Pulsenmore™
Home Ultrasound

The women's anatomy & prenatal care

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The female reproductive system

What is the female reproductive system?

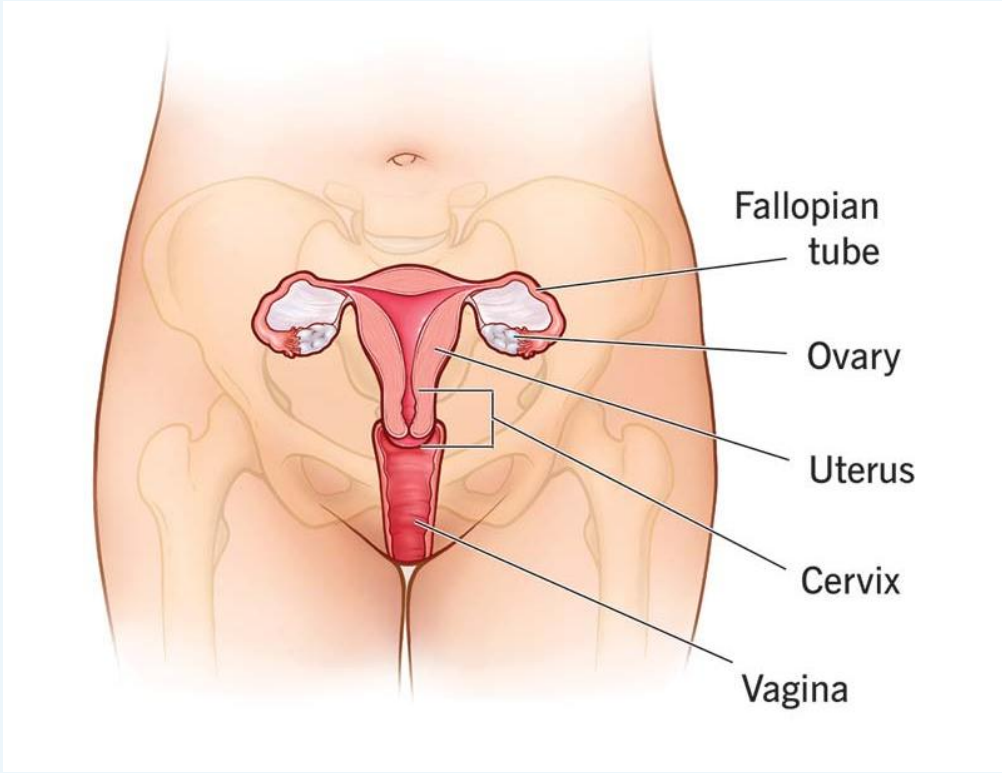
The Vagina is a muscular canal that can widen to accommodate a baby during delivery and then shrink back.

The cervix is the lowest part of the uterus. A hole in the middle allows sperm to enter and menstrual blood to exit. It opens (dilates) to allow a baby to come out during childbirth.

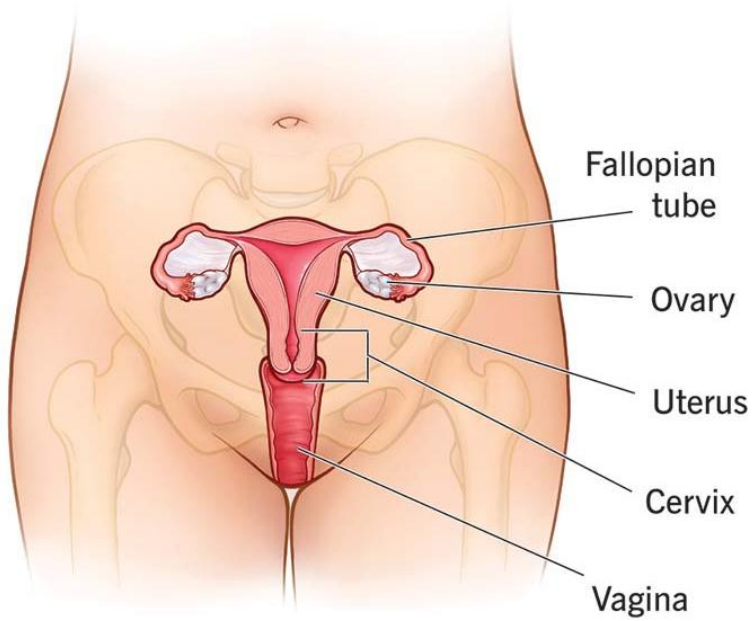
The Uterus is a hollow organ that holds a fetus during pregnancy.

Ovaries are glands located on either side of the uterus. The ovaries produce eggs & hormones.

Fallopian tubes are narrow tubes that serve as pathways for eggs to travel from the ovaries to the uterus.



The functions of the female reproductive system



The ovaries produce eggs.

During ovulation these eggs are transported to the fallopian tube where fertilization by a sperm may occur.

Fertilized eggs move to the uterus, where the uterine lining has thickened in response to the normal hormones of the menstrual cycle.

Once in the uterus, the fertilized egg can implant into the thickened uterine lining and continue to develop.

If implantation doesn’t take place, the uterine lining is shed as the menstrual period.

Prenatal care

Prenatal Care

Prenatal care is the healthcare and support provided to pregnant individuals throughout their pregnancy to ensure the health and well-being of both the parent and the baby.

It involves regular medical checkups, screenings, education, and guidance to monitor and manage the progress of pregnancy and address any potential complications.

Key components of prenatal care

Low-Risk Pregnancy

Initial Visit (8-12 weeks):

- **History and Physical Exam:** Comprehensive medical history, physical exam, and calculation of due date.
- **Labs:** Blood type, Rh factor, complete blood count (CBC), rubella immunity, hepatitis B, HIV, syphilis, and urine culture.
- **Imaging:** Dating ultrasound.
- **Education:** Nutrition, prenatal vitamins, lifestyle changes, and what to expect during pregnancy.

Follow-Up Visits (Every 4 weeks until 28 weeks):

- **Vitals:** Blood pressure, weight, and fetal heart rate.
- **Labs:** Urine dipstick for protein and glucose.
- **Education:** Ongoing education about pregnancy, childbirth, and breastfeeding.

Mid-Pregnancy Visit (18-22 weeks):

- **Imaging:** Anatomy ultrasound to check fetal development and screen for anomalies.
- **Labs:** Optional genetic screening tests.

Third Trimester Visits (Every 2 weeks from 28-36 weeks, then weekly until delivery):

- **Vitals:** Blood pressure, weight, and fetal heart rate.
- **Labs:** Glucose screening test (24-28 weeks), repeat CBC, and Rh antibody screen if Rh-negative.
- **Imaging:** Growth ultrasound if indicated.
- **Education:** Birth plan, signs of labor, and postpartum care.

Key components of prenatal care

High-Risk Pregnancy

Initial Visit (8-12 weeks):

- **History and Physical Exam:** Comprehensive medical history, physical exam, and calculation of due date.
- **Labs:** Blood type, Rh factor, complete blood count (CBC), rubella immunity, hepatitis B, HIV, syphilis, urine culture and additional tests based on risk factors.
- **Imaging:** Dating ultrasound.
- **Education:** Nutrition, prenatal vitamins, lifestyle changes, and what to expect during pregnancy.

Follow-Up Visits (often every 2 weeks or as needed, until 28 weeks):

- **Vitals:** Blood pressure, weight, and fetal heart rate.
- **Labs:** Urine dipstick for protein and glucose and other tests as indicated.
- **Imaging:** Frequent ultrasounds to monitor fetal growth and development.
- **Specialist Consultations:** Maternal-fetal medicine specialist, endocrinologist, cardiologist, etc., as needed.

Mid-Pregnancy Visit (18-22 weeks):

- **Imaging:** Detailed anatomy ultrasound and possibly fetal echocardiogram.
- **Labs:** Genetic screening tests and other tests based on risk factor.

Third Trimester Visits (weekly or more frequent):

- **Vitals:** Blood pressure, weight, and fetal heart rate.
- **Labs:** Glucose screening test (24-28 weeks), repeat CBC, Rh antibody screen if Rh-negative, and other tests as indicated.
- **Imaging:** Growth ultrasounds and biophysical profiles.
- **Non-Stress Tests (NST):** To monitor fetal well-being.
- **Specialist Consultations:** Ongoing as needed.

Why is prenatal care important?

- **Improves Outcomes:** Helps detect and prevent complications early.
- **Ensures Healthy Development:** Tracks the baby’s growth and identifies potential concerns.
- **Educates Parents:** Prepares individuals for a healthy pregnancy and parenting.
- **Supports Mental Health:** Provides a platform to discuss fears or concerns about pregnancy and childbirth.

Regular prenatal care is essential for a healthy pregnancy and a safe delivery. It ensures both the parent and the baby receive the best possible care.

Prenatal stakeholders

OB vs. GYN

- **Obstetricians** provide pregnancy care for both the mother and fetus, deliver babies, and help mothers recover from the physical and mental strains of pregnancy and childbirth.
- **Obstetricians** do not provide care beyond pregnancy.
- **Gynecologists**, focus on the health of the uterus, the ovaries, the fallopian tubes, and other organs of the female reproductive system.
- Both **obstetricians and gynecologists** may prescribe drugs or perform surgery to treat a patient.

What does a typical OBGYN's day look like?

"Some days I get to see office patients and other days I spend all day in labor hall waiting and delivering babies, some days I teach residents and medical students and some days I just have meetings."

Hours are usually 9-4 or 5 p.m. with an hour in there for staff lunch. Most doctors do 4 days in the office and do surgery on the 5th day of the week. So, typically a doctor sees 35 patients a day.

https://med.uc.edu/landing-pages/uccom-tribunal/com-chronicles/exploration-of-medicine/2022/09/01/private-practice-(unreleased-episode)-in-which-we-take-a-look-at-obstetrics-and-gynecology-with-dr.-lisa-gennari#:~:text=Hours%20are%20usually%209%2D4,handle%20deliveries%20during%20the%20day.

OBGYN vs MFM?

- A traditional **OB/GYN** often takes care of women through pre-pregnancy, antepartum, delivery and postpartum periods, when such patients are considered low risk.
- However, once patients meet a certain threshold and are considered to have **high risk pregnancies**, they are co-managed by **maternal-fetal medicine (MFM)** subspecialists.
- An **MFM** is essentially an OB/GYN with three additional years or more of training/education in managing high-risk pregnancies.

What do they treat?

Obstetrician and Gynecologist (OB-GYN) Practice and Focuses:	Maternal Fetal Medicine (MFM) Practice and Focuses:
• General women's health: Reproductive health, pregnancy, childbirth & postpartum care. • Gynecological care: Menstrual issues, contraception, menopause & surgery for conditions like fibroids or ovarian cysts. • Provide routine prenatal care and manage normal pregnancies	• Focus on high risk pregnancies: Multiple pregnancies, preterm labor, fetal anomalies, placental issues & perinatal infections. • Provide advanced prenatal testing, genetic counseling, and fetal monitoring • Manage pregnancies with pre-existing conditions such as diabetes, hypertension, or heart disease • Perform procedures like amniocentesis, chorionic villus sampling (CVS), and fetal surgeries • Offer specialized care and interventions to optimize outcomes for both the mother and the fetus

Who can preform an ultrasound?

Obstetricians and Gynecologists (OB-GYNs) & Maternal-Fetal Medicine Specialists (MFMs) can preform ultrasound and depending on the region so can:

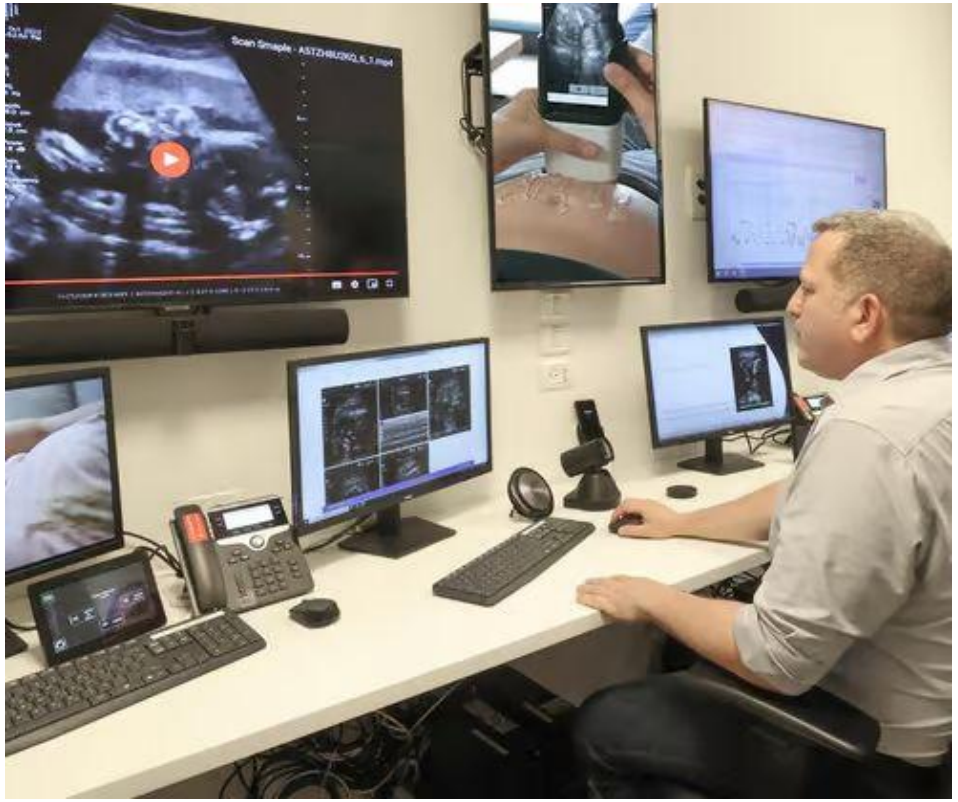
Ultrasound Technician/Diagnostic Medical Sonographer - An ultrasound technician, or a diagnostic medical sonographer, is a healthcare provider that uses a special medical instrument to produce images of the inside of your body.

Radiologist. - is a medical doctor who specializes in diagnosing and treating conditions using imaging equipment. Radiologists often specialize in specific areas of radiology, such as perinatal radiology, pediatric radiology, oncology radiology or interventional radiology.

Midwives: Some midwives are trained to perform basic ultrasounds, depending on their certification and local regulations. Typically used to check fetal position or confirm pregnancy.

General Practitioners (GPs) or Family Physicians: In some settings, they may perform basic ultrasounds if trained.

Other stakeholders



Pediatrician - is a **doctor** who has specialist training in treating children.

Midwife –A nurse who was trained to care for women during pregnancy, labor, birth and the post-birth period.

Doula - a birth companion, nonclinical birth worker, birth coach, or post-birth
supporter, provides care in the form of information, physical and emotional support.

Teleradiology refers to the practice of a radiologist interpreting medical images while not physically present in the location where the images are generated.

Hospitals, mobile imaging companies, urgent care facilities and even some private practices utilize teleradiology.

Terminologies

Important prenatal terminology to become familiar with

Conception /Fertilization/Impregnation the process of becoming pregnant, when a sperm and egg join to form a single cell

Prenatal/Antenatal/Antepartum all mean 'before birth'

Gestation the length of time that a baby is in the uterus.

Full-term delivery is approximately 40 weeks.

Preterm/premature birth the birth of a baby at fewer than 37 weeks gestational age.

Abortion a termination (end) of a pregnancy.

Stillbirth the death of a baby after 20 weeks' gestation but before birth.

Labor – are uttering contractions that open the cervix so that the baby can be born

Parturition – the act of giving birth

Gravidity refers to the total number of pregnancies a woman has had, regardless of the outcome (live births, stillbirths, or miscarriages). It includes the current pregnancy, if applicable.

Parity refers to the number of pregnancies that have reached a viable gestational age (usually 20 weeks or more) and resulted in the birth of a living child. Parity doesn't count the number of miscarriages or stillbirths.

The amniotic sac, also called the bag of waters or the membranes, is the sac in which the embryo and later fetus develops in amniotes. It is a thin but tough transparent pair of membranes that hold a developing embryo until shortly before birth

Cesarean section, C-section, or cesarean birth is the surgical delivery of a baby through a cut (incision) made in the birth parent's abdomen and uterus. Healthcare providers use it when they believe it's safer for the birth parent, the baby, or both. The incision made in the skin may be: Up-and-down (vertical).