

The Mucus Sign Applied to the Phases of the Cycle

Cervical Mucus as an indicator of fertility:

The presence of the cervical mucus symptom is the most important sign of the beginning of the fertile phase in all reproductive situations,¹ and reflects the rising blood oestrogen from the developing follicle in the ovary. Changes in the fertility indicators, basal body temperature, cervical mucus and cervix during the cycle, help the woman identify the fertile and infertile phases of the menstrual cycle.

- **The Infertile Phases** (Fig. 11-3)
There are **two** infertile phases, the **first** infertile phase (the relatively infertile phase) occurs **before the fertile phase**, and the **second** infertile phase (the definitely infertile phase) occurs after the fertile phase. The woman can identify the infertile phase by the **sensation of dryness** at the vulva and no mucus is visible. This is due to the presence of gestogenic mucus occluding the [cervical canal](#). Gestogenic mucus is secreted in the cervical crypts under progesterone stimulation, (see pages 11,12 in [Pictures & Diagrams](#)).
- **The Fertile Phase (Fig.11-3):** The woman can identify the **fertile phase** by the **build-up** of oestrogenic mucus during this phase. Sperm can survive in oestrogenic fertile-type mucus for five days, which means that sexual intercourse five days before ovulation could result in pregnancy. The fertile phase (the peri-ovulatory phase) is the combined time of the life span of the ovum after ovulation (24 hours), and the life span of sperm in fertile-type mucus before ovulation. Therefore the fertile phases, during which sexual intercourse could potentially result in conception, lasts for 6-9 days.³

THE FERTILITY CYCLE – WHEN DO THE FERTILE PHASE AND INFERTILE PHASES BEGIN AND END

The limits of the fertile and infertile phases of the fertility cycle are defined by applying the rules of the chosen natural family planning method to the fertility indicators. In the symptothermal double-check method of natural family planning two indicators are used to identify both the beginning and end of the fertile and infertile phases of the cycle. The rules of the 'double-check method' must be taught to the woman by a qualified natural family planning teacher.

- **The Limits of the Relatively Infertile Phase / First Infertile Phase (Fig.11-3)**
The **infertile phase** that precedes ovulation is called the relatively infertile phase as the woman is awaiting the onset of the fertile phase. It **begins** on the first day of the period and includes the time of

menstruation and the dry days that precede the mucus symptom. It **ends** with the first sign of moistness or mucus at the vulva, cross-checked with the calendar rule whichever comes first. In clients with short cycles of 21 -24 days mucus may appear immediately after the period or before the period ends, which means there is no relatively infertile phase. **NOTE:** In such clients intercourse during a menstrual period could lead to conception.

Relatively infertile phase		Fertile phase Sperm & Ovum viability	Definitely infertile phase	New cycle
Period	Dry	Mucus: Wet/Slippery	Dry	Period

Fig. 11-3; The cervical mucus indicator as a sign of fertility or infertility: The diagram shows the **three phases of the fertility cycle** and the related mucus symptom. The **relatively infertile phase** includes the days of the menstrual flow and the **dry** days that follow the period before the onset of the mucus symptom. The **fertile phase** includes ovulation and the **days of 'build-up'** of the oestrogenic mucus which transports and nourishes sperm. The presence of fertile-type mucus is a sign of potential fertility as it indicates a rising oestrogen level from the developing follicle in the ovary and imminent ovulation. The **definitely infertile phase** after ovulation shows a **return to the sensation of dryness** at the vulva due to the 'drying-up' action of progesterone from the corpus luteum and the secretion of gestogenic mucus by the cervical crypts. The definitely infertile phase is so-called as the woman is definitely infertile in this phase as the ovum is dead and no further ovulation will occur in that cycle.

- **The Limits of the Fertile Phase (peri-ovulatory phase) (Fig. 11-3):** The **fertile phase** is called the peri-ovulatory phase as it includes ovulation, and the potentially fertile days of the build-up of oestrogenic mucus. The beginning of the fertile phase is identified by the mucus symptom, viz. the appearance of mucus, and or the sensation of moistness at the vulva, cross-checked with the calendar rule whichever comes first. The end of the fertile phase is identified by the mucus symptom (i.e. the drying up of mucus at the vulva), cross-checked with the sustained rise of the basal body temperature (BBT) whichever comes last.

When does ovulation occur?

The exact time of ovulation cannot be identified by the fertility indicators, but ovulation occurs around the time of the 'Peak' mucus symptom.² The ovum has a life span of 24 hours and the fertilizable life of the ovum is 8 to 12 hours.¹ After ovulation there is a rise in the basal body temperature (BBT) due to progesterone from the corpus luteum. When a sustained rise in the temperature (BBT) has been recorded according to the rules of the symptothermal NFP method, the woman knows that ovulation has occurred. The end of the fertile phase is identified by cross-checking the rise in Basal Body Temperature with the mucus indicator whichever comes last.

- **The LIMITS of the Definitely Infertile Phase/ Second Infertile Phase**
(Fig. 11-3)

The **infertile phase** that follows ovulation (luteal phase) is called the definitely infertile phase because the woman cannot get pregnant during this phase as the ovum is dead. It begins with the sustained rise in temperature (BBT) cross-checked with the mucus symptom whichever comes last, and it ends on the day before the next period. The luteal phase has a constant length of 14 days (range 10 – 16 days), and it tends to be the same length for each cycle for any individual woman.¹ There is a sensation of **dryness at the vulva** during the luteal phase due to progesterone from the corpus luteum.

Can cervical mucus be difficult to recognise?

For those who have difficulty in identifying cervical mucus and who wish to achieve a pregnancy, an [ovulation monitor](#) may help define the fertile phase.

References:

1. Klaus H; 'Natural family planning – Is it scientific? Is it effective?' pages 12, 4,10; Newman Lecture Series 1-May 21, 2000. (online).
2. Flynn AM, Lynch SS; 'Cervical mucus and identification of the fertile phase of the menstrual cycle'; Br J of Obstet &Gynec; August 1976; vol 83; 656-659
3. Freundl G et al; "Estimated maximum failure rates of cycle monitors using conception probabilities in the menstrual cycle"; Human Reproduction, (2003), vol 18, no12, p 2628-2633.