Home testing to detect pregnancy was unheard of until the late 1970s, when the first early pregnancy test (e.p.t) debuted, followed by additional products. Eventually, home pregnancy tests were joined by a group of ovulation kits, designed to assist couples in achieving a successful pregnancy.

Reliability of Home Pregnancy Tests:
- Home pregnancy tests are extremely popular, as seen by the fact that one-third of women have used them at one time or another. The FDA/Health Canada approves these products as devices, and in the premarket approval process, each test’s accuracy is measured against varying levels of hCG (human chorionic gonadotropin), the hormone produced in pregnancy.
- However, each OTC pregnancy test must only perform as well as those tests that have been on the market since 1976. Because of this quirk in the law, the accuracy labeling is often not what potential users expect.
- A test may be labeled as “99% accurate” in large letters, leading the potential purchaser to assume that the product will detect an existing pregnancy in 99% of cases. This is absolutely not true.
- A claim of 99% accuracy in detecting an existing pregnancy would need to be accompanied by a great deal of qualifying information, such as the specific hCG level being tested to prove that claim, the number of days since the missed period, and when the samples were provided.
- The truth behind a pregnancy test’s claim of “99% accuracy” is more complicated. This actually means that the product is 99% accurate when compared to other hCG tests, based on information submitted to the FDA.
- Thus, labeling on pregnancy tests should always indicate that the product can produce both false positives and false negatives, and that patients should contact their physician with questions about any result. Any negative result should be considered tentative, and women are urged to take standard protective steps to safeguard the health of the fetus.
- The true accuracy of a test in detecting pregnancy is critically dependent on its sensitivity to hCG. The labeling of one product will serve as an example.
- The front label of a box of the Clearblue Digital Pregnancy Test displays a large yellow circle that states prominently, “Over 99% Accurate.” Another large yellow blurb on the box front states, “As Accurate as a Doctor’s Test.” It also says “Results 5 days sooner.” A purchaser cannot be faulted for putting the statements together and concluding that the product is over 99% accurate in providing the results 5 days sooner.
- A leaflet inside the product explains these statements in greater detail, but the patient cannot see the instructions until she has purchased the product and opened it, after which she may not be able to return it for a refund.
- The leaflet states: “Clearblue Easy is more than 99% accurate when used from the day you expect your period to start.” This clearly differs from what one might infer from the box label—that the product is 99% accurate when used 5 days before the period is expected to start.
- What is this product’s actual accuracy when used “5 days sooner?” The leaflet includes a chart demonstrating that testing one day before the expected period will give a positive result in 95% of pregnant users, testing 2 days before will give a 90% rate, 3 days sooner gives a 82% positive rate, and testing 4 days before gives only a 51% positive rate. Thus, using this product 4 or more days before the expected period is little better than flipping a coin.
- For this reason, when purchasers ask about the accuracy of pregnancy tests, it is wise to tell them to wait until several days after the period is missed for greater accuracy, rather than testing 5 days before as some products suggest.

Steps in Using Home Pregnancy Tests:
- Modern home pregnancy tests are far simpler to use than those first tests from the 1970s. The woman simply holds the test stick in the urine stream for a specified period (e.g., 5 seconds).
- She must then wait for a specified period (e.g., 1-3 minutes) before reading the test. She should not guess or estimate the time, but should use a watch with a second hand to get an accurate reading.
- If the patient is testing before the period is expected to start, she should use first morning urine to maximize the chances of picking up the smaller levels of hCG.
- If she is testing later (e.g., after the period is expected to begin), she may test urine at any time. Patients are warned that drinking large amounts of fluid before testing may cause false negatives.
- False positives can result if the patient has had a miscarriage or birth within the past 8 weeks or if she is using fertility medications that contain Hcg (e.g., Profasi, Pregnyl).

Types of Ovulation Prediction Kits:

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Approximately 10% of women aged 15 to 44 years in the United States face fertility problems that interfere with achieving a successful pregnancy.

- Some women ovulate irregularly, and/or the male’s sperm count may have dropped.
- Male issues cause infertility 33% of the time, ovulatory disorders and other female issues are responsible for 33% of cases of infertility, and the rest are undetermined or due to both partners.
- Either partner may have residual damage from a prior sexually transmitted disease.
- Several products can help couples achieve pregnancy.

6. Fertility Monitors: Clearblue Easy Fertility Monitor is a hand-held electronic system that measures both luteinizing hormone (LH) and estrogen. Twenty test sticks come with the initial monitor purchase, but additional test sticks can be bought separately. The product claims 99% accuracy in detecting the LH surge that signals ovulation. To use this product, the woman first presses an “m” button on the monitor the morning after her period begins, which sets the monitor at day 1. Setting the “m” button at a certain time of the day (e.g., 10 AM) indicates that she should conduct subsequent tests during a window of time that runs from 3 hours prior to the initial setting (e.g., 7 AM) to 3 hours after that time (e.g., 1 PM).

The monitor directs her to test only on specific days; she should not test on any other days. She should turn the monitor on each day during the testing window, prior to urinating. After the stick is exposed to urine, the monitor notifies the patient whether she is in low, high, or peak fertility status.

Couples can maximize the chance of pregnancy by engaging in sexual activity on at least one day of high fertility and one day of peak fertility. The major advantage of the fertility monitor over the older ovulation prediction kits is that detecting the rise in estrogen informs the user of an additional 1 to 5 days of high fertility prior to her peak fertility days.

Engaging in sexual activity during this expanded fertility window maximizes chances of a successful conception. Products that identify the window of fertility are increasingly being recognized as superior to other methods. Older products (i.e., ovulation prediction kits) only identify 2 days of peak fertility.

Results can be affected by tetracycline and by drugs that affect the menstrual cycle, including hormonal contraceptives, fertility products containing LH or hCG, and hormone replacement therapy.

Prescription clomiphene (Clomid) may affect the monitor’s ability to detect high-fertility days. Fertility monitors are most appropriate for women whose cycles last from 21 to 42 days, but women who have had a recent pregnancy, have stopped breastfeeding, have had hormonal contraceptives, or had other treatments that affect the cycle should wait to use the monitor until they have had two consecutive normal menstrual cycles.

2. Ovulation Prediction Kits: These kits (e.g., Answer Daily Ovulation Tracker, First Response Daily Ovulation Test) do not identify days of high fertility and may be inferior to the fertility monitors.

Nevertheless, these products remain popular; they are easier to use and less expensive than fertility monitors. Ovulation prediction kits only measure LH in the urine, which typically surges from 24 to 36 hours prior to ovulation. Before using one of these kits, a woman should have an approximate idea of when she ovulates. Because most menstrual cycles range from 21 to 40 days, a woman may ovulate from day 5 to day 23 of the cycle.

She begins testing her urine using the 5 to 7 sticks when suggested by an enclosed chart (generally 2-4 days before ovulation is expected); she may need to purchase a second kit if the first does not detect the LH surge. Patients may test at any time of the day but should test at the same time each day. Fluids should be reduced for 2 hours prior to testing to help ensure that LH is detected.

Females who ovulate irregularly may not be able to detect the LH surge. Menopause and polycystic ovary syndrome elevate LH levels and can cause false positives. Having undergone an abortion less than 1 month prior to testing also makes the results unreliable. The patient should allow two normal cycles before trusting the results.

Tetracycline, hormonal contraceptives, fertility treatments containing LH or hCG, and hormone replacement may affect the results. Clomid can increase LH levels; women should wait 3 days after stopping it before using these tests.

If the patient has used these products for 3 months and failed to detect a surge, she should make an appointment with her physician.

3. Basal Body Temperature Monitoring: Women may also use basal body temperature thermometers to monitor fertility. These digital thermometers (e.g., BD Digital Basal Thermometer) depend on the physiological fact that a woman’s temperature rises slightly after ovulation.

The woman takes her temperature under basal (standardized) conditions, such as prior to arising from bed, eating, or drinking. An enclosed chart helps her chart temperature variations. When the temperature is rising, peaking, and falling, intercourse is more likely to result in conception. Once used as contraceptive devices, basal thermometers are now promoted solely to increase the likelihood of conception.

4. Salivary Electrolyte Examination: A well-known fertility-awareness technique is testing cervical mucus with the fingers to detect periovulatory changes. Several devices (e.g., Ferti-Focus), which include a microscope and laboratory slides, claim to help patients monitor fertility using similar methodology.
Females undergo an electrolyte change approximately 3 to 4 days prior to ovulation that persists for 2 to 3 days following ovulation. This change can be detected by microscopic examination of a saliva sample. The patient tests at the same time each morning, just upon arising, before consuming any food or water, and prior to smoking. She licks one slide and allows it to dry for 5 to 10 minutes. Upon microscopic examination, a clear slide is said to indicate infertility, and the presence of fernlike crystals indicates the time surrounding ovulation.

**Home Pregnancy Tests for Early Detection:**
- Many women wish to discover as early as possible whether they are pregnant. It should be common knowledge that there are many grave risks to the fetus during the first trimester of pregnancy.
- Detecting pregnancy during the first month or shortly thereafter allows you to take corrective steps when they are most important. When you confirm a pregnancy, it allows you to make the critical healthy life-style choices that all pregnant women should make for the good of their babies.
- This includes completely stopping the use of all addictive substances such as cigarettes, smokeless tobacco, caffeine, alcoholic beverages, and illegal drugs (i.e., going "cold turkey"). Early pregnancy detection also allows you to quickly make an appointment with an obstetrician, who can confirm the pregnancy, monitor your progress appropriately, and begin administration of legitimate dietary supplements (prenatal vitamins/minerals, with attention to calcium and iron).
- In addition, your physician can examine your prescription medication regimen and determine whether other drugs are safer for you and the fetus. If you have been undergoing fertility treatments, you know that they are no longer necessary. If you have any scheduled x-rays of the abdominal area, you should inform the physician of the pregnancy to prevent damage to the growing fetus.

**Ovulation Prediction Kits:**
- Several companies also supply home test kits to help you predict when you are ovulating, to assist you in achieving a pregnancy.
- The most common types of these products are known as ovulation prediction kits. The typical kit comes with a set of urine test sticks.
- You must use them exactly as directed. When the test sticks are placed in your urine, they detect a chemical known as luteinizing hormone (LH). During most of your period, there is little LH in your urine.
- However, as your time of ovulation approaches, the amount of LH rises, until your urine has a surge of LH in it that the prediction test will register.
- When you see the surge, you usually have 24 to 36 hours until ovulation, and you are alerted to have frequent intercourse during that time to maximize your success in fertilizing the egg.