NATURE'S PATH
FAMILY WELLNESS

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REPRODUCTIVE RHYTHYMS

IN THIS GUIDE

UNDERSTANDING THE BODY'S CYCLES ALLOWS US TO PLAY A MORE ACTIVE ROLE IN OUR FERTILITY

The female body maintains complex monthly cycles that create an opportunity for conception to occur every month. By learning about your body's physiological processes and noticing the signs of your hormonal cycle, you can cultivate a deeper connection with yourself and your fertility.

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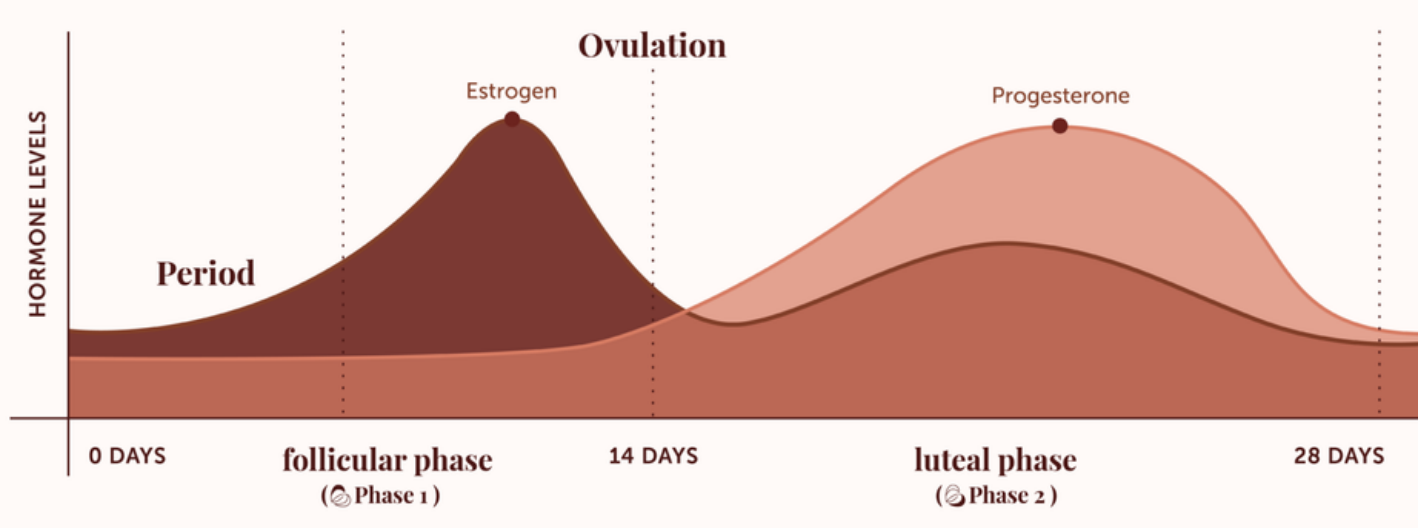
REPRODUCTIVE CYCLES

PHASES OF THE MENSTRUAL CYCLE

- The Menstrual cycle is divided into 2 events and 2 phases:
  - Menses (period)
  - Follicular phase (phase 1)
  - Ovulation
  - Luteal phase (phase 2)



***Most people's cycles are not 28 days long!

MENSES (Period)

- This is DAY 1 of your new cycle.
- It is the shedding of your uterine lining that grew during your previous cycle.
- All hormone levels are low.

FOLLICULAR PHASE

- Begins on day 1 of your new cycle (1st day of your period).
- Defines the first half of the cycle (roughly the first 14 days), from menses to ovulation.
- FSH (Follicle Stimulating Hormone) produced by the pituitary gland in the brain triggers follicles in the ovaries to produce Estrogen.
- This phase is dominated by Estrogen.

  Estrogen:
  - causes eggs to mature (so they're ready for ovulation).
  - builds uterine lining (for implantation of a fertilized egg).
  - makes fertile quality cervical fluid (for sperm to travel through to fertilize egg).
- Right before ovulation (theoretically day 13 in a 28 day cycle), cervical fluid quality and estrogen levels are at their peak, and the cervix is high and opened.
- At the end of the follicular phase, high estrogen levels trigger a surge of LH (Luteinizing Hormone) from the pituitary gland which completes the growth of the follicle and stimulates ovulation.

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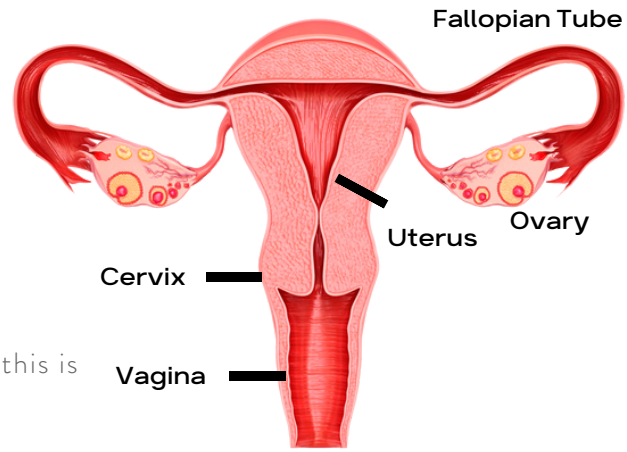
REPRODUCTIVE CYCLES

OVULATION

- The egg is released from the follicle within the ovary and is carried to the Fallopian tube.
- The egg survives for 24 hours after ovulation.
- Date of ovulation determines your cycle length.
- Ovulation doesn't always occur on day 14.
- Ovulatory bleeding is normal, which looks like mid-cycle spotting.
- Ovulation is indicated by a subtle increase in basal body temperature (BBT).
- Multiple ovulation (2 eggs released in 24 hours) can occur, this is more common in older women.



NOT OVULATING? It is possible to have an "anovulatory" cycle, meaning no egg is released.

- Common causes that delay or even prevent ovulation:
  - Stress, travel, illness, medication, strenuous exercise, sudden weight change, malnutrition, pregnancy, breastfeeding, hormone therapy/oral contraceptives (or recent discontinuation), hypothyroid, PCOS, peri/post menopause.
- Signs of anovulation: missed periods/long menstrual cycles, no increase in BBT, continuous wet cervical fluid.

LUTEAL PHASE

- Defines the second half of the cycle, between ovulation and menses.
- Length stays fairly consistent each cycle, lasts between 12-16 days (average is 13, 14). Maximum is 16 days.
  - This phase must last at least 10 days for embryo implantation into the uterine lining.
  - The length of this phase is not effected by external factors (i.e-stress), therefore a late period is usually due to delayed ovulation.
- The follicle that housed the released egg turns into the "corpus luteum" and produces progesterone.
- This phase is dominated by Progesterone.

  Progesterone:
  - keeps the lining of the uterus thick in case an embryo implants.
  - produces body heat (reason for increased Body Basal Temperature post-ovulation).
  - causes changes in cervical fluid and position.
  - prevents release of another egg during the same cycle.

What happens if a sperm fertilizes the egg?

If a sperm fertilizes the egg within in 24 hours after ovulation, then 7 days later the "blastocyst" (the stage between fertilized egg and embryo) implants in the uterine wall . The blastocyst produces the hormone "HCG" (Human chorionic gonadotropin), a pregnancy test measures this hormone. HCG causes the corpus luteum to live past 16 days and continue producing progesterone until the placenta takes over to sustain fetal development, around week 10 of pregnancy.

What happens if the egg is not fertilized?

The corpus luteum dies (after 12-16 days) and stops making progesterone. Without progesterone, the uterine lining is no longer being maintained which causes it to shed....you get your period (menses) and the cycle starts all over again!

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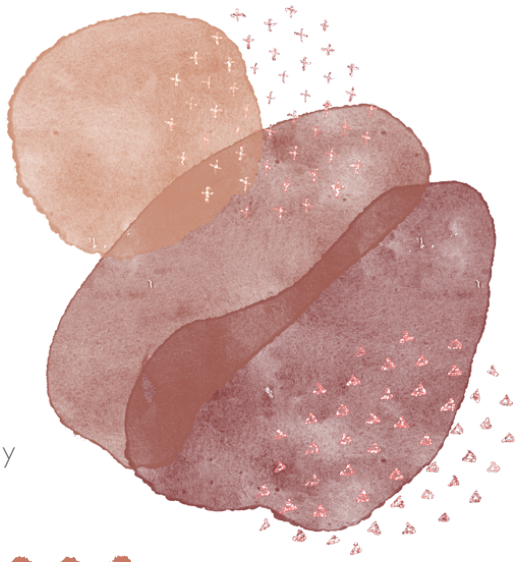
FERTILITY SIGNS



There are 3 primary fertility signs:

- Cervical mucus/fluid
- Waking Basal Body Temperature (BBT)
- Cervical Position

What is the "Fertility Awareness Method" (FAM)?

- The observation and charting of scientifically proven fertility signs to determine whether you are fertile on a given day.

UNDERSTANDING THE 3 PRIMARY FERTILITY SIGNS

1 CERVICAL MUCUS (a.k.a ""cervical fluid")"

- You may notice a "vaginal sensation" felt through out the day or when wiping, which can be described as dry or wet. This is called cervical fluid, and is different than sexual lubrication. You may be able to see it or feel it with your fingers.
- It is the key fertility sign for timing intercourse to achieve or prevent pregnancy.
- It helps sperm travel to the egg (Sperm can survive up to 5 days if good quality cervical fluid!)
- After ovulation, cervical fluid changes abruptly, it becomes a thick plug that blocks sperms from entering the cervix.
- Quality (type) is more important than quantity. There are 4 main types: dry, sticky, creamy, and egg-white.

Type of fluid	Description	Key Aspect
"Dry"	• Occurs immediately following the end of menses • Slight moisture (as if touching the inside of your cheek, any dampness evaporates in seconds) • Dry vaginal sensation	
"Sticky"	• Non-wet, pasty, gummy • Dry vaginal sensation • Not conducive for sperm travel, still considered possibly fertile	You note some type of mucous.
"Creamy"	• Transitional fluid between sticky and egg-white • Wet • Wet vaginal sensation • Might be stretchy, will break if stretched	This fluid is wet.
"Egg-white"	• Stretchy, clear or lubricative, may resemble egg white • Lubricative vaginal sensation • Most fertile • ·Won't break when stretched • ·May not visualize fluid because it may be very watery	·Wet and lubricative vaginal sensation

Things that can affect cervical fluid:
Antihistamines, vaginal-douching, spermicide, lubricants, seminal fluid, arousal fluid, vaginal infections

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FERTILITY SIGNS *(continued)*

2 BASAL BODY TEMPERATURE (BBT)

- Basal body temperature refers to your oral body temperature immediately upon waking. BBT increases after ovulation, due to the heat producing hormone, progesterone. Therefore an increase in BBT Indicates that ovulation has occurred.
  - Average BBT before ovulation: 97.0 - 97.7 F
  - Average BBT after ovulation: 97.8 and higher
- After ovulation, BBT stays elevated until your next period (12-16 days), if conception occurs it will remain elevated throughout most of pregnancy.
  - 18 consecutive high temp days almost always indicates conception in that cycle.
- BBT usually rises within 1 day of ovulation. Since the egg lives 24 hours, the increase in BBT happens when the egg is likely dead already (unless conception occurs, then the egg survives and moves to the next stage development). Therefore BBT is not useful for timing intercourse to achieve pregnancy. It is useful for knowing if ovulation occurred, and if your luteal phase is long enough for the egg to implant (need at least 10 days!).
- The number of pre-ovulatory days can vary each cycle, however the number of post-ovulatory days remains consistent, plus or minus a day or two. Therefore BBT can be used to predict menses because once temp rises the length of time until next period stays fairly consistent each cycle.
- Look for the pattern of a series of low temperatures followed by a series of high temperatures. It is normal for temperature to go up and down in both pre and post-ovulatory phase, therefore do not focus on the day to day changes.
- Things that can effect body temp: Alcohol, fever, less than 3 hours of sleep, heating pads, and irregular timing of taking temps.

3 CERVICAL POSITION

- The cervix changes position throughout the cycle based on estrogen levels:
  - Before and after ovulation, including during menses the face of the cervix feels firm (like the tip of your nose) and sits higher up in the vagina.
  - Around ovulation the face of the cervix feels soft (like your lips) and sits lower in the vagina. The opening to your cervix, called the "os" is also more open. All of these changes allow the passage of sperm into the uterus for fertilization.
  - The days leading up to ovulation may feel "medium," transitioning from firm to soft.
- This is an "optional" fertility sign, it can be used to confirm the other 2 primary signs (cervical fluid and BBT).
- Requires practice to gently insert one or two fingers into the vagina to feel for the cervix. Use the same position each time you check, i.e. while sitting on the toilet or squatting.

What about "Secondary" Fertility Signs?

You may experience other physical sensations around the time of ovulation. These clues are a great way to connect to your own body and cycle but are less reliable than the 3 key fertility signs in preventing or achieving pregnancy. They may include:

- Ovulatory spotting
- Achiness/pain near ovaries
- Swollen vulva or inguinal lymph nodes
- Increased libido or energy level
- Abdominal bloating or water retention
- Increased sensitivity in breasts and skin, breast tenderness
- Heightened sense of vision, smell and taste

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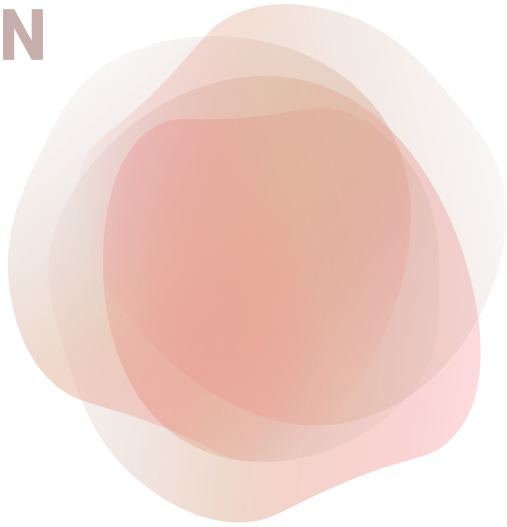
THE ROAD TO CONCEPTION



What is needed to make a baby?

- Male component:
  - Healthy Sperm (motility, morphology, count)
  - Ejaculatory ability
- Female component:
  - Healthy egg
  - Ovulation
  - No physical obstruction from ovary to uterus
  - Healthy cervical mucous
  - Implantation (at least 10 day length of luteal phase)
  - Enough progesterone to sustain pregnancy until placenta takes over
- Both: Sexual intercourse during fertile window
  - Identify your fertile window: 5 days before ovulation and 24 hours after ovulation (6 days total).
    (Sperm can survive up to 5 days if good cervical fluid, sperm die within a few hours if not in fertile phase.)

What about using ovulation prediction kits (OPK) to time sexual intercourse for attempting conception?

- These kits help to detect the surge of the hormone LH, which occurs around 24-36 hours before you ovulate.
- How to use them:
  - Start 4 days before expected ovulation.
    - Determine when to start using the kit by subtracting 16 from the days in your cycle. So, in a 30 day cycle (30-16= 14), you will ovulate on day 14 at the earliest, start using OPK on day 10 which is 4 days before suspected ovulation.
  - Use between 10 am -2 pm (it takes time for LH to travel from your brain to your kidneys where its excreted in the urine).
  - Once you get a positive test, do not repeat test (LH will go up and down for the rest of your cycle).
  - A positive test occurs the day before you ovulate, have sex the day you get the positive test and the day after.

Proactive Steps for Achieving Conception

- What you can do on your own:
  - Observe and chart fertility signs, identify fertile window, and timed intercourse
  - FYI: "Infertility" = No conception after 1 year of timed intercourse if under age 35, or after 6 months if over age 35.
- What a medical professional can help you with (testing):
  - Semen Analysis
  - Basic Blood work and Hormone testing (blood and urine) for both partners
  - Imaging of reproductive anatomy
  - Genetic testing for both partners, Perinatal genetic screening
  - Genetic polymorphism/variation testing for gene optimization

What does a miscarriage tell us about our body's ability to conceive?

- What went right:
  - Ovulation occurred
  - Fallopian tubes are open (no obstruction)
  - Adequate cervical fluid
  - Adequate sperm count and Ejaculatory ability
- What may have gone wrong:
  - Unhealthy sperm or egg
  - Inadequate progesterone
  - Improper implantation
  - Developmental Defect

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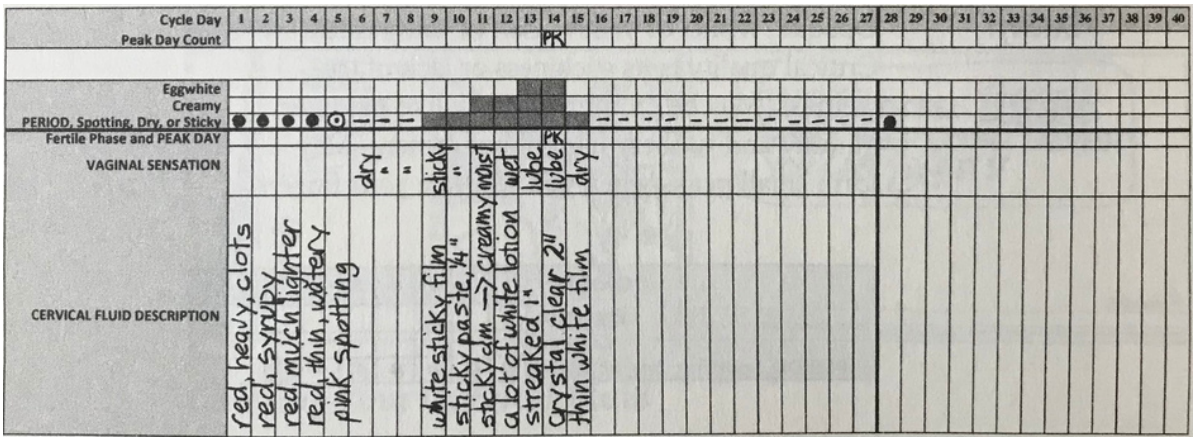
PUTTING IT ALL TOGETHER

GETTING STARTED:

- Start charting on day 1 of your next period.
  - You can start whenever you like as long as you know the date of your last period, which is day 1 of your current cycle. If you choose to start charting mid-cycle, mark the first day of your next period as day 1 of your next cycle, and do not depend on this current cycle for pregnancy prevention.
- Record the date of the month and the day of the cycle.
- Record menstruation days.
- Record fertility sign observations every day.
- Do the best you can! For most information check out the book "Taking Charge of your Fertility," by Toni Weschler.
- Blank downloadable charts are available at: www.tcoyf.com .

CHARTING CERVICAL FLUID

- Begin checking cervical fluid the 1st day after menstruation has ended.
- You should record 3 things: 1) Vaginal sensation 2) Cervical fluid 3) Peak fertility Day:
  1) Focus on the "vaginal sensation" felt throughout the day (dry, sticky, moist, wet, lubricated).
  - ****Record the wettest vaginal sensation of the day.
  2) Check for cervical fluid when using the toilet to urinate, about 3 times a day.
  Notice what it feels like when vaginal wiping before and after urinating (does it feel dry, smooth, lubricative?).
  - You can look in the toilet paper, on your underwear, or check internally.
  - You can lift the secretion off the tissue to feel it with your thumb and middle finger.
  - Peak in the toilet around ovulation to see if any globs of cervical fluid fell in the bowl.
  - Note quantity and quality (Dry, Sticky, Creamy, Egg white, stretchiness, color, opacity, slipperiness).
  - ****Record the most fertile/wet quality cervical fluid of the day.
- Notice the change from dry to sticky (non-wet), from sticky to creamy (wet), and from creamy to egg-white (wet).
  - Theses "points of change" show a shift from a dry "basic infertile pattern" of cervical fluid to a more fertile state.
- ****Identify and Record "peak fertility day," this is determined retrospectively based on the day you had the wettest-quality cervical fluid or most lubricative vaginal sensation. Following the peak day you will notice increased dryness.



Sample of cervical fluid charting.

EXTRA TIPS FOR CHARTING CERVICAL FLUID:

- Kegels and exercise can help fluid flow down to vaginal opening. Best time to check is after bearing down on the toilet.
- Do not check when sexually aroused.
- Learn to differentiate before cervical fluid and residual semen or spermicide.

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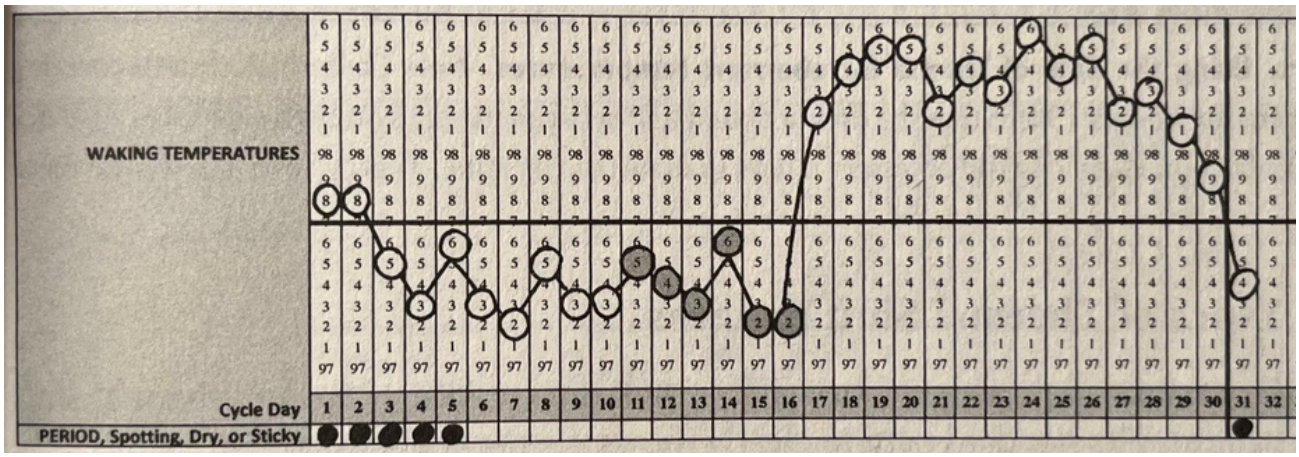
CHARTING BASAL BODY TEMPERATURE

- ·Take your oral temperature every morning first thing upon awakening, before doing anything else (including drinking water), at the same time every day (give or take about an hour).
- ·Record and connect temps with a pen.
- An increase of fertile-quality cervical fluid should guide you to pay closer attention to BBT, as you approach ovulation.
- Identify the first day your temp rises at least two-tenths of a degree about the highest in the cluster of the six proceeding temps (ie- rise from 97.6 to 98.2 is an increase of 0.6 degrees or 6 tenths).
- ·Highlight that last 6 temps, and draw a line separating the 2 phases:
  - (Phase 1 = Pre-ovulation/lower temps v.s Phase 2 = Post-ovulation/higher temps)
- Notice the "thermal shift," i.e the rise in BBT that separates pre-ovulation from post-ovulation, you will see a pattern of 2 distinct phases on the chart.
- Trouble shooting abnormal days:
  - ·If you sleep in, record the time you took your temperature.
  - ·Mark temperatures taken on an "abnormal" day in a different color (ie: slept less than 3 hours, drank alcohol last night, unusual time when temp was taken, etc..). This will help you learn your patterns and what effected your BBT.



Sample of Basal Body Temperature Charting

CHARTING CERVICAL POSITION

- Use clean hands, trim nails, use your middle finger, the most effective position is while squatting.
- Checking for the 1st time: Check when wet cervical fluid appears, right before ovulation when the cervix is high, open & soft.
  - *This is the best time to check for the first time because an abrupt lowering of the cervix occurs after ovulation, the cervix will feel firm, low and closed.
- Note:
  - Cervical position (high or low)
  - Cervical texture (firm, medium, soft)
  - Cervical opening (open or closed). * Woman who have delivered children will have a more open cervix.

- When: Check once a day after menstruation has ended, once familiar with cervical changes, reduce checking to the 1st day of fertile quality cervical fluid until the thermal shift (increase in BBT).
  - Try to check at the same time each day (after a shower is great time).
  - Do not check immediately after a bowel movement or first thing in the morning, or if you have sores or an infection.

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MYTHS & FACTS

MYTHS

- Most women ovulate on day 14.
- Sex during menses cannot lead to pregnancy.
- Sperm only live 3 days (up to 5!).
- You can predict current or futures cycles/fertility based on past cycles.
- Ovaries alternate ovulating each cycle.
- 28 day cycles are most common (actually <15% are 28 days).
- BBT is a tool for timed intercourse.

FACTS

- There is normal variability between different women's cycles and within a woman's own cycle.
- You should not use past cycles to predict future/current cycles.
- Irregular cycles aren't always a problem.

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Do the best you can! For most information check out the book "Taking Charge of your Fertility," by Toni Weschler.
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References

Weschler, Toni. Taking charge of your fertility: The definitive guide to natural birth control, pregnancy achievement and reproductive health. Random House, 2022.