Chapter 15
Fertility Awareness Method/Natural Family Planning

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Introduction

Natural family planning (NFP) is one of the oldest practiced methods of birth control. Also known by the names periodic abstinence, rhythm method, and fertility awareness method, it can be used for either pregnancy prevention or planning and is acceptable to all major religious groups. Although it is not a popular method of birth control, there are couples who still choose to practice natural family planning and may request the assistance and support of their health care provider. In motivated patients with appropriate instruction, NFP may be an effective method of preventing or spacing pregnancies. Eighty-five percent of women will get pregnant within a year of having intercourse without contraception. With perfect use, 2–5% of women who have been instructed and use the symptothermal or the ovulation method will become pregnant [1]. However, perfect use is uncommon and many women do not use NFP appropriately or choose not to continue using this method [2].

There are several methods of NFP, including the calendar method, the lactational amenorrhea method, the basal temperature method, the cervical mucus method, the Creighton method, the symptothermal method, and the standard days method/two-day Method.

The calendar method is the original natural method and is based solely on calculation of the days of a woman's cycle. This method is based on the theory that a woman ovulates approximately 14 days prior to menses. Most women have variations of one to several days in their cycle; therefore, predicting the day of menses is difficult. This is even more difficult in women with irregular cycles. Although the calendar method may be appropriate for women with regular cycles, additional means of assessing ovulation may be necessary for women with irregular cycles.

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The lactational amenorrhea method (LAM) can be used by breastfeeding women in the postpartum period. This method should only be considered by women who are exclusively breastfeeding eight to ten times per day and at least one time during the night. This assures prolactin levels remain high enough to suppress ovulation [3]. LAM should not be used after the initial 6 months postpartum as fertility can return prior to the onset of menses.

The basal temperature method is based on the change in the early morning basal temperature at the time of ovulation when the cycle comes under the influence of progesterone. Intercourse is avoided from the onset of menses through the ovulation period. This lengthy period of abstinence is unacceptable to some couples. The basal body temperature rises under the influence of progesterone, with most ovulatory cycles having a lower temperature in the first half of the cycle and a higher temperature with the onset of ovulation. At the time of ovulation, the temperature usually rises by 0.4 °F and remains elevated until menses. Patients should be instructed that their fertile period lasts until the temperature is elevated for at least 3 days.

The cervical mucus method (also called ovulation method) is a method that instructs a woman to check her cervical mucus pattern on a daily basis to determine the time of ovulation. She learns to recognize patterns of mucus by sensations on the vulva and visual inspection and avoids intercourse during the ovulation period. Probabilities of pregnancy are 3.1% in the first year with perfect use and 86.4% during imperfect use. It is crucial that couples who choose this method follow some very important rules, which include no intercourse during mucus days, no intercourse during times of stress, and no intercourse within 3 days after the peak of fecundity [1].

The different types of mucus are based on glucose composition. Changes in cervical mucus occur at the beginning and end of the fertile period even in irregular cycles. Secretions should be observed by how they look, by touch, and by feel. Women chart their mucus changes in order to be aware of their fertile period. There is variation in mucus composition woman to woman, but each individual has a pattern that remains fairly stable. Ultrasound studies have confirmed that these symptoms accurately identify the timing of ovulation [4]. The World Health Organization (WHO) is interested in finding birth control methods that are inexpensive but effective for use in third-world countries. A study supported by WHO found that 93% of women were able to determine the state of the cervical mucus regardless of educational level and cultural influences [5].

The Creighton model of birth control is a modification of the cervical mucus method and was developed at the Pope Paul VI Institute by Dr. Thomas Hilgers in 1980. It was intended as a natural procreativity education method that allowed a couple to know when their fertile periods occurred. When a couple uses this method, they meet with an instructor over a period of approximately 1 year in order to accurately learn to recognize the changes in cervical mucus and body changes

that indicate fertility. The vulvar mucus is observed, and intercourse is avoided during the 3 days prior to until 2 days after the peak vulvar mucus [6]. Proponents of the method quote studies that state the failure rate is less than 1% per year; however, some couples who became pregnant during the study were deliberately not counted as failures as investigators believed the couples intended pregnancy [7].

The symptothermal method is a combination of monitoring symptoms that indicate fertility, using the basal body temperature to assess for ovulation and using calendar calculations to assess peak fertility. In this method, women assess cervical mucus and observe symptoms of fertility, such as midcycle cramping and breast tenderness, to help determine the period prior to ovulation that they may engage in intercourse. Women also use calendar calculations to monitor fertile periods and also monitor basal body temperatures to indicate when ovulation has occurred and that they have passed through the fertile period of the menstrual cycle. By combining these methods, couples may avoid the prolonged periods of abstinence required by other NFP; however, a higher level of instruction is necessary for its appropriate use. Monitoring cervical mucus and observing symptoms of fertility such as midcycle cramping and breast tenderness aid a woman in determining the time prior to ovulation during which she may engage in intercourse without risking pregnancy. By combining symptom observation and basal body temperature monitoring, couples can avoid the prolonged period of abstinence recommended with the use of the basal body temperature method alone.

The standard days method [8] is based on the probability of pregnancy and the timing of ovulation. Studies have shown that a woman's fertile period is approximately 6 days: 5 days before ovulation and for 24 hours after ovulation. After 24 hours, there is decreased probability of pregnancy. Thus, the fertile window in a woman's cycle is 6 days. Data have also shown that ovulation occurs in the middle of the cycle when the cycles last between 26 and 32 days. Couples avoid intercourse on days 8–19 of every cycle to avoid pregnancy. With correct use, the failure rate is approximately 4% with actual rates that approach 9% [9].The standard days method may be used for multiple years in those who were successful in the first year [10]. CycleBeads® (Cycle Technologies, Inc., Washington, DC) are a color-coded string of beads to help women keep track of their cycles. To use the beads, a rubber ring is moved over the beads each day of the cycle to track where she is in the cycle. The colors of the beads indicate fertile and nonfertile days.

There are several systematic reviews that have looked at the efficacy and pregnancy rates of the various methods. Perfect use pregnancy rates reported in Urritia et al. ranged between 0 and 12.1%, with typical use pregnancy rates between 3 and 33% [11].

There are now multiple websites, downloadable apps, and electronic hormone fertility monitors (EHRM) available. Some of these methodologies may be expensive, requiring one to use test strips which may become cost prohibitive for the average consumer.

Case Study

A 22-year-old woman and her partner present at the office to discuss birth control. They have not been sexually active prior to this time and are planning to be married in 3 months. They would like to put off pregnancy for 1–2 years yet and would like to have a method that is consistent with their religious beliefs. In their premarital counseling sessions, there was discussion of natural family planning methods.

Diagnosis (Algorithm 15.1)

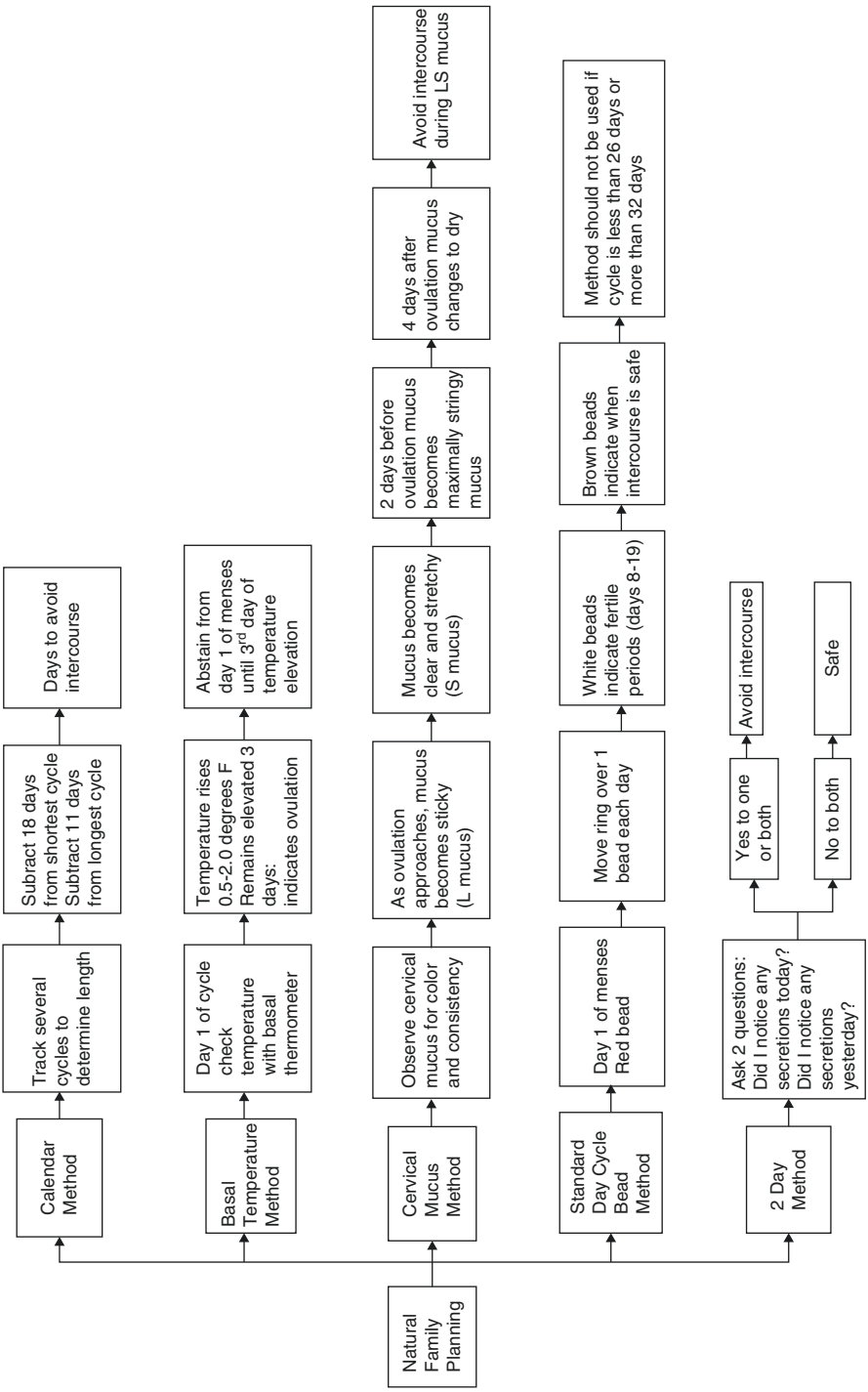
Request for natural family planning methods.

Indications (Algorithm 15.1)

- Women who prefer nonhormonal contraceptive method due to religious or financial reasons.
- Women who have contraindications due to concomitant diseases or side effects to hormonal birth control
- Women requesting immediately reversible contraception
- Women who wish an increased awareness of their own body's hormonal cycles, including fertility and infertility

Contraindications, Complications, and Risks (Algorithm 15.1)

- High failure rate in couples who are not highly motivated
- Requires periods of abstinence from intercourse
- Less effective for women with irregular menstrual cycles
- No protection against sexually transmitted infections
- Interference in charting the correct temperature can be caused by illness, alcohol use, travel, or interrupted sleep (at least 3 h of sleep must occur). These events should be noted on the chart.
- Monitoring of cervical mucus may be inaccurate if a vaginal infection is present, with use of douches, vaginal creams, or gels, or if there is an illness or use of medication.



Algorithm 15.1 Decision tree for choosing a method of family planning

Equipment

- Basal body temperature thermometer (Fig. 15.1)
- Chart for temperature and recording consistency of cervical mucus
- Mucus and menstrual bleeding (Fig. 15.2).

Procedure and Patient Instructions (Algorithm 15.1)

Calendar Method

1. Track several menstrual cycles to determine length. (Cycle determination is based on the first day of menses as day 1 of cycle.)
2. Subtract 18 days from the shortest cycle.
3. Subtract 11 days from the longest cycle.
4. This determines the range of days to avoid intercourse.

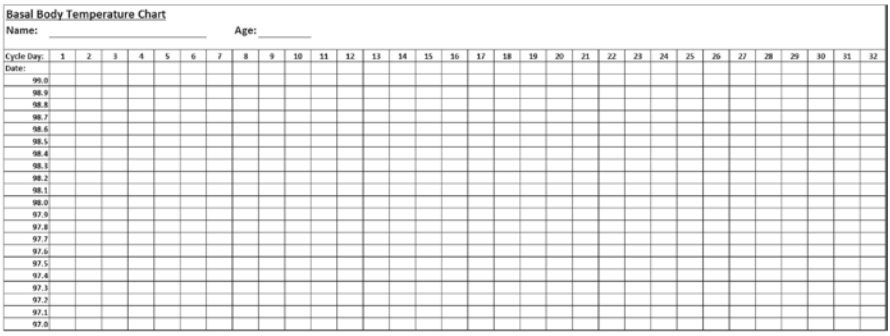
Example

- Month 1 cycle 30 days.
- Month 2 cycle 28 days.
- Month 3 cycle 32 days.
- Month 4 cycle 28 days.
- Woman subtracts 28–18 = 10.
- Woman subtracts 32–11 = 21.
- Patient would avoid intercourse between days 10 and 21.

Basal Temperature Method

1. Day 1 of cycle (menses) begins charting basal body temperature with a basal thermometer marked to detect small fluctuations in body temperature.

Fig. 15.1 Sample digital basal body temperature thermometer (Becton Dickinson & Co., Franklin Lakes, NJ)


Basal Body Temperature Chart

Name: _____ Age: _____

Cycle Day:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
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Take your temperature before getting out of bed. Record the temperature by placing a mark in the box that correlates to your temperature for the day of cycle. A lasting elevation in temperature indicates ovulation occurred two or three days prior. Cycle day one is the first day of menses.

Fig. 15.2 Basal body temperature and cervical mucus chart

2. Temperature must be checked prior to getting out of bed at the same time each morning.
3. A rise in temperature of 0.5–2.0 °F that remains elevated for 3 days indicates ovulation. Ovulation actually occurs just prior to the temperature elevation.
4. A true postovulatory rise lasts 10 days.
5. The period of abstinence should be from the first day of menses through the third day of temperature elevation to completely cover the fertile period.
6. Interference in charting the correct temperature can be caused by illness, alcohol use, travel, or interrupted sleep (at least 3 h of sleep must occur). These events should be noted on the chart.

Cervical Mucus Method

1. Women should be instructed to observe their cervical mucus:
   Observe the mucus for color and consistency on undergarments or toilet paper. Highly fertile secretions are wet, slippery, clear, and stretchy. Ovulation can occur the day before, during, or after the day of the clear stretchy mucus.
2. At the end of menses: G mucus forms a plug in the cervix causing the woman to be dry or without cervical mucus discharge.
3. As ovulation approaches, G mucus decreases and L mucus increases. L mucus has a sticky, cloudy nature.
4. With increasing estrogen: S mucus increases and peaks on the day of peak estrogen during the cycle. The combination of S and L mucus causes clear, stretchy mucus that aids the survival of sperm and transport through the female genital tract.
5. Two days prior to ovulation, the stringy sensation is at a maximum.
6. Two hours prior to ovulation, the slippery sensation or wetness is at its most noticeable.

7. Four days after ovulation, the mucus pattern reverts back to dry or unchanging as the G mucus again develops under the influence of progesterone.

Monitoring of cervical mucus may be inaccurate if there is vaginal infection; use of douches, vaginal creams, or gels; illness; or use of medication.

The Standard Day (CycleBead® Method, Cycle Technologies, Inc., Washington, DC) (Fig. 15.3)

1. Women are considered fertile on days 8–19 of their cycle.
2. Women start on the first day of their menstrual cycle with the red bead.
3. Move the ring over one bead each day.
4. White beads indicate fertile periods.
5. Brown beads indicate nonfertile periods when intercourse is safe.
6. The dark brown bead indicates a cycle shorter than 26 days, and this method should not be used.
7. If the menses does not start by the end of the brown beads, the cycle is longer than 32 days, and this method should not be used.

2 Day Method

- Uses cervical secretions to determine fertility.
- Patient asks herself two questions:
  - "Did I notice any secretions today?"
  - "Did I notice any secretions yesterday?"

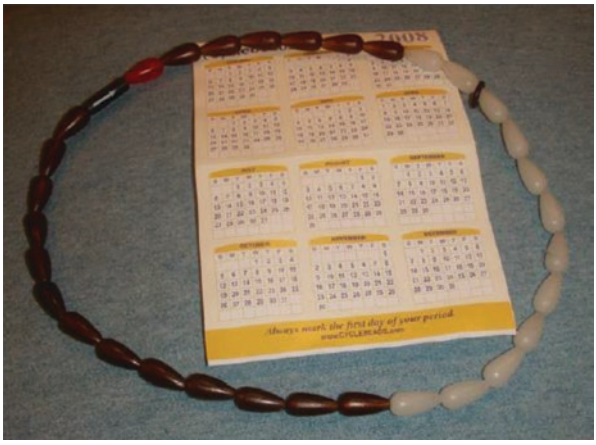

Fig. 15.3 CycleBeads® (Cycle Technologies, Inc., Washington, DC)

- If the patient noticed secretions, either day she is potentially fertile and should avoid intercourse.
- If the answer is no to both questions, then the probability of pregnancy is low and intercourse is safe.

Fertility rates are similar to the standard day method.

Procedure Note

(Provider to customize as needed.)

The patient and her partner were counseled on the different methods of Natural Family Planning and made aware of the advantages and disadvantages of each, including the risk of pregnancy. The patient was instructed to chart her menstrual bleeding and symptoms throughout the month and to bring the chart with her to future visits so that the chart could be evaluated with the patient to aid in understanding of cyclic periods of fertility. The patient and partner will decide whether or not they want to include basal temperature monitoring as a part of their daily monitoring. They are encouraged to hire a natural family planning coach to give further instruction and training in the method they choose.

Coding

CPT® Codes (Current Procedural Terminology, AMA, Chicago, IL)	
Preventive Medicine Counseling:	
99401–15 min	
99402–30 min	
99403–45 min	
99404–60 min	
ICD 10-CM-Diagnostic Codes (International Classification of Diseases, 9th Revision, Clinical Modification, Centers for Disease Control and Prevention)	
Z30.02	Counseling and instruction in Natural Family Planning to avoid pregnancy

Case Study Outcome

After 1 year of use of natural family planning, the couple continues to be satisfied with their choice of birth planning method. The patient has discontinued the use of basal temperature as her comfort level with the use of cervical mucus to

determine that fertility has increased. She also considers it an added benefit that she has increased understanding of her fertility cycles and will be able to use that information to her advantage when she does desire pregnancy.

Question for Learners

- Discuss the approach you would use with a couple interested in fertility awareness-based methods.

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Web Sites

An in-depth explanation of the method and assistance in finding an instructor can be found at the web site: www.CreightonModel.com.
Couple to Couple League: htpp://www.ccli.org/.
http://www.familyplanning.net
http://www.popepaulvi.com
http://www.irh.org
http://www.fertaware.com
http://www.woomb.org