

PRACTICE TIPS:

The female cycle - Relevance in laboratory diagnostics

Cycle-specific
sampling of sex
hormones

Significant hormonal fluctuations occur throughout the female menstrual cycle. For this reason, the timing of sample collection is crucial for some tests in order to arrive at meaningful diagnostic conclusions. When carrying out hormone tests, it is particularly important to record details of the **patient's medical history** regarding their **last menstrual period** and the **current stage of their cycle** on the **request form**.

Sample collection on days 2-5 of the cycle:

- Fertily profile
- PCO

Sample collection on days 19-22 of the cycle:

- Hormonal Status Female (serum)
- Hormone Profile Female (saliva)

Samples should ideally be taken during the luteal phase:

- Menopause vs. Amenorrhoea
- Hormone-induced Hair Loss
- Hormonal Age
- LH, FSH, Prolaktin
- Sex Hormones separately
→ Estradiol, Oestron, Progesterone,...

*Always
note the
day of the
cycle!*

Measuring sex hormones around day 21 of the cycle provides a comprehensive picture of hormonal status. During this phase, progesterone levels reach their peak. The progesterone level can be used to determine whether ovulation has taken place. It also provides information on whether sufficient oestrogen is still being produced and whether the hormonal balance between progesterone and oestradiol is correct. This makes it possible to identify, during the luteal phase, whether there is a progesterone deficiency or luteal insufficiency.

IMPORTANT

Any use of hormones (oral, topical, vaginal) and hormone-stimulating herbal remedies (e.g. monk's pepper) significantly affects the results and must therefore be declared.

Hormone levels are also influenced by other factors such as age, body weight, physical activity or stress. Consequently, one-off measurements are often of limited value and merely provide a snapshot of the current situation.

DID YOU KNOW?

A cycle is considered irregular if the length of the cycle varies significantly from one cycle to the next (> 7 days) and falls outside the range of 21-35 days. Furthermore, a cycle is considered irregular if ovulation occurs significantly earlier, later or not at all. Irregular bleeding and frequent breakthrough bleeding are also signs of an irregular cycle. Small or one-off fluctuations can certainly occur and are not immediately regarded as irregular or pathological.



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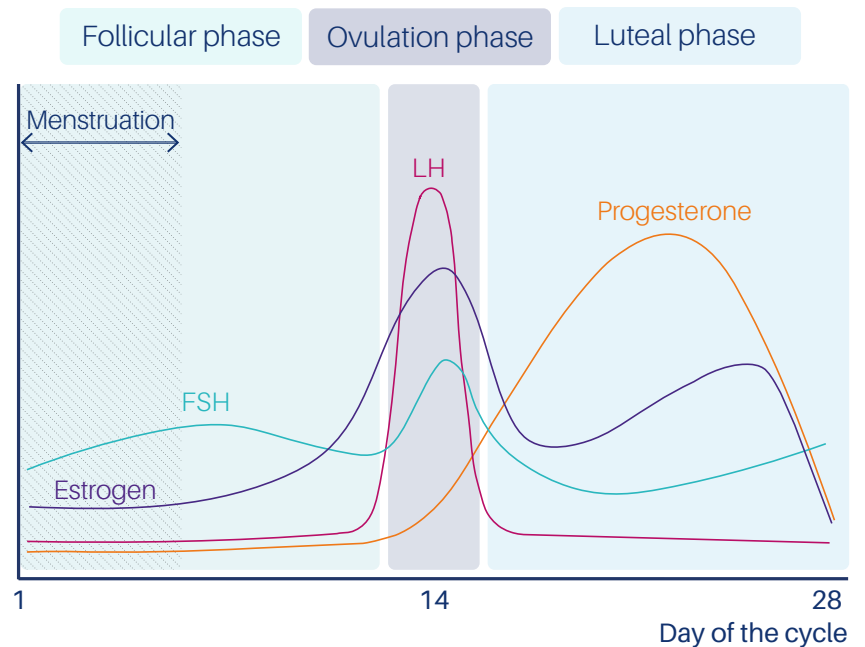
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General information:

- Menstrual cycle length: approx. 28 days (normally 21-35 days)
- Duration of menstruation: approx. 4-7 days
→ Day 1 = full-blown bleeding (no spotting)
- The absence of a cycle does not mean that bleeding will not occur.
- An irregular cycle is normal in the 1-2 years following the onset of periods and during the perimenopause.



Hormone tests in children:

It is possible to measure sex hormone levels in children; however, these results must always be interpreted by a doctor on a case-by-case basis, as the levels vary significantly depending on the Tanner stage (pubertal development). Furthermore, reference ranges vary according to age, sex, and bone age, which is why a specialist paediatric endocrinological assessment is required.

Note:

Due to the wide range of individual factors involved, the interpretation of the results is the responsibility of the therapist and is not provided by us.

Climacteris (Wechseljahre):

The transition from the fertile phase to postmenopause (the climacteric) takes several years. From the early to mid-40s, hormonal fluctuations begin, even before the menstrual cycle changes noticeably.

When cycles become irregular, **perimenopause** begins. During perimenopause, the **last spontaneous menstruation** occurs (= **menopause**).

Twelve months after menopause, **postmenopause** begins, which lasts until the end of life. This period is characterised by persistently low oestrogen and progesterone levels and an elevated FSH level.

Follicular phase:

(Duration: approx. 13-14 days)

- begins on the first day of menstruation
- To begin, the upper layers of the uterine mucosa are shed.
→ menstrual bleeding
- The follicles then begin to mature and FSH levels rise.
- FSH levels drop again and only one follicle continues to grow and produce oestrogen.

Ovulation phase:

(Duration: approx. 16-32 hours)

→ Ovulation

- Start: Increase in LH
→ End: release of the egg
- The rise in LH causes the follicle to rupture and the egg to be released.

Luteal phase:

(Duration: approx. 12-14 days)

- If fertilisation does not take place, the follicle closes up again and forms the corpus luteum, which produces progesterone.
- The lining of the uterus is prepared for a possible pregnancy.



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