



MLCPC 202:

Pregnancy Issues:

Contraception, Complications, and Concerns

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Abstract

This session will discuss the menstrual cycle and pregnancy. Coaches will be informed of the issues surrounding pregnancy prevention methods. Dr. Christiansen will also explain how pregnancy resource centers may move to a more medical approach.

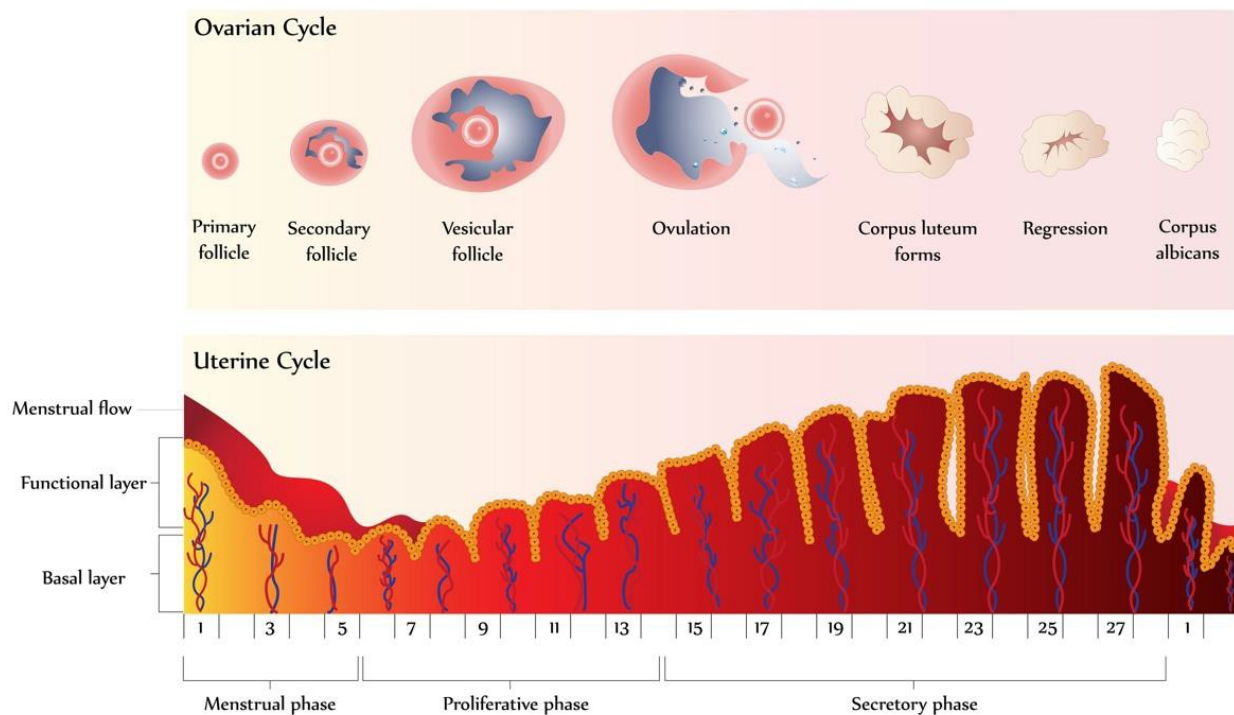
Learning Objectives

- 1.** Participants will gain a basic understanding the menstrual cycle and will be able to apply knowledge of pregnancy prevention methods to their sessions with clients.
- 2.** Participants will identify the common first trimester medical issues.
- 3.** Participants will explore the differences between medical and non-medical pregnancy resource centers.

I. The Menstrual Cycle^{1, 2}

- A. The normal menstrual cycle is like a beautiful symphony played by an orchestra. Each character playing its role, hormones rising and falling in crescendos/decrescendos, which in turn triggers other events culminating in one grand finale.
- B. The purpose of the menstrual cycle is to send an egg out in search of a mate and to create a welcoming environment for the new life created by their union.

“For you created my inmost being; you knit me together in my mother’s womb. I praise you because I am fearfully and wonderfully made.”—Psalm 139:13-14



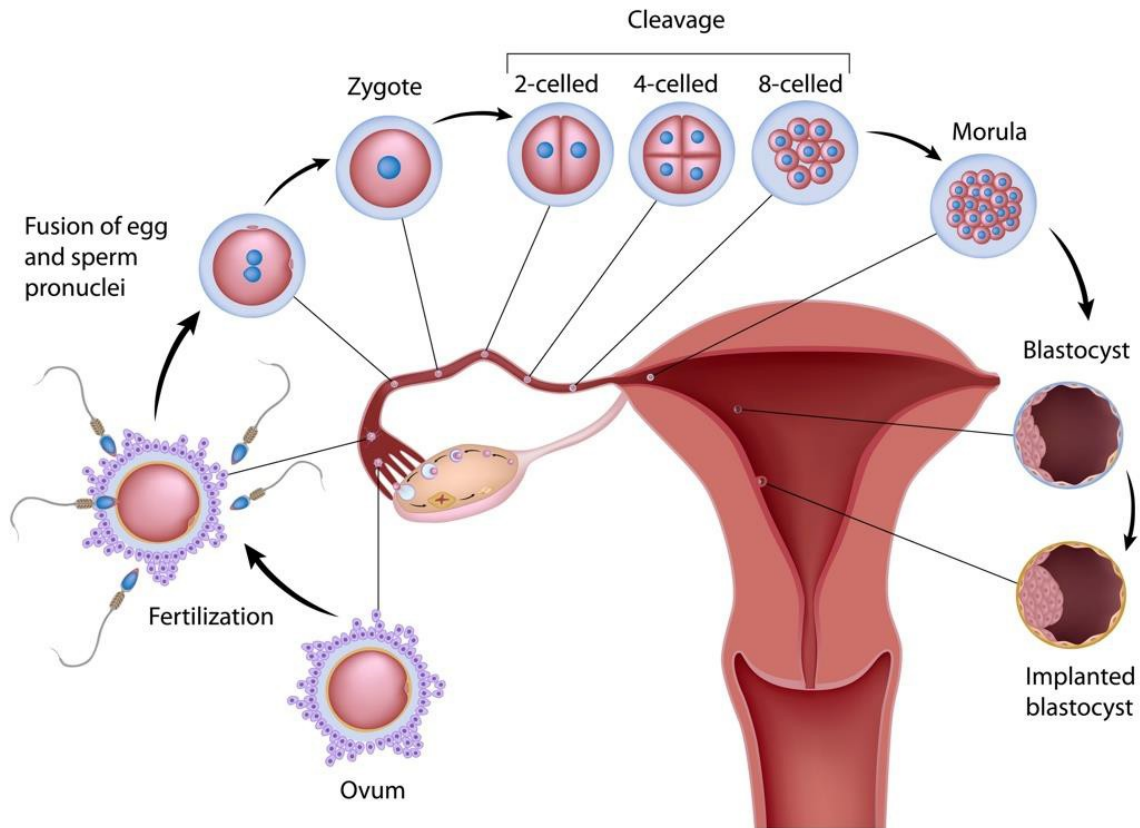
- C. The first phase is the flow of menses which is the shedding of the upper layer of the uterine lining. The normal duration of menstrual flow is 2-7 days. The normal length of a cycle is between 21 to 35 days. The cycle interval is counted from the beginning of one

cycle to the beginning of the next, since duration of the actual flow may vary from cycle to cycle.

- D.** The bottom half of the graph above represents the uterine lining as it changes throughout one complete cycle. The first five days are when the lining is being shed during the menses. It is the plummeting estrogen and progesterone levels that signal the onset of the menses.
- E.** The second phase is all about maturing one egg for release. The upper part of the graph depicts the progressive maturation of one egg, in preparation for release at mid-cycle.
- F.** On the surface of ovaries are numerous eggs in various stages of readiness. By the time a girl begins her menstrual cycle, she has approximately 400,000 eggs in her ovaries.³ Each month, one egg reaches full maturity and is ready for release. This process is called ovulation. It typically takes place about 2 weeks after the start of the last menstrual period.
- G.** Most women are unaware when they ovulate. Some will notice mid-cycle cramping, which may signify ovulation. Women who keep track of their temperature on a daily basis can get an idea when they ovulate because the temperature rises about one degree 24 hours after ovulation.⁴ Over the counter urine tests are available to predict when ovulation is about to take place, but most of our clients are not seeking pregnancy and will not be able to tell you when they got pregnant.

H. This is why medical professionals rely on the last menstrual period (LMP) to date pregnancies, as most women can pinpoint when they menstruated.

II. Conception⁵



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A. Conception is also called **fertilization**.

B. The egg is available for fertilization for only 24 hours, whereas sperm can survive an average of 3-4 days after intercourse.⁷

- C. On average, 300 million sperm are deposited at the top of the vagina during intercourse, and will swim their way through the cervical canal, along the inner lining of the uterus and down the fallopian tubes.⁸ Only a fraction of the sperm will make it this far and only one will successfully penetrate the egg's surface to achieve fertilization in the mid portion of the fallopian tube.

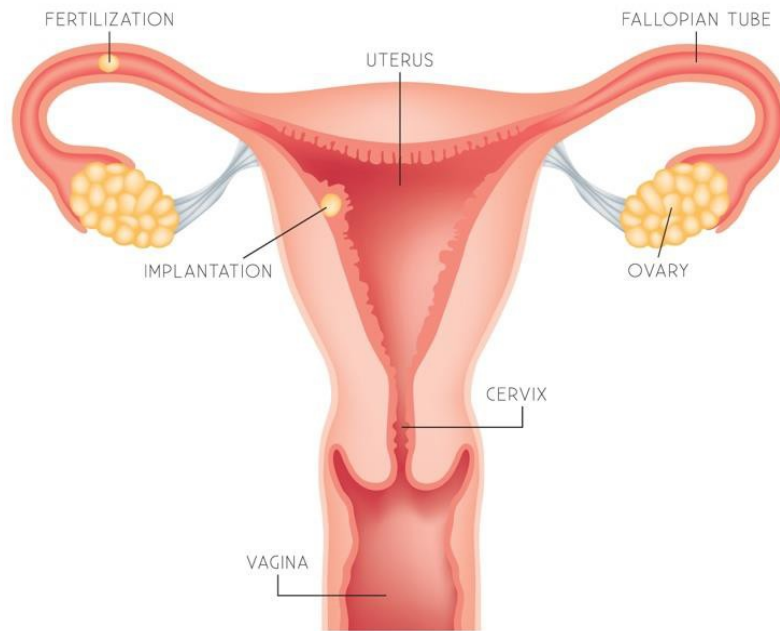
- D. At the moment of conception, the 23 chromosomes found in the egg join with the 23 chromosomes found in the sperm will unite to form a zygote, a unique individual, whose eye and hair color, gender, and even certain personality characteristics are established.

III. The First Week of Life

- A. The newly fertilized egg is also called a **zygote**.
 - 1. "A person is a person no matter how small."-Dr. Seuss

 - 2. Coaches must help clients understand the humanity of this newly created person even though it's someone we cannot see.

- B. Implantation of the fertilized egg takes place in the uterus and takes approximately one week to reach and embed in the wall of the uterus.
 - 1. This triggers the production of **human chorionic gonadotropin, or hCG** (what is detected by pregnancy tests), which is released into the mother's bloodstream and excreted in her urine.⁹



C. The Beginning of Life vs. the Beginning of Pregnancy

1. Not too long ago, fertilization was commonly defined as the beginning of life. Today, some in the medical community maintain that pregnancy does not begin until the fertilized egg implants in the uterus, but this contradicts the scientific reality that at the moment the sperm and egg unite, a unique new life has formed.¹⁰
2. This is the foundation for a proper understanding of how certain medications, procedures, and devices interrupt pregnancy and the continued development of a human life.

IV. **Pregnancy Prevention Methods:**¹¹

*Care Net does not recommend, provide, or refer single women for contraceptives. (Married women seeking contraceptive information should be urged to seek counsel, along with their husbands, from their pastor and/or physician).*¹²

One of the important components of abstinence education is information about contraception. However, abstinence and sexual integrity education are not contraception promotion. This information is provided to help pregnancy center workers understand the birth control methods that clients are using. It is not intended or designed to be used for direct client education about these methods. In addition, this is not a comprehensive treatment of the subject; please refer to available references for further information.

A. Permanent¹³

1. In women: Tubal ligation, hysterectomy, removal of ovaries
2. In men: Vasectomy

B. Abstinence: Refraining from any form of sexual contact between individuals. This includes oral sex, body to body contact, or any intimate contact with genitals. Sexual integrity education is provided to help clients make wise decisions about sexual intimacy. The foundation of pregnancy center ministry is a biblical one, and Scripture is very clear that sexual intimacy is reserved for marriage.

1. Safe
2. Inexpensive

3. No associated risks: no risk of contracting STIs, becoming pregnant, or the emotional and spiritual consequences of sex outside marriage
4. No side effects
5. It works every time

C. Natural:^{14, 15} This method is associated with more than 95% effectiveness in preventing pregnancy and has no associated risks or negative side effects.

1. A woman will monitor her body through checking her temperature and/or cervical mucus.

2. Advantages:

- Cost effective
- No use of external hormones
- Benefit of knowing body's functions more thoroughly can help with pregnancy planning

3. Potential Disadvantages:

- Requires motivation to learn technique and monitor changes
- Periodic abstinence must be practiced

D. Barrier methods¹⁶ use a mechanical wall or road block in an attempt to prevent sperm and egg from meeting. They are often used in concert with spermicidal gels and foams to further reduce the likelihood of conception.

1. Advantages Include:

- Avoid exposure to hormones
- Use just when needed
- May reduce risk of some STIs¹⁷
- Inexpensive

2. Disadvantages Include:

- Latex allergy
- Risk of bladder infections
- Risk of vaginal irritation
- May be dislodged or broken and fail

3. Types:

- Male condom:¹⁸ 85% effective (typical use)
- Female condom: 79% effective (typical use)
- Vaginal sponge: 68% effective (typical use)
- Diaphragm: 84% effective (typical use)

E. Hormonal Methods^{19, 20} are among the most commonly used methods of contraception due to convenience and ease of use.

1. Hormonal methods all rely on female hormones to alter a woman's natural fertility and thereby reduce the chance of pregnancy. The primary female hormones are estrogen and progesterone, both produced by the ovary during a normal menstrual cycle.

2. The hormones used in contraceptives are synthetics, created in a laboratory which when placed in a woman's body, override the natural hormones mimicking a pregnant state so that the normal signals to release an egg (and other natural cycle functions) are inhibited or blocked.
3. There are two main kinds: those that contain both an estrogen and a progestin and those that only contain a progestin. A progestin is simply a synthetic progesterone hormone.
4. Typical use is how the average woman functions with this method and takes into account inconsistent use such as occasional missed doses, taking the pill late, etc.
5. Overall 92-99% effective (typical use).
6. Reduces the risk of uterine and ovarian cancers.²¹
7. Can be used to treat other conditions such as heavy menses, painful periods, acne, and premenstrual syndrome.
8. The hormonal methods can be placed into a woman's blood stream through the:
 - Stomach (pill)
 - Skin (patch)
 - Vagina (ring)
 - Uterus (IUD)
 - Muscles (shot)
9. Mechanisms of Action^{22, 23, 24, 25}
 - The primary action of hormonal methods is to suppress ovulation (the release of an egg). This prevents conception.

- Cause changes in the cervical mucus which inhibits sperm from reaching the egg. This prevents conception.
- May reduce the likelihood for implantation to take place. There can be no further growth without implantation and the pre-embryo will die. When in effect, this is an abortifacient action.
- Controversy exists among Christian pro-life doctors whether ALL hormonal contraceptives may prevent implantation and therefore cause an early abortion. There is no definitive proof, one way or the other, but scientific support exists on both sides of the question.
- Care Net does not validate one position over the other, but recommends each center determine how they will handle this issue.
- Care Net supports educating clients on the abortifacient potential of hormonal contraceptives and all forms of emergency contraception.
- The Food and Drug Administration continues to include the implantation effect as a possible mechanism of action in the packaging information for hormonal contraceptives.²⁶
- The American Association of Pro-life Obstetricians & Gynecologists website posts excellent position papers from each vantage point. These papers may be accessed at www.aaplog.org or see citations 21 and 22.

10. Side effects and Risks of Estrogen + Progestin hormonal contraception^{27, 28, 29}

Estrogen/progesterone methods are associated with significant side effects and risks, especially in certain populations such as smokers over the age of 35, women with high blood pressure, and women with migraines. This population, in particular, is at increased risk of developing blood clots, stroke, and heart attack.

- Stroke

- Heart attack
- Blood clots
- Increased risk of some cancers:³⁰

Cervical cancer: The increased risk of cervical cancer may be because sexually active women have a higher risk of becoming infected with Human Papillomavirus (HPV), which causes nearly all cervical cancers. Thus, it may not be the presence of hormonal contraception as much as the exposures to infections like HPV through sexual activity.

A fact sheet published by the National Cancer Institute (NCI) notes that a number of studies have observed an increased risk of breast cancer among current users of oral contraceptives which falls to normal 10 years after they are discontinued.

- Depression
- Increased risk of certain medical problems including high blood pressure, elevated cholesterol and lipids, glucose intolerance, pancreatitis, gall bladder disease, cataracts, and loss of vision.
- Reduced risks of ovarian and endometrial (uterine lining) cancers.

11. Side effect of Progestin only hormonal contraception:^{31, 32, 33}

- Irregular bleeding.
- Decreased bone density (shot) which may not be wholly reversible when the shots are discontinued.
- Bloating, acne, mood changes, weight gain.

- Delay in return to ovulation (shot). An average delay of 9 months before regular ovulation has also been observed with this method.
- Up to 10% of pregnancies reported in clinical studies of routine use of progestin-only contraceptives are ectopic.

12. Intrauterine hormonal method: Mirena IUD^{®34, 35}

- Contains levonorgestrel, a synthetic progesterone hormone
- Lasts 5 years
- Side effects: irregular bleeding, abdominal/pelvic pain, ovarian cysts
- Increased risk of miscarriage, pelvic infection; sepsis, perforated uterus, ectopic pregnancy, pregnancy complications, and death

F. Emergency Contraception

1. Previously termed, "The Morning After Pill"
2. Used to prevent an unintended pregnancy after unprotected intercourse, contraceptive failure, or rape.
3. It is not approved for routine contraception.
4. Plan B One-step^{®36}
 - Contains 1.5 mg levonorgestrel, a synthetic progesterone hormone
 - Used within 72 hours of sex
 - Mechanisms of action:

May work by preventing the egg and sperm from meeting by delaying ovulation or slowing tubal transport.

Thicken cervical mucus, thus interfering with sperm getting to egg. An unlikely mechanism as sperm are through the cervix minutes after intercourse long before this pill would be taken.

Will not disrupt an implanted pregnancy but may prevent implantation of new life. There is no way to know for certain which of these possible ways it works with any given person.

- Implantation effect debated, even among Christians; however, the FDA continues to list this as a possible mechanism of action on the packaging information, it is appropriate to inform our clients of this potential effect.
- No reduction in unintended pregnancy or abortion rates. Originally reported to prevent ~84% of expected pregnancies, however, post-marketing research has failed to show reduced unintended pregnancy rates or abortion rates when Plan B is readily available.^{37, 38, 39} The effectiveness of this depends on where the woman is in her menstrual cycle.
- May increase ectopic pregnancy risk^{40, 41}
This is possibly due to effect of slowing tubal transport.

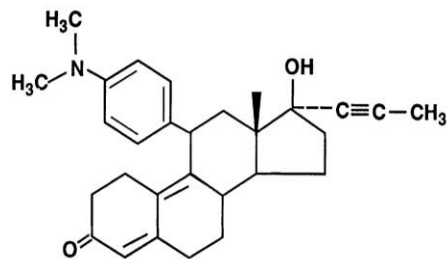
Side effects of Plan B similar to those of ectopic pregnancy include nausea, fatigue, changes in period/irregular bleeding, lower abdominal pain, and dizziness.

Plan B is not to be used during pregnancy, yet, the directions no longer include checking a pregnancy test prior to use. So, it is possible that a woman could be pregnant from a prior act of intercourse, take Plan B, ignore her “expected” symptoms and, in fact, be experiencing an ectopic pregnancy, which is a life-threatening condition.

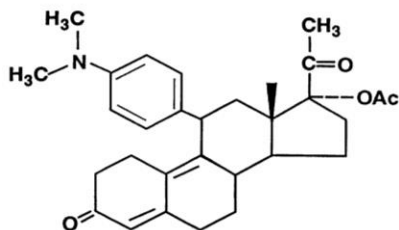
- No long term data on safety: females under 17; repeat use; effect on fertility.

5. ella[®](Ulipristal)⁴²

- Mechanism of action: like hormonal contraceptives can block ovulation, hence its FDA approval as an emergency contraceptive. Like its chemical cousin RU-486, ella[®] is also a progesterone blocker. Progesterone blockers, like RU-486, disrupt the embryo’s attachment to the womb, causing its death. This is a clear post fertilization and abortifacient action. Without progesterone, there is no pregnancy, no baby.
- 30 mg of Ulipristal; chemical cousin to RU-486 (the abortion pill); the chemical structures are almost identical.
- RU-486 Chemical Structure:



- Ulipristal Chemical Structure:



- FDA approved for emergency contraceptive use up to 5 days after unprotected sex.
 - Reduce expected pregnancies from 5.5% to 2%
 - The side effects of this drug (headache, nausea, abdominal pain, cramps, fatigue, and dizziness) mimic those of an ectopic pregnancy. It is critical that women who have taken this drug and experience these symptoms be evaluated right away.
 - Off-label use: In repeated use animal studies, ella[®] was shown to be “embryotoxic” at low doses, according to the European Medicines Agency’s Assessment Report.⁴³ Since human trials as an abortion drug were not conducted, ella[®] was reviewed by the FDA only as a form of emergency contraception and was subsequently approved for this alone. However, there is no oversight group who would prevent this drug from being used off-label as an abortion drug.
6. Yuzpe method⁴⁴ involves instructing the patient to take multiple tablets of daily use oral contraceptives over the course of 2 days.
7. **Intrauterine:** Copper 7 intrauterine device (IUD)⁴⁵
- Placed by a professional up to 7 days after unprotected sex.

- Mechanism of action is “not established”; may interfere with sperm transport or fertilization and prevent implantation.
- 99% effective
- Lasts 10 years
- Occasionally used for emergency contraception; may be placed up to 7 days after unprotected intercourse.

V. Pregnancy Diagnosis

A. Signs and Symptoms⁴⁶

1. Missed period
2. Nausea and vomiting
3. Breast tenderness: The surging estrogen and progesterone levels of early pregnancy cause the breasts to rapidly increase in size as glands are stimulated to grow in preparation for nursing after the baby is born. Occasionally, the loss of breast tenderness can signify an impending miscarriage, as the hormone levels drop.
4. Frequent urination: Running back and forth to the bathroom is a normal part of early pregnancy. The maternal blood volume is increasing by 20% and this leads to more urine production. Staying well hydrated is critical in pregnancy. The large amounts of circulating progesterone also affect bladder function and can lead to the increased need to urinate. It is also important to educate pregnant clients about the symptoms of possible bladder infection so that they don't ignore them, thinking it is normal pregnancy. Feelings of burning during urination, cramping, back pain and/or fever should prompt immediate evaluation.
5. Feeling tired

6. Mood swings: Fatigue and mood swings are frequently part of a normal early pregnancy, while the fatigue is usually replaced by increased energy in the second trimester, the mood swings can persist through the birth and into the post-partum period.

B. Pregnancy Tests (PT):⁴⁷ Human chorionic gonadotropin (hCG) starts forming at the time of implantation and is present in the maternal circulation and is excreted in the urine. First morning urine is more concentrated and more likely to detect small amounts of hCG. Blood tests can detect levels just over 5 milli international units of hCG. Typical over the counter urine pregnancy tests detect anywhere from 25-30 miU of hCG.

1. Detects the presence of hCG in the blood or urine with 99% accuracy
2. The sensitivity of pregnancy tests varies, but will typically show a positive test for a woman who has just missed her period. Coaches should encourage clients to wait to take a pregnancy test until after they have missed their period. She should be encouraged to return in one week for a repeat test, as she may be pregnant, but too early for the detection threshold of the test. Advise her to come in first thing in the morning when her urine is most concentrated.
3. A skipped period does not always mean that pregnancy has occurred. This is an important educational point for the client who comes in with a missed menses, but has a negative pregnancy test. A woman who has missed 2-3 periods with a negative PT should be referred to a doctor for further evaluation.
4. Self-test model: Clients are coached on how to perform and interpret the test.
5. Interpreting Pregnancy Test Results

- The number one question clients have is, “Am I pregnant?”
- Coaches must avoid giving medical advice as this IS the practice of medicine.
- Only a medical professional who is licensed to diagnose pregnancy may officially, and legally, inform a client that she is pregnant.
- Coaches **cannot confirm** the pregnancy. Instead they should say, “You have a positive pregnancy test,” and offer to schedule the client for an appointment to confirm her pregnancy with an ultrasound.

6. False negative tests: False negative results can occur. This means the test did not detect hCG despite the presence of hCG circulating in her body. This may happen when:

- Urine is too diluted,
- Tested too early for the sensitivity of the test (wait until missed menses)
- Did not follow package instructions (did not wait the full amount of time the test needed before reading or waited too long after the test was taken to read the results).

C. “How far along am I?”

1. The last menstrual period is reliable for dating in a woman with regular cycles.

2. Menstrual Dating vs. Conception Dating:

- The LMP in a woman with regular menstrual cycles provides a reliable starting point for dating a pregnancy and establishing a due date. Because cycle duration can vary, it is customary to assign the first day of bleeding as the LMP.
- Menstrual dating adds approximately two weeks to the estimated age of the baby (because of ovulation, therefore conception typically occurs about 2 weeks after the period begins).

- Coaches need to be clear on this information so that clients are not confused and/or misinformed about how far along they are in the pregnancy.
3. Paternity issues: The crisis pregnancy center cannot determine this information. Clients should be informed that special tests can be performed either prenatally or after the baby is born to determine who the father is the biologic father. Coaches may use this opportunity to reinforce the value of all human life and help the client see that she is the mother of this unborn baby, regardless of the identity of the father.
- D. The Pregnancy Wheel is a tool used in the pregnancy center to provide a client with an estimate of about how far along she is based completely on her last menstrual period. This does not confirm a diagnosis of pregnancy, but it does provide an **estimated gestational age and due date**.



- E. **Pregnancy** may only be diagnosed (or confirmed) by a licensed professional who has the legal authority to do so. The medical professional may base the diagnosis on:

1. Signs and symptoms
2. Lab tests
3. Physical exams
4. Ultrasound



F. Pregnancy is divided up into three trimesters, each lasting approximately 13 weeks, beginning with conception.

1. Week one to 13 (“Nausea”): morning sickness is common
2. Week 13-26 (“Nice and Easy”): characterized by increased energy and general well-being
3. Week 26-40 (“Nesting”): sense of urgency to prepare for the arrival

G. Early Pregnancy Issues:

1. Bleeding

- Implantation bleeding: Sometimes when the baby implants in the wall of the uterus a bit of blood can be shed.
- Molar pregnancy:⁴⁸ These occur infrequently and are characterized by abnormal placental growth and swelling and the absence of an intact baby. They are associated with very high levels of hCG and carry the risk of massive bleeding.
- Cervical infection: When the cervix is inflamed and infected, it can bleed spontaneously, or after intercourse.
- Miscarriage: See below for more details.

2. Ectopic Pregnancy:^{49,50}

Recall that conception occurs in the middle of the fallopian tube. If factors interfere with the fertilized egg's journey to the uterus, it can become lodged outside the uterus and begin to implant wherever it finds itself.

- Occurs when the fertilized egg implants somewhere other than inside the uterus
- The most typical place is in the fallopian tube
- Risk factors: pelvic infection, tubal ligation, IUD
- Ectopic pregnancies can be life-threatening
- Treatment options: medication, surgery, or close follow up for spontaneous resolution
- Ectopic pregnancies are usually fatal for the baby, as the tube is not designed to support a forming placenta and will burst and bleed after a few weeks of growth
- Sometimes a living embryo is noted in the ectopic pregnancy. The goal of treatment is to intervene for a life-threatening condition in the mother who could otherwise hemorrhage to death. The medical intervention saves the mother's life, with the unavoidable loss of the baby's life. This is very different

from an induced abortion where the sole purpose of the intervention is to end the baby's life.

3. Miscarriages⁵¹

- About 15-20% of all known human pregnancies end in miscarriage⁵²
- **Spontaneous abortion:** The loss of a pregnancy under 20 weeks gestation
- Pregnancies that end in miscarriage after 20 weeks gestation are termed **stillbirths** or **premature deliveries**
- Chromosomal glitch accounts for 60% of miscarriages
- Other recognized contributing factors include: cervical and uterine issues, infections, medical and hormonal problems, smoking, and alcohol abuse.
- Miscarriages can be treated by observation for spontaneous completion, surgically, or with medication.

H. Morning Sickness⁵³

1. Common symptom of most pregnancies
2. Usually subsides by the 2nd trimester
3. Can occur at any time of the day or night
4. Support measures for morning sickness:
 - Eating frequent small meals
 - Separating consumption of liquids and solids
 - Vitamin B6
 - Ginger
 - Acupuncture

5. Severe forms of morning sickness require intravenous fluids and prescription medications to control nausea.

I. Prenatal Vitamins⁵⁴

1. Prenatal vitamins are highly recommended.
2. Reduces the incidence of certain birth defects, such as spina bifida.
3. Medical pregnancy centers may dispense prenatal vitamins.

J. Medications in Pregnancy

1. The general rule of thumb in early pregnancy is to avoid all medications unless absolutely necessary. This is the time period when all the organs are forming and there is a greater potential for adverse effects on the developing embryo.
2. All medication use during pregnancy should be discussed with an obstetrician. When a woman taking a drug for a chronic condition becomes pregnant, she should immediately notify the prescribing physician. There may be a safer alternative, or she and the physician may determine that the risk/benefit ratio favors continuing the medication.
3. It is unwise to assume that because a medication is available over the counter that it is safe for use during pregnancy. This applies to herbal remedies as well. Natural and herbal products are not subject to the same rigorous review that pharmaceuticals face before FDA (Food and Drug Administration) approval. They are considered “nutritional supplements” and do not receive the same level of scrutiny that new drugs undergo.

VI. Non-medical vs. Medical Pregnancy Resource Centers⁵⁵

A. A Non-medical Pregnancy Resource Center is a typical center where there are many client services (counseling, post abortion care, parent support), including the self-pregnancy test, but no medical services.

B. Pregnancy Resource Centers may want to add medical services because:

1. They may reach more abortion at risk women and men
2. Ultrasound provides a “window to the womb” that allows women to discover what is going on inside their bodies and make a more informed decision
3. Witnessing their babies on ultrasound empowers women to choose life
4. Sexually transmitted infection testing provides an opportunity for a greater impact on clients’ lifestyles while providing an important community service
5. Increased evangelistic outreach
6. Fits well with the mission

C. Key Features of a Medical Pregnancy Resource Center:

1. Centers around the ability to practice medicine
2. Nurses perform pregnancy tests (self-test model used when nurse not available)
3. Pregnancies may be diagnosed

4. Sexually transmitted infections may be diagnosed and treated
5. Prenatal care may be given

D. Going Medical

1. Strategic planning and prayer: Board of directors' approval
2. Recruit a Medical Director and Nurse Manager
3. Form a medical steering committee
4. Develop fundraising and marketing plans
5. Create and implement a transition plan
6. Purchase medical liability coverage

“For I know the plans I have for you, declares the Lord, plans to prosper you and not to harm you, plans to give you hope and a future.”—Jeremiah 29:11

Endnotes

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¹³American Congress of Obstetricians and Gynecologists. (2011, March). Sterilization for women and men. http://www.acog.org/Resources_And_Publications/Patient_Education_Pamphlets, Retrieved from

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