction of the calendar method.

4.3.1 Basal Body Temperature

The woman’s resting body temperature commonly rises after ovulation, as discussed earlier under Temperature Method. A woman monitoring temperature only would only have the post-ovulatory phase to use for intercourse if the intention was to postpone pregnancy.

Comment from the Perspective of a BOM Teacher: If the pre-ovulatory phase is lengthened, the abstinence period will be very long. The body temperature is not useful to assist those trying to conceive because by the time the temperature rises, it may be too late. The body temperature rise is not specific to ovulation, it can also rise for other reasons e.g. fever, alcohol, anti-depressants, and other circumstances. See "Comments from the Perspective of a BOM Teacher" under Temperature Method (Section 2.2).

4.3.2 Cervical Mucus

Some STMs recognise that the cervical mucus produces changes in sensation at the vulva during the **wiping process using a folded piece of white unscented tissue paper**, wiping from front to back, before or after urination. In other words, the sensation is that produced during the wiping process. The woman is to record as follows: D for Dry, W for Wet and SL for Slippery.

The woman is also to look at the tissue paper and record N if nothing is seen. If there is something, it is given the finger test – touch and pull finger away gradually. If it does not stretch at all, record M if nothing stretchy is found for the day – the idea being that M is the 'last resort'. If the mucus stretches less than ½ inch, record T for tacky and if it stretches ½ inch or more, then S for stretchy.

SR is used to denote seminal residue from marital relations.

Definitions for *less-fertile mucus* and *more-fertile mucus* formulated, *less-fertile mucus* being tacky or sticky mucus or '*ambiguous*' mucus and *more-fertile mucus being anything that stretches more than ½ inch*, anything producing feelings of slipperiness (SL) or wetness (W) at the vulva or clear mucus (C) and generally cloudy mucus (CL)

Comment from the Perspective of a BOM Teacher: In STM the sensation described is limited to that felt during a prescribed wiping process, thus differing from the BOM where the woman becomes aware of her sensation as she goes about the normal duties of the day. Finger test is prescribed if some discharge is seen, a procedure never recommended by the BOM.

Defining visual mucus as fertile, more fertile or less fertile is unscientific. The BOM identifies the patterns charted by the woman which denotes her state of fertility or infertility and are reflective of hormonal patterns.

4.3.3 Palpation of the Cervix

In some STMs cervical palpation is carried out daily to ascertain the firmness of the cervix, its level and its opening status. During the infertile phases, the cervix is firm, closed and low (therefore, easy to reach) but during the fertile phase, it is soft, open and high (therefore, not easily reached). Notations used are F for firm, S for soft, L for low and H for high. The opening status is recorded by a dot for closed and an O for open, with different sizes of O for various degrees of opening.

Methods and positions for cervical palpation are prescribed. For example, sitting on an open toilet and if necessary, pressing down abdomen with one hand while the other hand has the middle finger touching the cervix. Another position suggested is to stand with one foot on a stool or low chair.

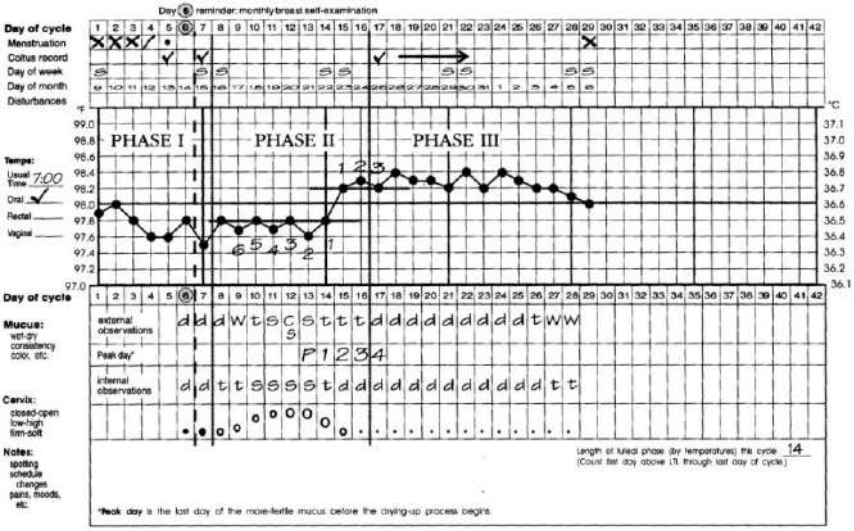
With the cervical palpation, internal mucus observation is also prescribed, “especially for those women who have ***difficulty with the external mucus sign.”***

Comment from the Perspective of a BOM Teacher: Cervical Palpation is never part of the BOM. Insertion of fingers into the vagina may introduce undesirable pathogens. Many women would find daily cervical palpation unacceptable, especially when this has to be done once or twice a day. However, for some STMs, cervical palpation is optional.

Cervical palpation may also provoke local discharge which confuses the mucus pattern. Any internal examination bypasses the Pockets of Shaw thereby giving inaccurate information. It also illustrates the principle that if NFP workers or teachers are ignorant of the factual information provided by the science, they have little option but to multiply 'indicators'. Multiplying the number of imprecise indicators, while superficially impressive, is a disservice to nature and to couples.

4.3.4 Charting in STM

Charting is done based on the observations of the 3 parameters as shown in the sample chart which follows:



Based on the observation and charting, 3 phases are defined:

- Phase I - being the early infertile phase
- Phase II - being the fertile phase
- Phase III - being the late infertile phase

But the decision as to when Phase II and Phase III begin involves a rather complicated process (See Section 4.3.5).

Peak Day *is defined as* ***the last day of the more-fertile mucus before the drying-up process starts***, even if the *more-fertile mucus* was present only for part of that day. It goes on to state that "*Peak Day is not necessarily the day of Peak or greatest fertility. It is certainly not always the day of ovulation. It is not always the day of greatest quantity of mucus. In fact, you will frequently notice the greatest quantity one or two days before the true Peak Day."*

Ovulation pain is also indicated as a sign although it is stated that not all women experience this.

Comment from the Perspective of a BOM Teacher: Definition of the Peak Day is different from the BOM. It seems that there is no recognition of the changing, developing pattern progressing to slippery as a requirement to recognizing Peak. Our scientific understanding of Peak has been developed from the research of Professors Brown and Odeblad which have shown that the BOM definition of Peak correlates with ovulation. The day of change to no longer slippery identifies the rise of progesterone and the activity of the Pockets of Shaw and confirms the recognition of Peak on the last day of slippery sensation.

Ovulation pain seems to be emphasized although it is stated that not all women experience this. The BOM, however, does not recognise this as a reliable symptom.

4.3.5 STM Rules [3]

Rules for postponing pregnancy are divided into:

- Rules during Phase I
- Rules during Phase III

Rules during Phase I are further classified into:

- Clinical Experience Rules
- Previous History Rules
- Mucus-related Rules

Rules during Phase III consist of:

- Rule K
- Rule R
- Rule B
- Rule C

Rules during Phase I [3]

4.3.5.1 Clinical Experience Rules

- Total Abstinence – Total abstinence during Phase I is the most conservative option – recommended for the first 1-3 cycles
- Day 3 Rule – End Phase I on Day 3 if you have had cycles of 21 days or less in your last 12 cycles.
- Day 4 Rule – End Phase I on Day 4 if you have had cycles of 22 days in your last 12 cycles.
- Day 5 Rule – End Phase I on Day 5 if your shortest cycle in the last year was 23 -25 days.
- Day 6 Rule – End Phase I on Day 6 if your shortest cycle in the last year has been 26 days or longer.
- Beyond Day 6 – Fertility returns with increasing frequency starting with Day 7. To go beyond Day 6, you must have enough experience to apply one of the other end of Phase I rules.

4.3.5.2 Previous History Rules [3]

- 21/20 Rule
  - 21 Day Rule
    Shortest cycle minus 21 = Last day of Phase I, if dry

  With more experience, can change to the 20 Day rule:
  - 20 Day Rule (With more experience only)
    Shortest cycle (of last 12-24 cycles) minus 20 = last day of Phase I, if dry
- Doering Rule – Earliest day of thermal shift minus 7 = Last day of Phase I, if dry.

4.3.5.3 Mucus-related Rules [3]

- Last Dry Day Rule – Consider yourself in Phase I up through the last dry day before your cervical mucus starts to flow. Be sure to follow the General Phase I Rules which include:
  - Start charting right after period or by Day 6 at the latest. Make external observations at every urination. Make internal observations at end of day or at midday as well as end of the day

- Consider only dry days to be infertile; once mucus starts you are in Phase II. Once mucus starts, you are in the fertile time even if you should have an occasional dry day.
- Not in morning – Do not have marital relations in the morning during Phase I.

Rules during Phase III [3]

4.3.5.4 Rule K (K for Kippley)

Phase III begins on the evening of

a. the 3rd day (or more) of full thermal shift
b. simultaneously cross-checked by 2 (or 3) days of drying-up past Peak Day.

4.3.5.5 Rule R (R for Roetzer) [3]

Phase III begins on the evening of

a. the 3rd day of drying-up past Peak Day
b. cross-checked by 3 consecutive days of strong thermal shift past Peak Day.

4.3.5.6 Rule B (B for Billings) [3]

Phase III begins on the evening of

a. the 4th day of drying-up past Peak Day
b. cross-checked by 3 (or more) days of over-all or strong thermal shift past Peak Day.

Comment from the Perspective of a BOM Teacher: Although this Rule B is supposed to be based on the BOM, it states that Phase III begins in the **EVENING** of 4th day of drying-up past Peak Day. This is not in agreement with the BOM Peak Rule which recognizes post-ovulatory infertility as from the **BEGINNING** of the fourth day following the Peak. **It is incorrect to call this the "Billings rule".** Realistically it demonstrates the poor identification of the Peak: if the temperature said one thing and symptom observation another, uncertainty must result with the woman often doubting her observations.

4.3.5.7 Rule C (C for Cautious and Conservative) [3]

Phase III begins on the evening of

a. the 3rd day (or more) of full thermal shift
b. cross-checked by 4 (or more) days of drying-up – whichever comes last.

Overall Comment from the Perspective of a BOM Teacher

The STM is certainly a complicated method with all the above rules to follow, not mentioning the tedious observations which have to be carried out. Phase I rules reveal a strong element of Rhythm formulation.

It is a classic example of mixing an incomplete understanding of several approaches to produce a complicated result, and never reviewing it in light of subsequent research, particularly the work of Professors Odeblad and Brown. See "Comments" on Temperature and on Calendar methods.

The superficially reassuring "cross-check" appears to add quality control safety standards to mere observation of nature when in fact it makes the woman doubt her own observations and hinders her confidence.

5 Creighton Model "Fertility Care System" ™

See also "Some Clarifications Concerning NaPro-Technology and the Billings Ovulation Method" Dr John and Evelyn Billings [4]

5.1 Introduction

The Creighton Model Fertility Care™ System was developed by Dr Thomas Hilgers, Director of the Pope Paul IV Institute for the Study of Human Reproduction, Omaha, Nebraska, USA. The name Creighton Model comes from the Creighton University School of Medicine where Hilgers worked on this Model with his co-workers.

5.2 Reliability

Method effectiveness for postponing pregnancy is said to be 98.7 – 99.9 %. If taking into consideration teaching, using and/or human error, the effectiveness is given as 94.6 to 97.9 % [5]. The teaching phase is of very variable length, and excluded from calculations of pregnancy rates for those avoiding conception.

5.3 Observations of Bio-markers

Creighton Model claims that "A '*standardised system'* is *aimed at 'a common system with common language', facilitating improvement in the method and allows for transfer of the client couple to a new teacher."*

Comment from the Perspective of a BOM Teacher: BOM teachers have no difficulty in transferring client couple to new teacher, as the observations are those which ladies can experience in daily life which is a 'common language' and therefore cross-cultural.

5.3.1 Steps in Checking

- Wipe vagina opening with toilet tissue, paying attention to sensation which is produced.
- Observe tissue for presence or absence of discharge
- If discharge present on tissue, finger test between thumb and index finger.

5.3.2 Basic Components to Making a Good Observation

- Sensation produced by discharge
- Its stretchability and consistency

- Its colour

It is stated that 'sensation is extremely important but the woman is to observe the sensation prior to looking at tissue.'

5.3.3 Finger test

- The finger test is to assess the stretchability, consistency and colour.
- Whenever any discharge is present, it MUST be finger tested.
- All areas of discharge present must be tested.
- When determining the colour, this is to be done ONLY at time of finger testing, the discharge raised to eye level so that it can be 'looked through'.

5.3.4 How To Check For Discharge

- Use flat layers of tissue, not crumpled tissue.
- Wipe from front to back, wipe from urethra through to the perineal body.
- Wipe until mucus is gone.
- Do not do internal examinations, do not check directly with fingers.
- Do not base the observations on what is observed in the underwear.

5.3.5 When To Check For Discharge

- Check every toilet visit.
- Check for mucus every time before urination. Check for mucus every time after urination.
- Check for mucus every time before bowel movement. Check for mucus every time after bowel movement.
- Check for mucus every time before going to bed.
- Bear down (in mild pushing similar to bowel movement) before bedtime.
- Make a definitive decision at each observation.
- Do not ever discontinue observations.
- Do not become complacent about making observations.

5.3.6 Special Times To Check For Discharge

- When she gets up to urinate at night
- At time of bathing or showering
- Before and after swimming

5.4 Describing Observations Of Biomarkers

"Standard words" are specially set down for use in describing the mucus such as the following. [5]

5.4.1 Words To Describe Stretchability

- Sticky: Mucus stretches up to ¼ inch
- Tacky: Mucus stretches from ½ to ¾ inch
- Stretchy: Mucus stretches 1 inch or more

5.4.2 Words To Describe Colour

- Clear: Crystal clear
- Cloudy (White): Cloudy or white appearance, may be opaque (cannot see through) or translucent (Somewhat 'foggy' in appearance)
- Cloudy/Clear: Partly cloudy and partly clear
- Yellow: Yellowish discoloration to it
- Red: Fresh blood in discharge
- Brown(or Black): Indicates presence of old blood

5.4.3 Words To Describe 2 Other Variations

- Pasty(Creamy): Similar to consistency of flour paste or hand lotion; may be sticky but never tacky or stretchy (by itself); usually cloudy or white although on occasion, may be yellow
- Gummy(Gluey): Looks like half-dried airplane glue or rubber cement; often has a yellowish discoloration; may be sticky, tacky or stretchy

5.4.4 Words To Describe Sensation

- Dry: An **obvious** dry sensation; nothing can be finger tested from tissue.
- Damp without lubrication: No lubricative sensation during tissue wiping, tissue has an area of dampness but nothing can be lifted off tissue for finger testing
- Damp with lubrication: Lubricative sensation during tissue wiping, tissue has an area of dampness but nothing can be lifted off tissue for finger testing
- Shiny without lubrication: No lubricative sensation during tissue wiping, tissue observed as damp with small areas in the centre which are shiny

- Shiny with lubrication: Lubricative sensation during tissue wiping, tissue observed as damp with small areas in the centre which are shiny
- Wet without lubrication: No lubricative sensation during tissue wiping, tissue is very wet, wetness often has glarey appearance which is different from 'shiny'
- Wet with lubrication: Lubricative sensation during tissue wiping, tissue is very wet, wetness often has 'glarey' appearance which is different from 'shiny'.

Note: There are 3 sensations a woman will observe, namely dry, smooth and lubricative. Dry and smooth are non-lubricative. When a woman feels lubricated, the tissue will 'glide' over the perineal body. When a woman has smooth sensation, she will feel smoothness as the tissue passes over the mucus membranes at the vaginal opening but when the tissue passes over the perineal body, it will have a 'halting' tendency and move more roughly. The halting tells the woman it is a smooth sensation.

5.5 Definitions Mucus and Peak Day

- Peak Type Mucus: Any mucus that is clear, stretchy or lubricative (Any 1 of these 3 characteristics, alone or in combination).
- Non-Peak Type Mucus: Any mucus that is not clear, stretchy or lubricative (All 3 characteristics absent),
- Peak Day: Last day of any mucus discharge that is clear, stretchy or lubricative.

5.6 Charting Instructions

Begin charting immediately
Abstain for the first one month
Chart end of each day the most fertile sign
To understand the patterns of biomarkers. client should chart daily the consistency, colour, sensation, change (Day-by-day change in consistency, colour and sensation).

5.6.1 Stamps

Red plain = bleed
Green plain = infertile dry
White baby = mucus days
Green baby = dry but fertile (within count of 1,2,3)
Yellow to be used upon specific indication on advice of teacher

In addition:
P = Peak
1,2,3 = The 3 days after Peak
I = Intercourse
BSE = Breast Self Exam (Day 7 reminder)

5.6.2 Vaginal Discharge Recording System

Descriptions must accurately reflect the observations. It is stated that "*while numbers are used in recording system, it should not be thought of as a scoring system but only as symbols (although there is a tendency for higher numbers to be associated with higher fertility)".*

Codes used are as shown in the following table:

H = Heavy	0 = Dry	B = Brown (or Black) Bleeding
M= Moderate Flow	2 = Damp Without Lubrication	C = Cloudy
L= Light Flow	2W = Wet Without Lubrication	C/K = Cloudy/Clear
VL = Very Light Flow (Spotting)	4 = Shiny Without Lubrication	G = Gummy (gluey)
B = Brown (or Black) Bleeding	6 = Sticky (¼ inch)	K = Clear
	8 = Tacky (½ - ¾ inch)	L = Lubricative
	10 = Stretchy (1 inch or more)	P = Pasty (Creamy)
	10DL = Damp WITH Lubrication	Y = Yellow (even pale yellow)
	10SL = Shiny WITH Lubrication	
	10WL = Wet WITH Lubrication	
Always record the presence or absence of mucus during the light and very light days of the menstrual flow.	In addition, record how often during the day that you see the most fertile sign of the day and record it in the following fashion:	
	X1 = Seen only once that day	X3 = Seen three times that day
	X2 = Seen twice that day	AD = Seen all day

Note: When the numbers 6-10 are used, a letter from the right column must be used as well (Boxes shaded grey).

Examples of actual records:

OAD = Dry all day
6CX1 = Sticky, Cloudy, seen once only
8GYX2 = Tacky, Gummy, Yellow, seen twice

Comment from the Perspective of a BOM Teacher: Creighton Model observations are completely different from the BOM. With the BOM the woman is not asked to do anything she has not done before, except pay attention as she goes about her normal activities and to keep a daily record. She is taught to record her vulval sensation and a simple description of any visible mucus using her own words. She is discouraged from touching the mucus. The chart then reveals the patterns. Creighton Model aims to standardize descriptions and therefore ignores the patterns of fertility and infertility which reflect the ovarian hormones.

From 5.5 it is apparent that the Peak Day can be defined as the last day of clear or stretchy (or lubricative) mucus,whereas the BOM defines the Peak as the last day of the slippery sensation which has been preceded by a changing, developing pattern of variable length.

5.7 Some Differences from BOM

5.7.1 *Elimination of Seminal Fluid*

*Alternate Day rule applies only **temporarily**, lasting only first one or two cycles to assist the woman in gaining confidence. The woman is eventually taught to recognise seminal fluid and distinguish it from cervical discharge.*

The woman is instructed to use Kegel's exercises to expel seminal fluid within one hour following intercourse, wiping the vulva until dry.

Comment from the Perspective of a BOM Teacher:
The instructions for the BOM user concerning the residue of seminal fluid following intercourse on the night before are simple. "Chart what is observed".

In BOM, seminal fluid is usually noted on the day following intercourse. In the pre-ovulatory phase of the cycle there will be no recognizable BIP on that day, therefore that evening is not available for intercourse. The next day is evaluated regarding the continuance of the BIP and availability for intercourse on that evening. From the 4th morning after the Peak, regardless of the presence of seminal fluid, intercourse is available as the

ovum has disintegrated and the woman is infertile. Observations are recorded in the woman's own words.

The sensation and appearance of seminal fluid may exhibit a wide variation in description depending on when the act of intercourse occurred, and in what part of the cycle. She will learn this by charting accurately, not by wiping it away as in CrMS.

The instruction to the woman to expel seminal fluid, presumably because it is confusing or restrictive, is totally rejected by BOM, as unnatural, intrusive and divisive. The BOM observes and records nature as it <u>is</u> and the couples cooperate with the rules of these observations, and with each other, without unnatural practices.

5.7.2 ***Resumption of Intercourse on Day 4 Past Peak***
Intercourse can be resumed in the Post-ovulatory phase at the end of the 4th day past Peak.

Comment from the Perspective of a BOM Teacher: This differs from the BOM which prescribes resumption of intercourse at the beginning of the 4th day past Peak. The BOM is based on the understanding of the science. Again the latest scientific research is ignored.

Also it reflects a paradoxical attitude; on the one hand using Kegel exercises to expel the husband's contribution, partly in order to have daily intercourse; on the other hand, limitation in the ability and confidence of identifying the Peak.

5.7.3 Rules with regard to '*Peak Type' and 'Non-Peak Type' mucus* in Pre-ovulatory Phase
In the pre-Peak phase, abstain on any day of 'Non-Peak type' mucus. If there are only one or two days of 'Non-peak Type' mucus, it is not necessary to have a count of 1,2,3 following. If there are three or more days of 'Non-peak Type' mucus, a count of 1,2,3 is necessary

But any one day of 'Peak type' mucus must be given a count of 1,2,3.

Comment from the Perspective of a BOM Teacher: This rule shows an ignorance of the combined BIP and the Continuum. By concentrating on the type of mucus but ignoring the patterns which are reflected by the sensations, these one or two days of change could be indicating high fertility for a woman who is not experiencing normal cervical response. Alternatively, if infertility is present the BOM teaching would recognise a combined BIP.

The above recommendation does not acknowledge the variations experienced during the Continuum. These changes could be reflecting ovarian activity and high fertility. The BOM covers all these possibilities.

5.7.4 Unusual Bleeding

Any unusual bleeding is considered fertile and a count of 1,2,3 is necessary but 'unusual' is left to the discretion of the woman, with specific reference to a normal menstrual bleed.

Comment from the Perspective of a BOM Teacher: The BOM teaches the woman to recognise menstruation through prior recognition of Peak. The BOM rules cover any bleeding which is an interruption to the BIP. Any unexplained bleeding is referred for medical attention.

5.7.5 Double Peak and Split Peak

The Creighton Model ***recognises*** such events as Double Peaks and Split Peaks.

Double Peak

A "Double Peak" is defined as:
"the occurrence of two Peak-type mucus build up which occur in the same menstrual cycle. In addition there is a gap greater than 4 days between the appearance of the first Peak Day and resumption of Peak-type mucus discharge."

It is important that every couple realizes how to anticipate a "double" Peak. The signs are:

1. Current or approaching stress
2. The Peak build up or Peak Day appears unusual
3. The woman is 16 days or more post-Peak (missed period)

It is recommended that the husband should “monitor stress awareness in his wife”. The wife’s task is to monitor the Peak buildup or any unusual characteristics of the Peak Day. On the third day after Peak they should ask the questions:

1. The husband should ask his wife: “Has your Peak build-up or Peak day been unusual in any way”.

2. The wife should ask her husband: “Have I been under any unusual stress over the past ten days”.

If the answer to either of those questions is yes, then the couple should anticipate the approach of a Double Peak.

They are to maintain their pre-Peak instructions (basically only using end of day for intercourse) until the situation is resolved by (1) getting a bleed or (2) they get another build-up that they identify as Peak. In addition, if the couple answered No to both Double Peak questions, but then gets to day 17 after the Peak and they are sure that they are not pregnant, they are to assume that they will have a Double Peak and they are to immediately go back to the pre-Peak instructions until the situation is resolved. If there ends up being more than one Peak, the second (or last if there are more than two) Peak is considered the true Peak.

Split Peak

A “Split Peak” can be defined as the occurrence of a gap no greater than four days between observations of Peak-type mucus. Instead of the Peak-type mucus days occurring consecutively in the mucus build-up, the days are “split”, generally by dry days.

Comment from the Perspective of a BOM Teacher: Unlike the BOM where Peak is identified with certainty, there is still some uncertainty in the Creighton Model. In the case where the answers to both the husband's and wife's questions are negative and the Peak is identified incorrectly, unrestrictive intercourse would have taken place in the 17 days and this could have led to pregnancy.

The BOM Peak is clearly understood. It is defined as: the last day of the slippery sensation after a changing, developing pattern of variable length. There is no wetness or slipperiness after the Peak. The Peak was named and defined in the 1960s by Drs John and Evelyn Billings. Progesterone from the developing corpus luteum produces a complex series of events which results in a Peak.

***Overall Comment from the Perspective of a BOM Teacher*:**
Again this demonstrates the lack of understanding of the Continuum and its rational, precise and reliable reading of nature under all circumstances and variations.

The promotional phrases such as "standardized" and "revolutionary" are not supported by an informed reading of the material available. In particular, on reading the above passages it will have become obvious that "standardization" in fact means restriction and limitation, and a reduction in client autonomy. Standardization of terms was an imposition explicitly rejected decades ago by the BOM for excellent sound practical reasons.

The method is notably teacher-dependent and expensive to learn.

5.8 NaProTECHNOLOGY

NaProTECHNOLOGY stands for "Natural Procreation Technology" and is promoted as *"a science which devotes its medical, surgical and allied health energies and attention to cooperating with the natural procreative mechanisms and functions".* It is further described as *"a newly emerging women's health science"*. It helps to "*evaluate the condition, producing a form of treatment which*

corrects the condition, maintains the human ecology and sustains the procreative potential."

It is quoted that: *"NaproTECHNOLOGY is the first system to network family planning with reproductive and gynaecologic health monitoring and maintenance".*

Comment from the Perspective of a BOM Teacher:
The BOM was recognized as a valuable diagnostic tool in women's reproductive health from early days (1953) of the development of the BOM, thus enabling women to detect any departure from the normal and to seek speedy assistance from appropriate specialists.

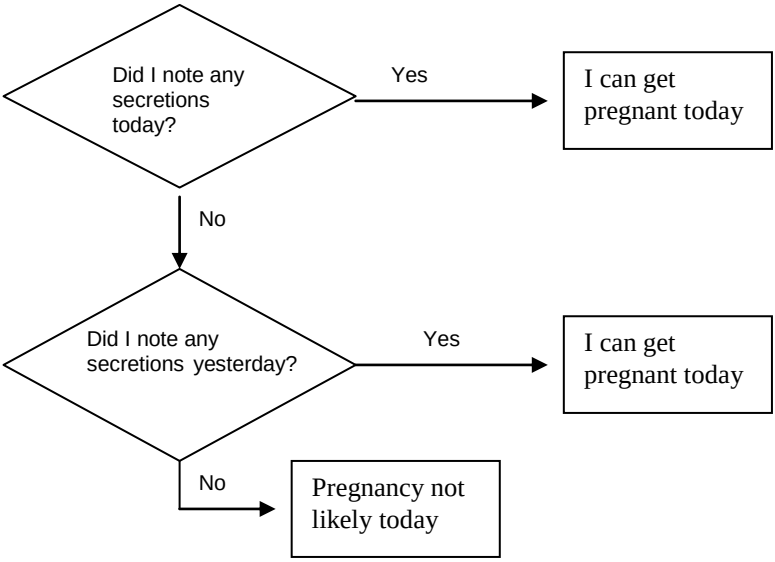
6. TwoDay Method©™

6.1 Introduction

The TwoDay Method (TDM) is a fairly new method developed, copyrighted and trademarked by the Institute for Reproductive Health, Georgetown University in the USA. It is claimed that it is well grounded in research which shows the relationship between physiological signs and fertility. They further state that the TDM is another approach to interpreting the physiological signs that is easier to teach, learn and use.[6]

6.2 How does the TwoDay Method work?

The TDM requires a *daily monitoring by the woman of the presence or absence of secretions to determine if she can get pregnant. This is done by asking herself two questions, namely (1) Did I note any secretions today? (2) Did I note any secretions yesterday? If she notes secretions either yesterday or today, then pregnancy is likely today if intercourse takes place. If she does not note any secretions on both days, then pregnancy is not likely today. Women are instructed to monitor their secretions each afternoon and evening, either by sensation or by visual observation.*[6] (See also the TDM algorithm diagram below).



Women are also instructed to consult their health provider if they note secretions for more than 14 consecutive days, to assess the possibility of infection.

It is claimed that the TDM may be suitable for women with limited literacy or numeracy. It does not require the women to have much knowledge about the woman's fertile phase.

Comment from the Perspective of a BOM Teacher: As the woman is not taught to recognise the time of fertility she will be required to abstain at all times when there is a discharge, including BIP of discharge and discharge during the luteal phase.

For those women who are dry the day after Peak, by these calculations they would consider themselves infertile on Day 2 after Peak. This does not account for the possibility of ovulation occurring on Day 1 or Day 2 after Peak.

6.3 Reliability

Based on a study on 450 women aged between 18 and 39 (sexually active, neither pregnant nor amenorrheic and with no history of infertility) in Guatemala, Peru and the Philippines for up to 13 cycles of method use, it was found that the method has a reliability of 96% when used correctly to postpone pregnancy.[6]

6.4 Can TDM be used for irregular cycles?

The Institute of Reproductive Health of Georgetown University states that the TDM is a promising new approach which does not require regular menstrual cycles.

Overall Comments from the Perspective of a BOM Teacher

The TDM algorithm does not give any allowance for the scientific work of Prof Erik Odeblad and Prof James Brown or the clinical work of Drs John and Evelyn Billings. A pregnancy resulting from ovulation on Days 1 or 2 after Peak is possible.

It offers no distinction between seminal fluid discharge and mucus discharge.

It fails to cater for women with a non-dry BIP, those breastfeeding or weaning, those with long cycles and at least some of those approaching menopause.

It would seem unreliable and is untested as to assisting conception.

One further advantage of the BOM over the TDM is that the BOM observations can be used as a diagnostic tool for some disorders which can be detected from the patterns of BOM observations. The TDM is completely devoid of this possibility.

The experience of the BOM is that it can also be easily taught to and used by women with limited literacy and numeracy. Women who use the BOM understand their fertility and infertility and apply the 4 simple rules throughout all phases of their reproductive life.

7. Standard Days Method

7.1 Introduction

The Standard Days Method (SDM) claims to have been introduced on an international scale over the last two decades. However, the method can only be used by women with menstrual cycles between 26 and 32 days long. To use the method, couples avoid "unprotected intercourse" on days 8 through 19 of the woman's menstrual cycle. Many women who use the SDM also use a string of color-coded beads, called CycleBeads™, to track their fertile days. [7]

To develop the method the Institute for Reproductive Health (School of Medicine, Georgetown University, Washington DC) first used data from the World Health Organization to determine the probability of pregnancy based on a fixed fertile window. After extensive testing, the 8-19 formula was identified as the most appropriate. The Institute then established the guidelines and protocols for method use.

Comment from the Perspective of a BOM Teacher: The fact that the SDM can only be used by women with menstrual cycles between 26 and 32 days straightaway indicates that it is basically a rhythm method and therefore, will suffer the weakness of the Rhythm Method. The SDM seems to leave the door open for use of barrier methods between Days 8 and 19 by advising couples to avoid "unprotected intercourse". Mixing methods is something which is never advocated by BOM.

7.2 Reliability

The SDM claims more than 95% effectiveness when used correctly. [7]

Overall Comment from the Perspective of a BOM Teacher

The SDM is basically a Rhythm Method. As long as a lady has cycles which 'always' fall within 26-32 days, the couples needs to abstain from Days 8 to 19. It is a fact that cycles are never always the same in length. When cycles change in length, such as in stress situations, no prior notice is given.

Even when a woman has regular cycles, there will be variations and interruptions, as evidenced by the Continuum. What should the woman do during breast feeding, post chemical contraception, peri-menopause?

"The SDM has no answer for the needs of women who are lactating, approaching menopause, coming off contraceptive medication except to recommend using barrier contraception which carries a substantial pregnancy rate". (E L Billings, Bulletin, OMR&RCA Vol 31 No 4 Dec 2004)

8. PERSONA and CLEARPLAN

PERSONA and CLEARPLAN are commercial technological approaches to determining the fertile and infertile phases, the information from which can be used for natural family planning or for use of barrier methods– PERSONA for avoiding pregnancy and CLEARPLAN for achieving pregnancy.

8.1 PERSONA

A PERSONA brochure states "*PERSONA is a method of contraception that works in harmony with your body. ……. By monitoring your personal hormone levels, PERSONA can tell you on which days you have the freedom to make love without using a contraceptive."*[8]

8.1.1 How does PERSONA work?

PERSONA is made up of a small hand-held Monitor and simple, disposable urine test sticks. The test sticks collect the hormones from the early morning urine and convert them into a form that can be read by the monitor. In particular, PERSONA determines the start of the fertile phase by detecting the rise in E_3G (Estriol Glucuoronide) and the end of the fertile phase by monitoring the LH (Luteinizing Hormone) surge and then allowing time for ovulation and the life span of the ovum.

During the first month of use, PERSONA will ask for 16 early morning urine tests in order to build up "*a complete picture of the individual cycle".* Thereafter, it will ask for a test on 8 mornings of each cycle.

On the morning after menstruation has started, press 'M' on the monitor. Coloured lights on the monitor inform when intercourse is available or abstinence is required. "*Typically, 6-12 days are abstinence days in each cycle*." The brochure warns that *"The risk of pregnancy is considerably greater if you have sex on a 'Red' day, even if you use a barrier method of contraception such as the condom."*

The Monitor *"personalizes*" the user's data as it monitors the levels of E3G and LH from the test sticks, stores the information and builds a database. With continued use, PERSONA adapts

its database to reflect the physiology of the user, **referring back to the last 6 cycles** of her personal data.

8.2 Reliability

Independent trials have shown 94% effectiveness from the first day of use, if it is used according to instruction and as the only method (i.e. not in combination with other methods).[8, 9]

8.2.1 Who can use PERSONA?

PERSONA is suitable for women with natural monthly cycles of 23-35 days. The following women are excluded:

- *Cycle shorter than 23 days*
- *Cycle longer than 35 days*
- *Pregnancy is to be totally unacceptable*
- *Experiencing symptoms of menopause*
- *During breastfeeding*
- *While undergoing hormonal treatment e.g. chemical contraception, fertility treatment, hormone replacement therapy*
- *While using treatments that may affect cycle*
- *While taking antibiotics containing tetracyclines (except oxytetracycline and doxycycline)*
- *If there is impaired liver or kidney function or PCOS*

8.2.2 When to start PERSONA?

PERSONA usage can start when the next cycle begins. But if she has been

- On chemical contraception
- On other treatments which affect cycle (eg. Emergency contraceptive pill)
- Pregnant, even if not carried to full term
- Breastfeeding

then she has to wait till the cycle returns to normal which is at least 2 natural consecutive cycles of 23-35 days. When the 3rd menstrual bleed begins, PERSONA usage can be started.

Comment from the Perspective of a BOM Teacher: The exclusion clauses outlined in Section 8.1.3 and 8.1.4 indicate that there is a strong element of the Rhythm Method in PERSONA.

The LH surge precedes ovulation but does not confirm it. Therefore the LH surge could give inaccurate advice to the couple who believes ovulation has occurred. This device assumes all bleeding is menstruation. As long as the woman is bleeding regularly it ignores the variants of the Continuum and would build in inaccurate information into the data base.

8.3 CLEARPLAN

A CLEARPLAN brochure *states "CLEARPLAN is the simplest and most widely used test. This is the most reliable and accurate method of predicting your most fertile period at home, in private."*

CLEARPLAN measures the change in the level of LH in the urine. The absorbent sampler is placed in the urine stream and after 3 minutes, the result can be read by comparing the colour of the lines which appear. It will tell when ovulation is about to occur – within 2 days.

See comment on LH in Comment box under Section 8.1.4 above.

8.3.1 Reliability

It is claimed to be 99% accurate in predicting ovulation[10].

8.3.2 CLEARPLAN FERTILITY MONITOR

CLEARPLAN FERTILTIY MONITOR is a small hand-held Monitor with disposable urine test sticks similar to PERSONA, except that it is geared towards achieving pregnancy. Its brochure claims that it is *"an advanced method to aid conception, suitable for women with regular and irregular cycles."*[10] The monitor detects not only the LH surge but also monitors the E_3G levels, like in PERSONA.

Again, on the day menstruation begins, press 'M' to begin new cycle. The monitor will indicate when to take the urine tests (10-20 tests per cycle). Fertility is clearly displayed onscreen.

Up to 6 fertile days are identified each cycle but the monitor stores the last 6 cycles of personal fertility information (for projection use).

Overall Comments from the Perspective of a BOM Teacher

PERSONA and CLEARPLAN are based on the rhythm method and therefore not as accurate as BOM which is based on daily observations. Exclusion clauses for PERSONA indicate that it cannot be used for all circumstances.

Both PERSONA and CLEARPLAN are based on the measurement of an estrogen rise and an LH surge but in some cases this may not necessarily be followed by ovulation. They offer no recognition of hormonal level fluctuations, stress cycles, LUF, etc. The most accurate way of confirming ovulation is the progesterone rise.

The use of PERSONA and CLEARPLAN involves continuous expense and they inherently provoke a disregard for any natural symptoms, and a dismissal of these if they conflict with the device's indications.

9. Marquette Model

The Marquette Model was developed by the Institute for Natural Family Planning Services of Marquette University, Milwaukee, Wisconsin, USA. [11]

9.1 What is the Marquette Model of NFP?

The Marquette Model uses the Clearplan Easy Fertility Monitor (See Section 8.2.2) *to pinpoint* ovulation. The information from this monitor is then used *in conjunction with* observations of cervical mucus or basal body temperatures to *confidently* determine the woman's fertile times.

9.2 Who can the Marquette Model be of use to?

Marquette Model of NFP claims to be able to help the following categories of people:

- Couple seeking to space pregnancies
- Couples struggling with infertility
- Breastfeeding women
- Peri-menopausal women
- Women with irregular cycles
- Women interested in health monitoring

Overall Comments from the Perspective of a BOM Teacher

CLEARPLAN is partially based on the rhythm method. The Marquette Model combines the use of CLEARPLAN Easy Fertility Monitor with observations of cervical mucus or basal body temperature. There can be conflicts arising from different information from these three methods and it is unclear how they can be resolved, as detailed information was not readily available.

Combination of various indicators will result in mixed signals of conflicting indications, excess abstinence, frustration, and regular dependency on teachers.

Any method which fails to recognize the reality of **the** mucus symptom will have to fall back on older indications or new versions of them. Combining the mucus symptom in any form with other indicators demands in practice that the mucus symptom be mistrusted, and so will not be observed accurately or consistently.

Such methods will involve making assumptions instead of observing nature with constancy and precision as does the BOM.

10. Lactational Amenorrhea Method

10.1 Introduction

Lactational amenorrhea method (LAM) is a natural family planning method for breastfeeding women. Breastfeeding-induced birth spacing has been practiced throughout history, and the health benefits of breastfeeding to both mothers and infants are well documented.

Relatively recently the use of breastfeeding as a temporary family planning method has been documented with the publication of a number of prospective studies of "LAM"[12] Guidelines for its effective use have also been developed, particularly since 1988.[13]

10.2 Conditions Required for Effective Use of LAM

Consensus among the medical professionals and family planning experts involved is that LAM can be effective in postponing pregnancy under the right conditions which are as follows: [14]

- *The mother has not experienced vaginal bleeding after the 56th day post-partum.*
- *The baby is less than six months old.*
- *The baby receives all of its nutrition from the breast, without bottles, supplements, or solid food.*
- *The baby feeds at the breast at least every four hours during the day and every six hours at night.*

10.3 How does LAM work?

When a baby sucks from the mother's breast the hormones prolactin and oxytocin are produced. Prolactin stimulates further production of milk and at the same time has the effect of suppressing ovulation and therefore, menstruation for a variable time.

Each feed causes a surge of prolactin. For this reason, the frequency of feeding is important. Most breastfeeding experts suggest that babies be fed on demand anyway, and feeding on demand will help to ensure the efficacy of LAM .[14]

It is important to remember that it is the kind of breastfeeding which meets the LAM criteria, rather than breastfeeding per se, which can be relied upon for postponing pregnancy.[14]

10.4 Reliability

The figure most often quoted for using LAM to postpone pregnancy is greater than 98%, provided the woman meets the above-mentioned criteria. [14] But, as soon as any of the conditions are not met, for example, when the baby weans, begins taking a bottle or sleeping more than six hours at night, or if the mother experiences any bleeding LAM would not apply anymore. Working mothers who express milk for the baby may still qualify for LAM but need to talk to a natural family planning teacher to clarify the situation .[14]

However, one website [15]states that there is a 3-15% failure rate in which conception takes place before the first post-delivery menstruation.

Overall Comments from the Perspective of a BOM Teacher

Mooney[14] states that for breastfeeding women, natural family planning (NFP) is an excellent follow-on from LAM because it allows women to perceive for themselves when their fertility is returning, but gives them and their partners freedom during the time that breastfeeding suppresses ovulation. Mooney is a Double-Check sympto-thermal teacher and labours without the BOM knowledge of returning fertility after pregnancy and breastfeeding. Any BOM teacher would know she was short-changing clients by giving them LAM first and then asking them to change to BOM later.

However, from the point of view of a BOM teacher, the most secure measure in trying to postpone the next pregnancy is to commence BOM observations. Billings et al[16] caution and advise:

"Even under ideal conditions with a vigorous baby who sucks well, ovulation may return as soon as 6 weeks after delivery although it is unusual for ovulation to return until more than 3 months after birth when the baby is totally breast-fed. The length of time between birth and the first ovulation varies with different women - each mother and child is unique. It is therefore, best to commence BOM observations 3 weeks after the birth of the baby if the couple wants a reliable method of natural family planning."

The added advantage of immediate commencement of BOM observation is that the woman has full knowledge of her fertility status from day to day. The BOM advises users to commence observations once the lochia discharge ceases.

LAM by itself gives no real information. Four conditions are specified for it to work. The first condition, that the mother must have not experienced vaginal bleeding after the 56th day post-partum, means that LAM assumes that she is infertile before her first bleed.

This is incorrect because menstrual bleed is the result of ovulation. While it is possible that the first post-partum bleed may be an anovulatory bleed, it may also be menstrual bleed, occurring after ovulation. It is not uncommon to come across post-partum women who thought they were infertile because they have not had a bleed and who became pregnant before their first bleed. Therefore, the claim by one website[15] that there is a 3-15% failure rate in which conception takes place before the first post-delivery menstruation cannot be refuted, based on the scientific knowledge of the BOM.

LAM focus is on (1) statistical risk, not daily observation of nature, (2) dates and calendars which unavoidably means making assumptions about nature, (3) bleeding instead of BIP, first point of change and Peak.

It is perhaps unfortunate that the emphasis is on “amenorrhea” rather than on “lactation”; it would have been closer to human physiology. The BOM accurately identifies both fertility and infertility and will alert the lactating woman to potential fertility.

Billings Ovulation Method Definitions

Rules of the Billings Ovulation Method

Early Day Rule 1
Avoid intercourse on days of heavy bleeding during menstruation.

Early Day Rule 2
Alternate evenings are available for intercourse when these days have been recognised as infertile (Basic Infertile Pattern)

Early Day Rule 3
Avoid intercourse on any day of discharge or bleeding which interrupts the BIP.
If ovulation is not confirmed allow 3 days of the return of the BIP before intercourse is resumed. Rule 2 continues.

Peak Rule
From the beginning of the fourth day following the Peak until the end of the cycle, intercourse is available every day at any time.

1. For the Achievement of Pregnancy:
Apply the Early Day Rules.
This enables the change to the fertile pattern of mucus to be recognised.
Then postpone intercourse until slippery mucus occurs.
The next few days are the most fertile.
Therefore intercourse should occur while slippery mucus is obvious and for one or two days past the Peak.

2. For the Postponement of Pregnancy:
a) The Early Day Rules and
b) The Peak Rule
are applied.

Menstrual Cycle

A menstrual cycle commences with menstruation, identifies ovulation and the following menstruation, in the absence of pregnancy.

Phases of the Menstrual Cycle

Menstruation (identified because a Peak was recognised in the previous cycle)

Pre-ovulatory infertility This is recognised by the Basic Infertile Pattern (BIP).

Each woman will identify her own unique BIP,

(1) A short cycle may have no BIP: the follicular phase may begin during menstruation.

(2) In cycles of less than 35 days there will be only one BIP.

(3) When ovulation is delayed, a combined BIP can be identified.

Follicular Phase (development of the follicle) and ovulation

The beginning of this phase is recognised by the change from the BIP.

One of two things can happen:

(1) the change will progress to the Peak. The woman will experience a changing, developing pattern which progresses to a slippery sensation followed by a definite change. Ovulation is recognised.

or

(2) the change may continue for a variable number of days but no Peak is identified and the BIP returns.

Luteal Phase

When the Peak is recognized, the post-ovulatory infertility is identified and continues until the beginning of the next cycle, which begins with menstruation. In a fertile cycle the length of the luteal phase is 11-16 days from the time of ovulation until the beginning of menstruation.

The Basic Infertile Pattern (BIP):

The woman's record showing an unchanging pattern.

Reflects unchanging hormone levels and the presence of the G mucus plug at the cervix.

This unchanging pattern may be dry every day

or

a discharge which is essentially unchanging.

This is her individual BIP.

The Peak

The Peak is the **last day of any slippery sensation** at the vulva, at the end of a changing developing mucus pattern of variable length. It is identified in retrospect on the day of change.

*The Peak is judged on its own merits, not in retrospect by the length of the luteal phase. The Peak will be followed by menstruation 11-16 days later if the cycle is a **fertile one**. The Peak Rule can be applied as soon as the Peak is identified.*

Ovulatory Variants of the Continuum

1. Follicle Stimulation – No LH released

a) *FSH reaches the **threshold** level:*
The woman notices a change in symptom:
The FSH may then return to sub-threshold values, the follicle atreses: Oestrogen levels return to their base line values:
The woman recognises her dry BIP again.

b) *FSH reaches the threshold level:*
*The FSH levels may arrest before the **intermediate** level is exceeded and the follicles remain in a state of chronic stimulation:*
The woman experiences an unchanging pattern which may show fertile characteristics:
If this situation persists she may experience breakthrough bleeding:
The FSH levels may then return to sub-threshold levels,
and she will return to her dry BIP.

c) *FSH reaches the intermediate level:*
The dominant follicle races towards ovulation but the release mechanism for LH does not operate at all:
*There is **no LH surge** resulting from the raised oestrogen levels:*
The follicle atreses and the woman returns to her BIP:
The resulting bleed is an oestrogen withdrawal bleed.

2. Luteinized Unruptured Follice, LUF

FSH reaches the intermediate level:
The dominant follicle races towards ovulation:
The release of LH is faulty:
LH is released but not in sufficient amounts to cause rupture of the boosted follicle but sufficient to cause a small amount of luteinization of

the follicle which in turn causes a small amount of progesterone to be produced for a short period of time:
Peak is not recognized:
A LUF may be followed by a normal ovulation, or by a withdrawal bleed.

3. <u>Deficient Luteal Phase</u>
FSH reaches the intermediate level:
The dominant follicle races towards ovulation:
The LH surge is sufficient to cause ovulation but is insufficient to produce a fully formed corpus luteum capable of supporting a pregnancy:
The progesterone levels rise above those of a LUF and
a progesterone change is identified in the charting:
The progesterone levels do not reach the levels seen in a fully formed corpus luteum:
The cycle is ovulatory but infertile:
The luteal phase may be of similar duration to that of other cycles.

4. <u>Short Luteal Phase.</u>
As above, except that the progesterone levels can reach the levels seen in a fully formed corpus luteum but drop prematurely:
The luteal phase will be less than 11 days.

Both 3 and 4 are ovulatory but infertile. Subsequent bleeding is menstruation. If a Peak has been identified, the Peak rule applies, and there is no "count of 123" following menstruation.

These cycle variants have been listed as if they were separate entities. Actually one merges into the next so there is a continuous gradation from no follicular activity, follicular activity without an LH surge, increasing maturation of the ovulatory mechanism, to the fully fertile ovulatory cycle. This is the pattern at menarche, the reverse occurs at menopause.

These cycle variants do not necessarily repeat themselves from cycle to cycle. For example, with approach of menopause or during stress, the woman may experience periods of amenorrhoea, anovular ovarian activity or LUFs, interspersed with fully ovulatory cycles. As none of these infertile variants can be predicted at the beginning of the cycle the woman must be observant of her symptoms at all times. She can never assume that she can dispense with the Rules of the Billings Ovulation Method which handle every type of cycle encountered.

Definitions of Physiological Bleeding

Menstruation
Withdrawal of oestrogen and progesterone following the occurrence of ovulation.

Oestrogen Withdrawal Bleed
Rising oestrogen levels influence the growth of the endometrium and when the oestrogen levels drop, this support is withdrawn and bleeding can occur. Experienced when ovulation is delayed.

Oestrogen Breakthrough Bleed
High oestrogen levels may result in spotting or bleeding prior to ovulation occurring.

Implantation Bleeding
In pregnancy, from about the 6th day after conception, implantation may result in spotting or even heavier bleeding, and may continue intermittently for some weeks. This is a normal occurrence in some pregnancies.

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