

# ***Fertility Awareness Education Programme***

This fertility awareness programme is based on the Fertility Awareness Method (FAM) which is a scientifically-validated, effective, and natural method that involves charting three primary fertility signs on a daily basis so that a woman's fertility can be accurately determined.

The three primary fertility signs are waking temperature, cervical fluid and cervical position. These signs are based upon the functioning of oestrogen, progesterone, luteinising hormone, and the corpus luteum.

If you have been having difficulty conceiving, charting your fertility signs can be a very useful tool. Many physicians and naturopaths strongly advocate fertility charting as it is completely safe and natural, and does not rely on drugs or invasive medical procedures. In addition, women come to better understand their own bodies and cycles – and predicting ovulation is no longer a mystery.

Developing an awareness of your body and its natural rhythms is an empowering and healthy way of giving attention to your fertility. Instead of using devices like ovulation kits to inform you about what is happening, you can use this programme to tune in to the signs and signals of your body which will tell you when you are fertile.

Sex may have become mechanical if you have been trying to conceive for a while. Paying attention to your body and your natural libido around ovulation can help sex to feel more spontaneous and pleasurable.

To increase your chances of conception:

- Become familiar with your unique menstrual cycle.
- Become aware of your fertile time using the indicators of fertility.
- Have sex daily during your fertile time.

## ***Understanding your menstrual cycle***

The length of a woman's menstrual cycle is calculated by the number of days between one period and the next. A cycle begins on the first day of bleeding and continues up to, but not including, the first day of the next period. The length of a woman's cycle may change a little or a lot from month to month. Many factors can affect the regularity of a woman's cycles: illness, travel, diet, stress, or lifecycle changes. Ovulation occurs 12 to 16 days prior to menstruation irrespective of whether a woman's cycle is short or long. Menstruation can last from one to eight days, with the average being four to five days. There are two phases to the menstrual cycle, the follicular phase (menstruation to ovulation) and the luteal phase (ovulation to menstruation).

### ***The follicular phase: menstruation to ovulation***

*This stage begins with menstruation and can vary greatly in length. It may last anywhere between 6 and 21 days. Women in this phase are considered semi or partly fertile because there is no way of knowing how many days it will be until ovulation.*

The first day of bleeding is day one of your menstrual cycle. Bleeding will start when your oestrogen and progesterone levels are at their lowest causing the lining of the womb to start shedding.

At the same time the pituitary gland sends a message to one of the ovaries to begin developing follicles. Follicle stimulating hormone (FSH) begins a new cycle by activating these follicles toward maturity. With each new cycle, FSH activates about a dozen follicles to ripen. Once they've been stimulated to begin maturing, these follicles produce oestrogen. During the follicular phase of the cycle, oestrogen is dominant.

As oestrogen levels rise the following changes occur:

- Cervical mucus produced by the glands in the cervix changes to a very 'sperm-friendly' mucus.
- It softens the cervix, moves it higher in the vaginal canal, and opens the os.
- The endometrium (lining of the uterus) becomes thicker in preparation for a fertilised egg.

- And, as the Greek root of the word oestrogen explains, it 'makes mad with desire'.
- Body temperature cools, because humans prefer cooler temperatures when we're maturing our eggs. For the same reason the man's testicles are located outside the body, as cooler temperatures help the maturation of sperm.

When one egg within a follicle reaches maturity (10% of the time, two eggs reach maturity) the brain hears the news. It sends a blast of luteinising hormone (LH) down to the ovary. The ripe egg bursts out of its follicle, and the fimbria (the fingers of the Fallopian tube) reach out and grab the egg. This is called ovulation. A ripe egg can live in the outer edge of a Fallopian tube for 12–24 hours.

Some women feel a slight twinge on one side of their lower back or abdominal area around the time of ovulation. Not every woman experiences this, but it is normal and is known as mittelschmerz (middle pain).

### *The luteal phase: ovulation to menstruation*

*This phase is from the day after ovulation to menstruation and it is generally accepted that it is always 12 to 16 days, whether the cycle is short, average or long.*

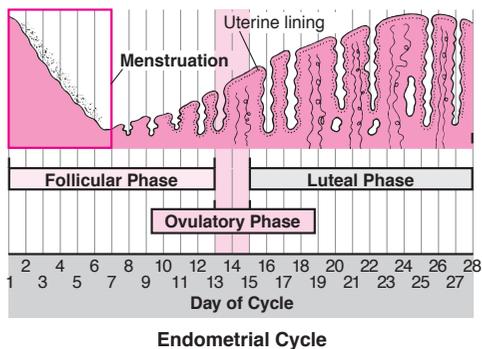
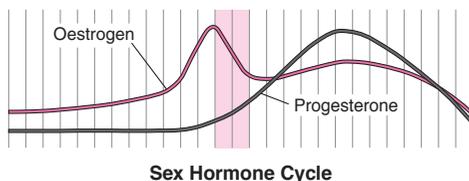
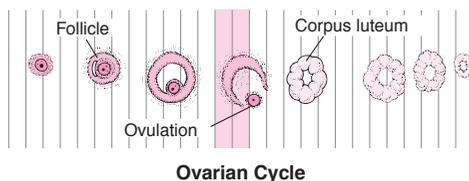
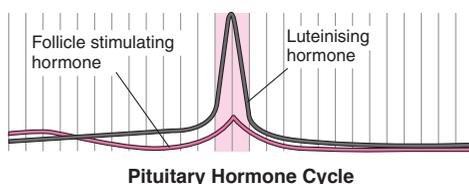
After the egg has been released at ovulation, the remains of the egg sac forms a small yellow body called the corpus luteum, which then starts producing the hormone progesterone. The increased levels of progesterone cause the following changes to occur:

- Increased blood supply to the lining of the womb.
- The endometrium softens in preparation for the implantation of a fertilised ovum.
- The cervix becomes lower, firmer and closed.
- Cervical mucus becomes hostile preventing sperm penetration. After ovulation there is a rapid reversion to the infertile state – a dense network of filaments forms a thick sticky mucus plug which impedes sperm penetration. Sperm are rapidly destroyed by the acidic vaginal secretions.

- Temperature is raised by around 0.2°C or more.

A fertilised egg will take about 5 days to reach the womb and by the time it embeds itself in the womb lining, it will be made up of around 150 cells. The corpus luteum will continue to produce progesterone to 'feed' the fertilised egg.

If fertilisation does not occur, the corpus luteum will remain for about 14 days and then shrivel and die causing progesterone levels to plummet. As a result, the blood vessels in the womb lining break up, the walls of the womb contract and the lining of the womb (known as the endometrium) sheds. This is the beginning of menstruation.



## ***When is your fertile time?***

A man is always potentially fertile, whereas a woman's fertility recurs on a cyclical basis. The few days leading up to ovulation are considered the most fertile in your cycle. Sperm can survive for up to five days in a woman's body but on average they live for three days. If you have sex during the five or six days before you ovulate, it is likely that the sperm will still be around by the time your egg is released. One or two days after ovulation are also considered fertile days because an egg can live for about 20 hours after ovulation. If two eggs have matured, the second will be released within 24 hours of the first. From a few days after ovulation until your next bleed, you are generally not fertile.

## ***How to determine your fertile time?***

Every woman's fertility pattern is unique and may vary from month to month. You can learn to identify your fertile time by observing physiological changes in your body, using a combination of indicators of fertility. These indicators are scientifically proven to reflect changes in the ovarian hormone levels and to reflect fertility status accurately.

You can create your own fertility chart by using the blank chart template in this pack. You will also need a thermometer, and a little patience to learn the techniques of 'listening' to your body.

Indicators of fertility:

- Cervical mucus changes
- Changes in the cervix
- Waking temperature: Basal body temperature (BBT).

Calculating the length of your cycle and checking for other minor indicators like abdominal pains and breast symptoms can also be helpful.

### ***Cervical mucus/Cervical fluid changes***

The build-up and discharge of cervical mucus plays a key role in fertility. Cervical mucus changes throughout your cycle in response to hormonal changes. Gradually, as you approach ovulation, your increasing mucus will change from sticky to wet, and will become creamier. Directly *prior* to ovulation, cervical fluid will increase greatly and will be semi-transparent, slippery, with the con-

sistency of ‘raw egg white’. This is your most fertile period and ovulation will take place at about this time. When a woman is ovulating, her cervical opening widens and the clear mucus coming from it creates a kind of superhighway for sperm.

How to check your mucus:

To check your cervical mucus, insert your fingers into the entrance of your vagina. Use your fingertips to examine the quality and texture of the mucus. Also take note of the colour and opacity. You can check it any time of day.

*Cervical Mucus – A quick reference guide*

Mucus	Description	Fertile Days
Dry or Sticky	When your period ends, mucus forms in the cervix (the mouth of the womb), acting as a barrier that keeps both sperm and germs from entering the womb. At this time you’ll find you produce either no fluid, or fluid that is dry and sticky. The vagina feels dry except when sexually stimulated. Any fluid produced is hostile to sperm – they cannot survive in it.	Not Fertile
Wet and creamy	As oestrogen levels increase you will notice a wet or watery feeling and an increase in fluid which is slippery when rubbed between the fingers. It may take some time to dry, and feels creamy, almost like lotion. This is fertile quality; sperm can survive in it, and you should be making love at least every other day once you get this. This may last several days.	Fertile

Egg white	At peak fertility when the egg is about to be released, your cervical fluid is likely to reach a consistency very similar to egg white. It is very slippery and can stretch between your fingers. However, not all women get this – some do not progress beyond wet, and that should not affect your ability to conceive. Others may have it for just a few hours up to three days. This egg-white mucus helps sperm move from the vagina through the cervix and into the uterus in search of an egg.	Fertile
Sticky	After ovulation, another mucus plug forms in the cervix, protecting it again from germs and blocking sperm. You will return to sticky or no fluid.	Not Fertile

### *Changes in the cervix*

The position of a woman's cervix changes over the course of her menstrual cycle. Typically, during and in the first few days after menstruation, the cervix is fairly low and firm and feels like the tip of your nose. When the wet cervical fluid begins to show, the cervix begins to move up, become softer, wetter, and more open. During ovulation, the cervix is at its highest and most open. After ovulation, the cervix returns to the firm, low, and closed position.

To observe the changes in cervical position, insert your middle finger into your vagina and feel your cervix. Check your cervix about the same time of day and in the same position (squatting, sitting on the toilet, or with one leg raised). Ask yourself the following questions:

- Is the position of the cervix relatively low (easy to reach) or high (less easy to reach)?
- Does the cervix feel relatively soft or firm?
- Does the opening of the cervix feel open or closed?

- Is the cervix dry to the touch – or relatively moist – or very moist?

*Cervix – A quick reference guide*

Cycle	Description	Fertile Days
Follicular Phase (Beginning of your cycle)	The cervix will feel relatively firm (like touching your nose) and dry to the touch. The position of the cervix will be low in your vagina (easy to reach). The entrance of the cervix will feel closed.	Not Fertile
Ovulation approaching	The cervix will become increasingly soft and will increasingly moisten in order to create a more fertile environment for the sperm. The entrance of the cervix will feel open and begin to lift.	Fertile
Ovulation	The cervix will be at its highest point and may be a bit difficult to reach. The entrance of the cervix will increase in size. The feel of your cervix will be softer – like touching your lip. At this point, you are at your most fertile time.	Fertile
Luteal Phase (After Ovulation)	Following ovulation, the cervix begins to return to a firmer state and the entrance will begin to close. Also, the position of the cervix will again drop and become easy to reach.	Not Fertile

### *Waking temperature: Basal body temperature (BBT)*

Basal body temperature is the body temperature measured immediately after awakening and before any physical activity has been undertaken. In women, ovulation causes an increase of one-half to one degree Fahrenheit (one-quarter to one-half degree Celsius) in BBT.

One of the many changes that take place in a woman's body during her menstrual cycle is an increase in body temperature at the onset of ovulation. During the first part of a woman's cycle, the body temperature is lower. With ovulation, the body temperature rises (to create a more fertile environment for the fertilised egg) and remains higher until the beginning of a woman's next cycle. The temperature increase is driven by the hormone progesterone, which increases when you ovulate. The tendency for women to have lower temperatures before ovulation, and higher temperatures afterwards is known as a biphasic pattern.

Tracking your temperature is the most demanding method of charting your cycle.

1. Take your BBT temperature first thing each morning – as soon as you wake up. You must remain in bed (as physical activity can increase your temperature) and avoid eating or drinking or even moving. Leave your thermometer at your bedside within easy reach so you don't have to move much to get it. If you use a glass thermometer, make sure you shake it down before going to bed.
2. Try to take the temperature at as close to the same time each day as possible. Staying within a half-hour either side of your average time is a good idea because your temperature can vary with the time.
3. It is best to take your BBT after a minimum of five hours sleep, and at least three in a row is preferable.
4. You can take your temperature orally, vaginally, or rectally – just stay with the same method for the entire cycle.
5. You should try to place the thermometer the same way each day (same location of your mouth, same depth vaginally and rectally).

It is important to note that the rise in your basal body temperature doesn't tell you when you are fertile or about to ovulate. It tells you when you already have ovulated. Women are most fertile the few days before their peak temperature, and are least fertile once their temperature has remained high for three

days. BBT charting only tells you when ovulation has already occurred – and is therefore important for predicting general patterns and confirming other fertility indicators.

### *Other minor signs and symptoms*

You may notice other changes that mark the different stages of your cycle. Some women regularly experience abdominal pain (slight or severe), swollen breasts, lower back pain and mood changes (both good and bad). These types of signs are not very reliable in pinpointing your fertile or infertile phases, but they may help support your other observations. Making a note of these changes on your fertility chart will help you to notice any patterns.

### *Calculation of cycle length*

When you have been tracking your cycle for a few months, you can use the calculation below to help determine when you are most likely to be fertile in future cycles. This method is not accurate but it will help you to have a rough idea of your fertility pattern.

To use this method determine the length of your shortest and longest cycle over the last six months. Subtract 20 from the length of your shortest cycle to estimate the first day of your fertile window. Then subtract 10 from your longest cycle to estimate the last day of your fertile window.

Example: If your shortest cycle was 26 days and your longest was 29 days, your calculation would look like this:

$$\begin{aligned} \text{(shortest cycle)} \quad 26 - 20 &= 6 \\ \text{(longest cycle)} \quad 29 - 10 &= 19 \end{aligned}$$

This suggests that your fertile window may be between days 6 and 19.

Some things to remember:

- Making a note of any emotional changes during your cycle can help you to become more aware of the interaction between your mind and body. When you are trying to conceive, getting your period can be a big disappointment. Remind yourself that getting your period is also a positive

affirmation that your body is working and that you are at the beginning of another new opportunity to conceive.

- Charting your fertility does not mean that you should only have sex during your fertile time. Having regular sex throughout the month is a good way to enjoy making love for reasons aside from having a baby. It is a myth that making love less often will increase your chances of conception. In fact, the best way to boost your chances of conception is to make love every couple of days.

## ***Fertility Chart***

You can use a fertility chart to keep track of the changing fertility indicators during your cycle. Keeping a record of these changes will help you to pinpoint your most fertile time and be able to predict ovulation in future cycles. Looking back on your charts will help you to become more familiar with your body's unique signals for fertility and ovulation.

On the following page is a blank template that you can print out and use. You could also make your own fertility chart to include whatever information you would like on it.

Below is an example of a fertility chart which includes the following information:

- Details about your menstrual cycle: cycle day, physiological and emotional changes. These changes may include breast tenderness, ovulation pain (mittelschmerz), bleeding. Other regular symptoms.
- Basal body temperature: temperature and the time you take your BBT.
- Cervical mucus observations: texture, colour, quantity.
- Cervical position observations: feel of the cervix, open or closed, position of cervix.
- Fertile days: five days before ovulation and two days from ovulation.

Date	Day	Fertile Days	Mucus	Cervix	BBT & Time	Physical	Emotional	Comment
14.8.08	1		None	Cervix feels firm and low	96 °F 7:05am	Heavy bleed, dark red, bloating, sore breasts	Disappointment	First day of period. Feeling tired and want to hide away from the world today.
15.8.08	2		None	Cervix feels firm and low	96 °F 8:00am	Heavy bleed, brighter red, mild cramping	Feeling a bit flat	Just heard that boss is pregnant. Feel okay about it.
...	...		...			...	...	...
20.8.08	7		Dry	Cervix feels firm and a little higher	96 °F 7:35am	Slight traces of blood	Okay	Sex drive seems to have picked up.
...	...		...			...	...	...
26.8.08	13		clear, slippery egg white	Cervix softer, os feels more open	96 °F 7:55am		Feeling excited	Ovulation! Feeling very optimistic today.
27.8.08	14		Sticky and clear, slippery egg	Cervix feels softer high	98 °F 8:15am	Slight breast tenderness	Good mood	Had sex every day for last four days.

Date	Day	Fertile Days	Mucus	Cervix	BBT & Time	Physical	Emotional	Comment

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## ***Other ways to determine ovulation***

If you have difficulty determining your fertile time using these indicators, you may find that ovulation predictor kits or saliva tests are helpful.

### *Ovulation predictor kits (OPK)*

These 'pee-sticks' test the amount of luteinising hormone (LH) found in your urine. LH will rise about 24 hours before ovulation. This LH surge will indicate that ovulation is about to happen.

These tests may not be accurate because some women may not have a LH surge that registers as high as the kit levels of 40 mIU/ml.

OPK will not be helpful for women with polycystic ovaries, because they may have high LH all the time. Some women over 40 and women with premature ovarian failure will also test positive throughout the month because LH and FSH levels are raised.

These tests need to be done around the time you expect to ovulate each month. If your cycle is irregular or if you don't know when you are likely to ovulate it is possible to miss the LH surge.

Having sex at the time of your LH surge means you are missing out on a few extra days before ovulation, in which the sperm could survive long enough to fertilise the egg. Remember that OPK tells you when you are about to ovulate but can't show you whether you have actually released an egg.

### *Saliva tests*

These tests measure the salt content in your saliva because salt content rises as oestrogen levels rise. This method is about 98% accurate.

This method uses a reusable lens which you can spit on. When the saliva has dried you view it through a viewing piece to observe the patterns of the salt on the slide. As ovulation approaches the pattern on the slide will change from little dots to fern-like shapes. When this 'ferning' covers the whole slide, ovulation is about to happen.

These tests tell you when you are about to ovulate but can't show whether you have actually released an egg.